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(72) Inventor: Dunlop, Lawrence James
County Down, Northern Ireland (GB)

(74) Representative:
McCarthy, Denis Alexis et al
MacLachlan & Donaldson
47 Merrion Square
Dublin 2 (IE)

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(71) Applicant:
Adamsez (N.I.) Limited
Dundonald, County Down BT16 0TQ (GB)

(54) Bathtub surrounding furniture unit

(57) A free-standing furniture unit (2) for surrounding a bath tub (4), wherein the unit (2) is wholly or substantially of one-piece construction. The plumbing for the bath tub (4) is located in or within the unit (2). The upper edge or edges of the unit (2) meet the bath tub rim (12). One or more outer faces of the unit (2) are aesthetically shaped. A tap plumbing fitting plate (18) is provided to which one or more taps (14) are mountable and beneath which water supply piping (20) is connectable to the or each tap (14). The plate (18) is then mountable onto or into a corresponding aperture (46) in a bath tub (4) or other plumbing housing surface.

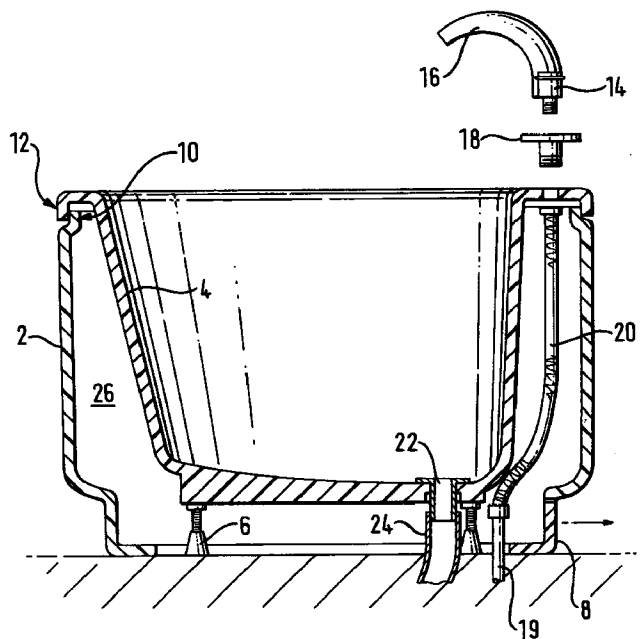


FIG. 2

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Description

[0001] This invention relates to a furniture unit designed to surround a bath and so provide an aesthetically pleasing outlook, and to a tap plumbing fitting plate.

[0002] There are three main types of fitting arrangements for baths. Baths are either fitted or 'sunk' into a floor or platform, fitted alongside a wall or into a corner with wall panels or paneling, or they are free-standing. The possible location of the bath for the first arrangement is usually very limited. The second arrangement is more common, and the panels or paneling are used to hide the unsightly bath tub construction and support. Lastly, free-standing bath tubs must be aesthetically pleasing from all angles, making them generally more expensive. The plumbing for free-standing baths is usually also clearly visible, so limiting also the desirable location of a free standing-bath.

[0003] In general, the choice of location of a bath in a bathroom is often very limited, sometimes even for free-standing baths. As the bath is usually the largest item in a bathroom, this can limit or otherwise detract from the overall arrangement of the other sanitary or furniture items in the bathroom. The bath is often seen as a space-and/or design-limiting factor, requiring significant finishing work to accommodate and/or match it with the other items in the bathroom, rather than as the primary item of furniture in a bathroom.

[0004] According to one aspect of the present invention, there is provided a free-standing furniture unit for surrounding a bath tub, wherein the unit is wholly or substantially of one-piece construction, the plumbing for the bath tub is located in or within the unit, the upper edge or edges of the unit meet the bath tub rim, and one or more outer faces of the unit are aesthetically shaped.

[0005] The unit of the present invention is intended to provide a surround for any type of bath tub, which surround is aesthetically pleasing irrespective of the tub's outer appearance. The aesthetically pleasing outlook liberates the possible location of the bath, and allows the bath and surrounding unit to become an item of furniture around which the rest of the bathroom can be styled.

[0006] The unit is wholly or substantially of one-piece construction so as to be 'seamless', and thus aesthetically pleasing from all angles of view. By way of contrast, the provision of eg. plastic panels partly or fully around a bath tub is never able to have an integral one-piece look or finish, and usually requires some form of panel or seam joining seals or system.

[0007] The unit is free-standing so as to be locatable anywhere in a bathroom. Whilst the unit could also support the bath tub, most if not all bath tubs are self-standing. A bath tub will generally be supported by its own supporting means, usually four or more feet extending from the bottom of the bath tub. It is because most supporting means are unsightly that they are desired to be

hidden from view.

[0008] The unit of the present invention could be made from any suitable material or combination thereof, eg. plastics, foam, fibreglass, etc. The unit could be formed using any suitable process, eg. vacuum-forming, moulding or other forms of casting. The unit may have a single- or double-wall construction. Where the unit is single-walled, the plumbing for the bath tub can fit between the bath tub and the unit. Where the unit is double-walled, the plumbing may be similarly arranged, or it may extend between the walls of the unit.

[0009] At least one outer face of the unit is aesthetically pleasing, especially the wall or that part of the unit generally visible from the most commonly used parts of the bathroom. Preferably, all outer faces of the unit are aesthetically shaped.

[0010] According to one preferred embodiment of the present invention, the outer faces of the unit are wholly or substantially shaped and styled to meet the style of the bath tub, and thus to provide a seemingly overall integrated and matched design.

[0011] The unit of the present invention could include a base portion, such portion having the required apertures for plumbing.

[0012] The inside of the unit may be shaped to fit snugly the outer shape of a bath tub, such that there is little or no gap therebetween, (except for plumbing access). The inside of the unit could also be shaped to allow the unit to accommodate a number of differently shaped or designed bath tubs, and/or to reduce material costs. If the latter, a gap will generally exist between the bath tub and the unit. An air gap has some insulative ability. Alternatively, the gap could be wholly or partially filled with another insulative substance.

[0013] The bath tub may be pre-plumbed to the water-supply pipes and drainage pipe, and the furniture unit added thereafter. Alternatively, where the unit is located either prior to addition of the bath tub therein or together with the bath tub, the unit may include one or more access panels able to provide access for the plumbing. The access panel(s) are preferably discreet, and maintain, as far as possible, the 'seamless' appearance of the unit.

[0014] With respect to the plumbing, most taps and other visible water supply fittings for a bath or shower etc., are usually fitted by creating holes in the bath tub or plumbing housing and mounting the taps etc. there-through for attachment to the internal plumbing pipes therebelow. To connect up the piping, access directly beneath the bath tub or plumbing housing is required before the bath tub is fully fitted. However, if the bath or the taps etc. are heavily inlaid or fitted, re-access to the tap plumbing may be difficult. Re-access may be required to repair a leak, or to replace the taps themselves.

[0015] Re-access may be possible using an access panel in the furniture unit mentioned above. Alternatively, and according to a second aspect of the present

invention, there is provided a tap plumbing fitting plate on to which one or more taps are mountable and beneath which water supply piping is connectable to the or each tap, which plate is then mountable onto or into a corresponding aperture in the bath tub or other plumbing housing surface.

[0016] The plate acts as a single interface between the visible tap(s) and the internal supply piping. The plate allows direct access to the tap supply piping by movement of the plate away from the bath tub or other housing. The piping is accessible through or from the aperture in the bath tub or other housing surface, or the piping is extendible through the aperture to be above the level of the bath tub or other housing surface, so as to allow its connection to the or each tap below the plate. 'Flexible' copper piping which allows for some movement when connected is now available, as opposed to the rigid copper piping. Plastic piping could also be used.

[0017] The tap fitting plate should be securely but easily locatable and releasable from the bath tub or other housing to allow simple and easy replacement of a tap, or attendance to the plumbing, if desired or necessary. The plate could be securable to the bath tub, etc. by any suitable fastening means, e.g. screws, snap-fit connections, rotatable studs, etc. The aperture could be recessed so that the plate is flush with the bath tub surface or housing surface when mounted thereon. Other plumbing housings include sinks, bidets, shower sheetings, and other sanitary ware having separate, but fitted, taps.

[0018] In another preferred embodiment of the present invention, the tap plumbing fitting plate is used in the furniture unit hereinbefore described.

[0019] Embodiments of the present invention will be described by way of example only and with reference to the accompanying diagrammatic drawings in which:

Fig. 1 is a exploded perspective view of a first furniture unit according to one embodiment of the present invention with a first bath tub;

Fig. 2 is a conjoined cross-sectional view along line AA' in Fig. 1;

Fig. 3 is a perspective view of a second furniture unit and second bath tub;

Fig. 4 is an exploded perspective view of a plumbing fitting plate according to a second embodiment of the present invention with a third bath tub; and

Fig. 5 is a front and part cross-sectional view of the plate and the bath tub in Fig. 4

[0020] Referring to the drawings, Figs. 1 and 2 show a furniture unit 2 and a bath tub 4. The bath tub 4 is typical of many bath tubs currently made of plastic and/or fibreglass, having a smooth and styled top and inner surface, with a rough and unfinished outer wall surface. Such bath tubs are hitherto panelled or boxed into a corner of a bathroom. The bath tub has four support legs 6,

which are adjustable in length to help level the bath tub during fitting.

[0021] The furniture unit 2 of the present invention is of one-piece construction, save for an access panel 8. The access panel 8 may be formed separately, or formed integrally with the unit 2 and then separated therefrom. The unit 2 is free-standing.

[0022] As shown more clearly in Fig. 2, the upper edge 10 of the unit 2 is designed to meet with the depending rim 12 of the bath tub 4. Preferably, the upper edge 10 fits snugly within the rim 12. If necessary or desired, the upper edge 10 and rim 12 could be bonded together, or a sealing strip added therebetween.

[0023] On the bath tub 4 there are two taps 14 and a connected mixer spout 16. The taps 14 and spout 16 are located on a fixing plate 18, discussed in more detail hereinafter. Between the taps 14 and domestic water supply pipes 19 are one or more pieces of intermediate piping 20. The bath tub 4 includes a plug hole fitting 22 for a drainage pipe 24 therebelow.

[0024] The construction, installation and fitting of the unit 2, bath tub 4 and associated plumbing is now described.

[0025] In one instance, the unit 2 and bath tub 4 could be pre-assembled together prior to installation in a bathroom. Pre-assembly allows for any filling of the air gap 26 between bath tub 4 and unit 2 to be carried out off site, eg. at the factory, with an appropriate insulative filler, eg. foam or polymer concrete, and for pre-connection of the taps 14 with the intermediate piping 20, reducing the work required on site.

[0026] Alternatively, the unit 2 and bath tub 4 are provided on site separately, the unit 2 is located where desired and the bath tub 4 then located therein, again possibly with prior connection of the taps 14 with the intermediate piping 20. Also alternatively, a second access panel (not shown) could be provided in the unit 2 for access directly under the bath rim 12 near the taps 14 for on site connection of the taps 14 to the intermediate piping 20. This is avoided by use of the fixing plate 18 as discussed hereinafter.

[0027] Once the unit 2 and bath tub 4 are installed, removal of the access panel 8 provides access for the fitter to connect the water supply pipes 19 and drainage pipe 24 to the intermediate piping 20 and plug hole fitting 22 respectively. The access panel 8 also provides ready access to this plumbing in case of problems or replacement. The access panel 8 should appear to be as integral as possible with the remaining furniture unit 2. Indeed, the overall design of the unit 2 could be such as to hide or make less visible the access panel seams as far as possible.

[0028] The unit could accommodate bath tubs of other design, with a similar rim-size. Otherwise, the shape, size and design of the unit are without constraint. Indeed, a number of differently designed furniture units could be made for the same bath tub design. Unlimited

flexibility is therefore possible in the selection of bath tubs and the surrounding furniture unit.

[0029] Preferably, the furniture unit of the present invention is designed to match one or only a few bath tub designs, the combination of which create a sufficiently aesthetic combined assembly from all points of view. Thus, the combined assembly may be located with freedom anywhere in a bathroom, other than simply in a corner.

[0030] Fig. 3 shows a second furniture unit 30 according to the present invention, with a second tub 32 therein. The shape and design of the unit 30 is considered to match the shape and design of the bath tub 32, and provide a seemingly integrated bath arrangement which can grace the centre of a bathroom whilst hiding the plumbing within the unit 30.

[0031] Fig. 4 shows a tap plumbing fitting plate 40. Mounted on the plate 40 are two taps 42 and a connected mixer spout 44. Hitherto, taps, spouts and other visible water supply fittings such as shower hose fittings were mounted directly onto the bath tub or other plumbing housing surface, requiring access directly thereunder for fitting, repairing and/or replacement of the taps.

[0032] The plate 40 is mountable into a corresponding shaped recessed aperture 46 in the top of a bath tub 48 by two screws 50. Prior to its mounting, the plate 40 provides access to the screw threads 52 of the taps 42 extending below the plate 40, to allow the taps 42 to be connected to the water piping 45. The piping 45 is preferably flexible and/or deformable, eg. the flexible copper tubing now available, or plastic tubing. Such tubing is extendible through the aperture 46 to be above the level of the bath tub 48, and is then able to deform as shown in Fig. 5 when fitting the plate 40 to the bath tub 48. Alternatively, the piping 45 is eg. the extended intermediate piping 20 as shown in Fig. 2 not yet connected to the main supply pipes 19.

[0033] The plate 40 may be used as the tap fitting plate 18 in Figs. 1 and 2 for the arrangement shown.

[0034] The present invention provides a bath furniture unit able to accommodate any type or style of bath tub. Bath tubs usually have an unsightly outer surface and support structure or means, and the furniture unit is able to surround the bath tub to provide an aesthetically pleasing outer appearance. This allows the bath to 'free' itself from the corner of a bathroom, and to become an object of furniture in its own right. The unit is of one-piece construction to avoid panel or seam jointing.

[0035] The present invention also provides a tap plumbing fitting plate which allows pre-connection of taps with their associated supply piping prior to mounting of the taps, and without requiring access directly beneath the bath tub, etc. The plate is particularly suited for use with the furniture unit described herein so as to avoid the need for a tap-access panel in the unit.

[0036] Variations and modifications can be made without departing from the scope of the invention described above and as defined hereinafter.

Claims

1. A free-standing furniture unit for surrounding a bath tub, wherein the unit is wholly or substantially of one-piece construction, the plumbing for the bath tub is located in or within the unit, the upper edge or edges of the unit meet the bath tub rim, and one or more outer faces of the unit are aesthetically shaped.
2. A unit as claimed in Claim 1 being wholly or substantially seamless.
3. A unit as claimed in Claim 1 or Claim 2 wherein the unit supports the bath tub.
4. A unit as claimed in Claim 1 or Claim 2 wherein the unit surrounds the bath tub supporting means.
5. A unit as claimed in any one of the Claims 1 to 4 wherein the unit is double-walled.
6. A unit as claimed in Claim 5 wherein the bath plumbing is located between the walls of the unit.
7. A unit as claimed in any one of the preceding Claims wherein all the outer faces of the unit are aesthetically shaped.
8. A unit as claimed in any one of the preceding Claims wherein the outer faces of the unit are wholly or substantially shaped and styled to meet the style of the bath tub.
9. A unit as claimed in any one of the preceding Claims wherein the unit includes a base portion.
10. A unit as claimed in any one of the preceding Claims wherein there is wholly or substantially no gap between the unit and the sides of the bath tub.
11. A unit as claimed in any one of Claims 1 to 9 wherein there is an air gap between the unit and the sides of the bath tub.
12. A unit as claimed in Claim 11 wherein the air gap is wholly or partially filled with another insulative substance.
13. A unit as claimed in any one of the preceding Claims wherein the unit and the bath tub are pre-assembled prior to installation.
14. A unit as claimed in any one of the preceding Claims wherein the unit includes one or more access panels.
15. A unit as claimed in any one of the preceding

Claims, wherein a tap plumbing fitting plate is provided to which one or more taps are mountable and beneath which water supply piping is connectable to the or each tap, which plate is then mountable onto or into a corresponding aperture in a bath tub or other plumbing housing surface. 5

16. A unit as claimed in Claim 15 which allows direct access to the tap supply piping by movement of the plate away from the bath tub or other housing surface. 10

17. A unit as claimed in Claim 15 or Claim 16, wherein the piping is accessible through or from the aperture in the bath tub or other housing surface. 15

18. A unit as claimed in Claim 15 or Claim 16, wherein the piping is extendible through the aperture to be above the level of the bath tub or other housing surface. 20

19. A unit as claimed in any one of Claims 15 to 18, wherein the plate is securely but easily locatable and releasable from the bath tub or other housing surface. 25

20. A unit as claimed in any one of Claims 15 to 19, wherein the plate is flush with the bath surface or other housing surface when mounted thereon. 30

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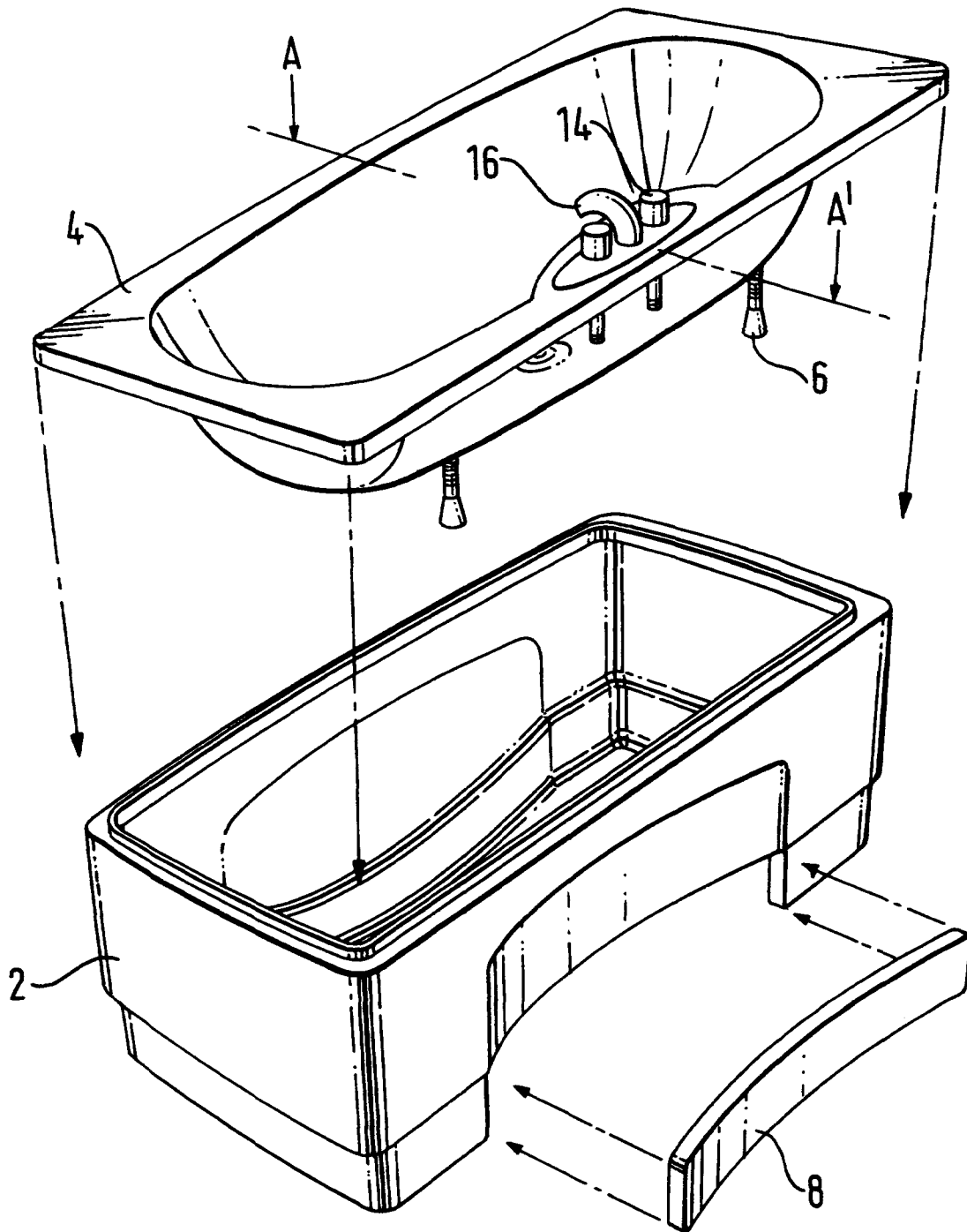


FIG. 1

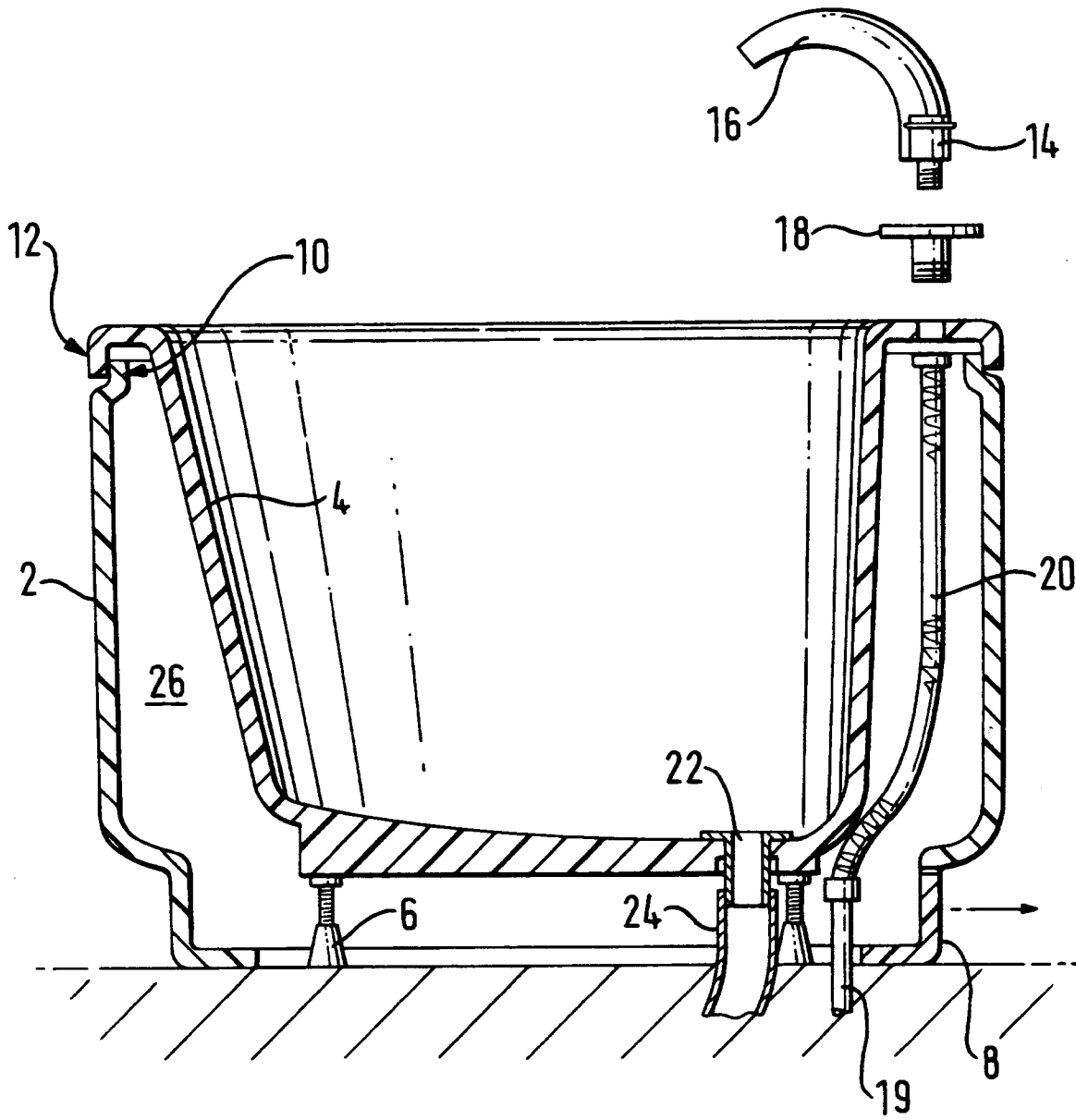


FIG. 2

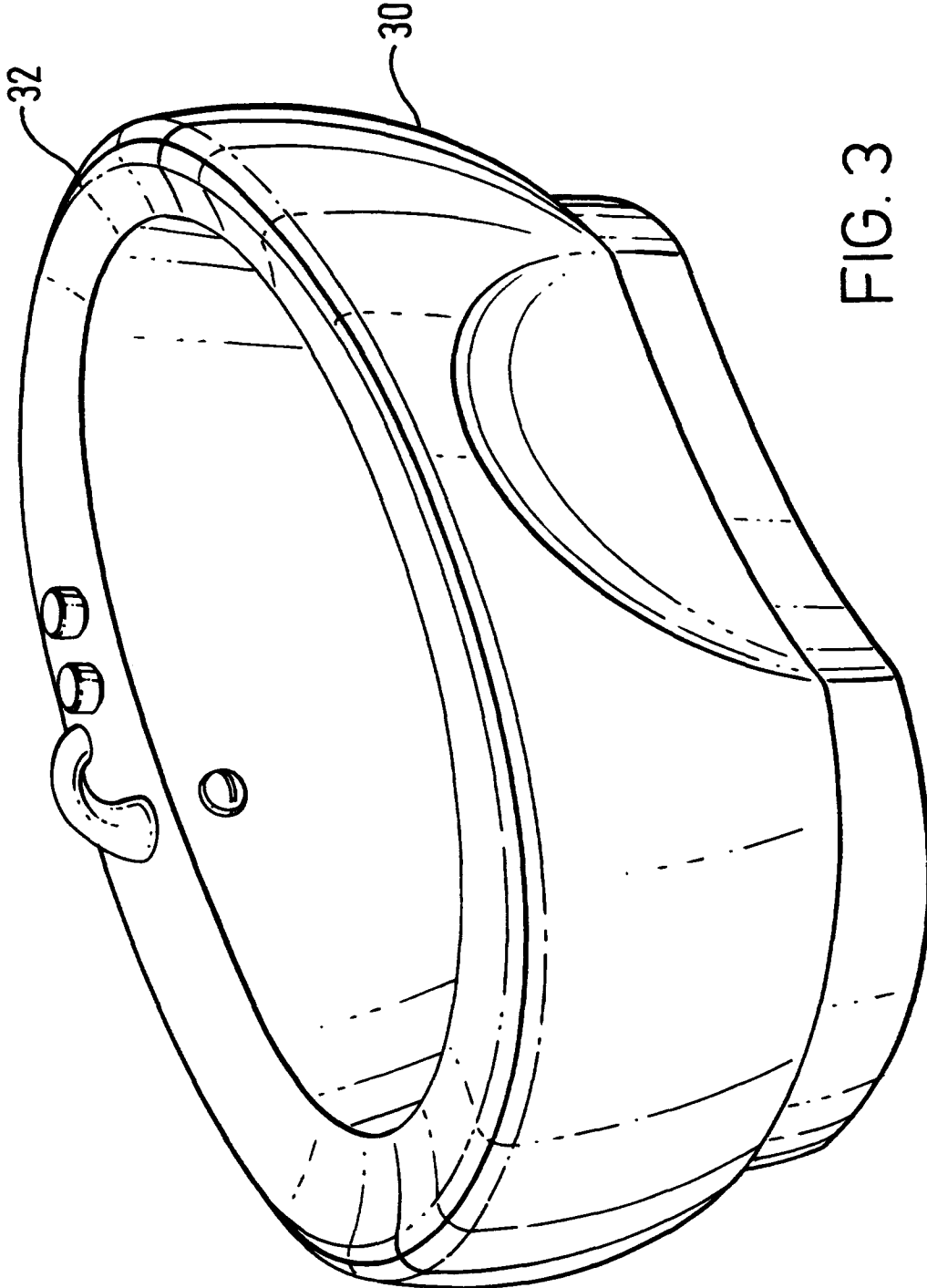


FIG. 3

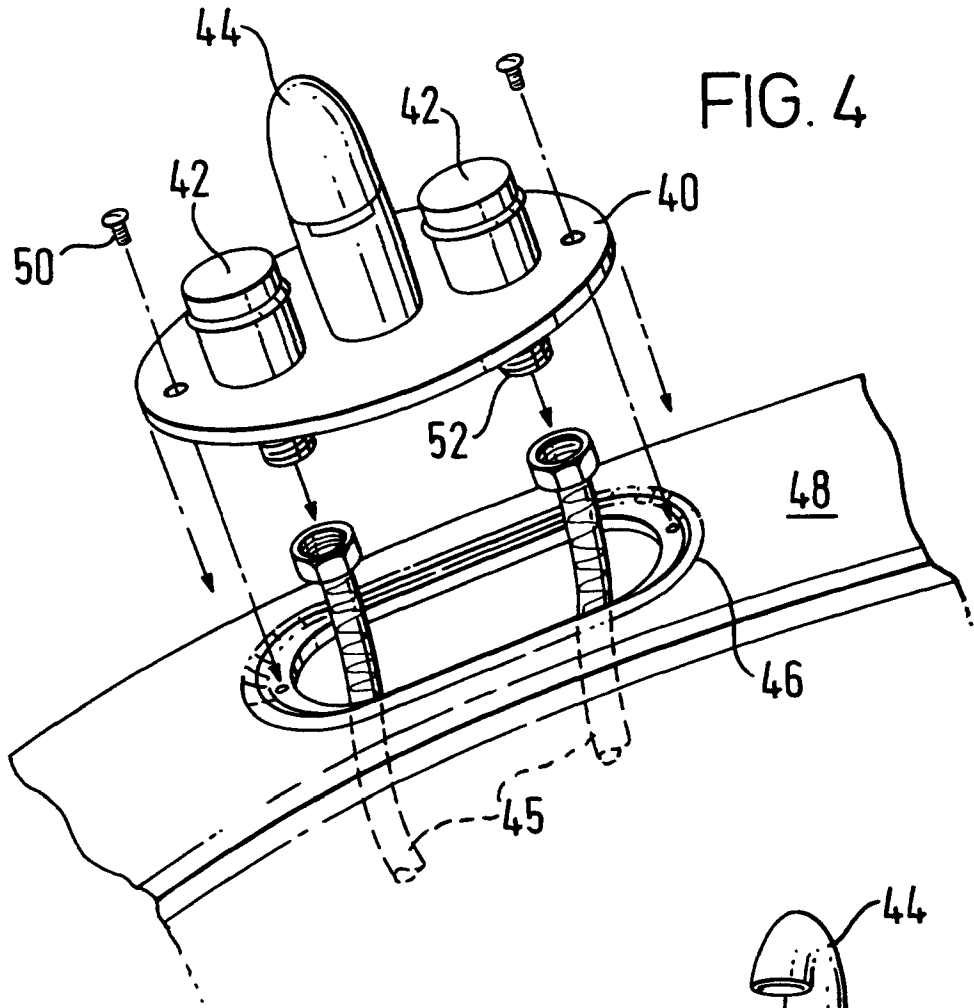


FIG. 4

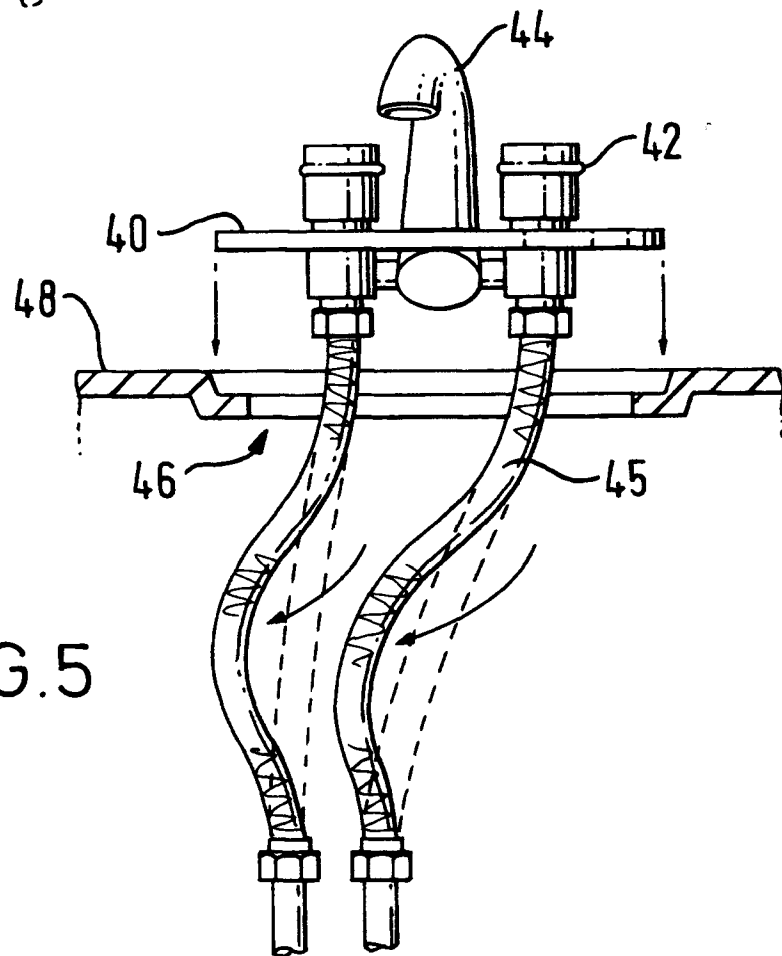


FIG. 5