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(11) **EP 1 279 360 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:

29.01.2003 Bulletin 2003/05

(51) Int Cl.7: **A47K 3/02, A61H 33/00**

(21) Application number: **01830505.2**

(22) Date of filing: **27.07.2001**

(84) Designated Contracting States:

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

Designated Extension States:

AL LT LV MK RO SI

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(54) **Anatomical bath tub with shaped varying-depth bottom**

(57) The invention relates to an anatomical bath tub (6) with a shaped varying-depth bottom (5), large enough to accommodate a user in a semi-lying position, designed in such a way as to provide different depths with the aim of optimising the volume of water used and at the same time to provide maximum user comfort, comprising at least a first substantially flat and horizontal portion (51) of the bottom (5), starting from a first corresponding end of the tub (6), shaped for the comfortable support of the user's back and at least a second portion

(52) of the bottom (5) raised with respect to the first portion, starting from a second corresponding opposite end (2) of the tub (6), designed to reduce the volume of water used and at the same time to provide a comfortable support for at least the user's legs, thus allowing an ergonomic position with the legs slightly raised and at an angle to the pelvis, which substantially rests on the deeper central part of the first portion (51), said portions (5 and 52) being joined by a connecting surface (53) forming a comfortable support for the soles of the user's feet, when lying with his/her legs stretched out.

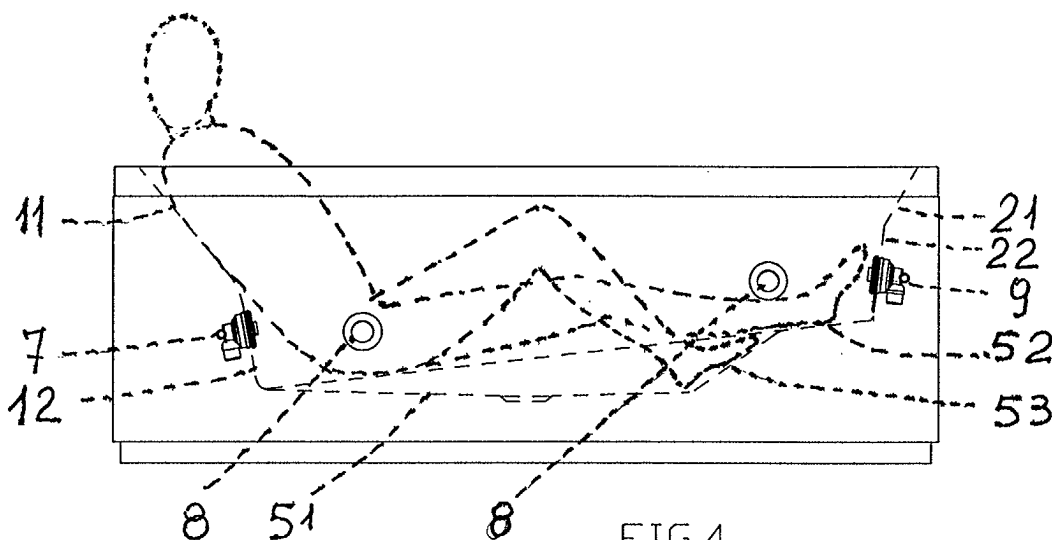


FIG. 4

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Description

[0001] The present invention concerns an anatomical bath tub with shaped varying-depth bottom, large enough to accommodate the user in a semi-lying position.

[0002] A known type of anatomical bath tub, substantially rectangular, has a downward-sloping bottom which is deeper than a usual tub (around 60 cm at the deepest point), starting from the short side, where the user rests his/her back. The sloping section, being designed to anatomically follow the length of the user's thighs, substantially extends as far as the knees, after which the bottom of the tub returns to the normal horizontal shape, at the usual depth.

[0003] This tub therefore permits the user to adopt an ergonomical position, due to the presence of the sloping section, but it also presents a number of disadvantages.

[0004] First of all, the volume of water used is greater than is normally necessary to fill usual tubs, with a constant depth of around 40/45 cm, along their substantially horizontal bottom.

[0005] Furthermore, with this solution the user would not find it particularly comfortable or easy if he/she wished to bend his/her legs, since the area which accommodates the legs is substantially horizontal and has no supporting sections just like known types of tubs. It would also be possible in this case, as in tubs of the usual depth, that the user's knees, if he/she succeeded or wished to bend his/her legs, would protrude above the surface of the water.

[0006] The aim of the present invention is to overcome the disadvantages mentioned above, providing an anatomical bath tub, appropriately designed should it be the whirlpool type, with a specially shaped bottom to optimise the volume of water used and at the same time provide maximum comfort to the user.

[0007] It does in fact allow the user to sit comfortably also with his/her legs bent and not just stretched out, guaranteeing however total immersion of the user in all positions and in spite of the optimised volume of water used.

[0008] It can also be comfortably used as an effective hip-bath, easily utilised also by physically challenged users, providing, for this purpose, a wide flat supporting surface for the user's feet.

[0009] Further aims and advantages, which will become clear from the description which follows, are achieved, in accordance with the present invention, structured and devised according to what is set out in the claims.

[0010] The invention is described in detail here below with the help of the drawings, which illustrate a preferred embodiment and in which:

figure 1 shows a side view of the tub in question;
figure 2 shows a transverse cross sectional view of the tub illustrated in fig. 1;

figure 3 shows a view from above of the same tub;
figures 4 and 5 show a side view of the tub in question, of the whirlpool type, which shows its substantial shape and a user who is respectively using the tub in the usual way and as a hip-bath;

figure 6 shows a perspective view of the tub according to the invention.

[0011] With reference to the accompanying drawings, the numeral 6 indicates a particular anatomical bath tub with a shaped bottom 5, large enough to accommodate a user in a semi-lying position, designed to provide different depths in order to optimise the volume of water used and at the same time provide maximum comfort to the user.

[0012] Solely by way of example, the tub 6 illustrated is the rectangular type, but it could also have a different shape.

[0013] The bath tub essentially comprises:

- at least a first portion 52 of the bottom 5 which is substantially flat and horizontal, with the usual depth, starting from its first corresponding end 1, (in this case its short end), appropriately shaped to comfortably support the user's back;
- at least a second portion 52 of the bottom 5 raised with respect to the first, starting from its second corresponding end 2, (in this case its opposite short end) of the tub 6, designed both to reduce the volume of water used and to provide a comfortable support at least of the user's legs, thus allowing an ergonomic position with the legs slightly raised and at an angle to the pelvis, which rests substantially on the deeper central part of the first portion 51;
- a connecting surface 53 of the portions 51 and 52, forming a comfortable foot rest for the user when his/her legs are bent.

[0014] In this last position, the user's feet are in the deepest possible position and at a distance from the first end 1 of the tub 6, determined by the connecting surface 53, calculated so that the user's knees do not protrude above the surface of the water which in turn, as better illustrated below, is kept at the maximum possible height, within the limits of the volume of water available.

[0015] Preferably, moreover, the second portion 51 of the bottom 5 slopes slightly downwards, with respect to the horizontal, starting from the second end 2 and towards the first end 1, so that it conforms to the natural inclination adopted in this case by the user's legs resting on it. The connecting surface 53 also slopes, with respect to the vertical, towards the first end 1, to make it ergonomic and more comfortable as a support for the soles of the user's feet.

[0016] If the tub is the more common type, like the type illustrated, with four sides 1, 2, 3 and 4, the second portion 52 may be shaped so that it surrounds at least partially, on three sides, the first portion 51, forming a

higher sloping surface starting from the second end 2, which can be extended even almost as far as the first end 1 of the tub, as can be seen in figures 3 and 6. This surface extension can provide a more comfortable and ergonomic support for the user's legs, when stretched out.

[0017] Again with the aim of providing maximum user comfort, at least the upper portion 11 of the first end 1 slopes, in accordance with an optimum inclination for the user's back, in any case to a greater extent than the slope of the lower portion 12 of the same end 1, with respect to the vertical. This is particularly useful when the tub is the type equipped with a whirlpool system with relative water outlets.

[0018] In this case, in fact, at least one outlet 7 is positioned within the lower portion 12 of the first end 1, in such a way that the flow of water is not blocked by the user and in such a way that it contributes to support the weight of the user.

[0019] At least one additional outlet 8 can be positioned on the long side of the tub 6, and at least one other outlet 9 at the second end 2. In practice it is preferable to provide two outlets 8 on each side, as can be clearly seen in figures 4 and 5.

[0020] By comprising a sufficiently large the second portion 52, the tub in question can also be advantageously used, if necessary, as a normal hip-bath.

[0021] In this case, at least the upper portion 21 of second end 2 will slope, in accordance with an optimum inclination for the user's back, in any case to a greater extent than the slope of the lower portion 12 of the same end 1, with respect to the vertical, thus also allowing application of the outlet 9 within the lower portion 22 of the end 2, as described above for the end 1.

[0022] Finally, the tub in question comprises an overflow channel 10 close to the upper edge 61 of the tub 6.

[0023] In this way, even if the volume of water used with this tub is limited, it is fully exploited.

[0024] The invention described can be subject to numerous modifications and variations without thereby departing from the scope of the inventive concept. Moreover, all the details of the invention may be substituted by technically equivalent elements.

[0025] In practice, all the materials used and the sizes can be varied according to requirements.

Claims

1. An anatomical bath tub with shaped varying-depth bottom, large enough to accommodate a user in a semi-lying position, **characterised in that** it comprises at least a first substantially horizontal portion (51) of the bottom (5), starting from a first corresponding end (1) of the tub (6), designed for the comfortable support of the user's back and at least a second portion (52) of the bottom (5) raised with respect to the first, starting from a second corre-

sponding opposite end (2) of the tub (6), designed to reduce the volume of water used and at the same time provide a comfortable support at least for the user's legs, thus allowing an ergonomic position with the legs slightly raised and at an angle to the pelvis, which substantially rests on the deeper central area of the first portion (51), said portions (51 and 52) being joined by a connecting surface (53) providing a comfortable support for the soles of the user's feet, when lying with his/her legs bent.

2. A tub according to claim 1, **characterised in that** the second portion (51) of the bottom (5) slopes slightly downwards, with respect to the horizontal, starting from the second end (2) and towards the first end (1), in such a way as to conform to the natural inclination of the user's legs, which rest on it.

3. A tub according to claim 1 or 2, **characterised in that** the connecting surface (53) slopes, with respect to the vertical, towards the first end (1), to make it ergonomic and more comfortable as a support for the soles of the user's feet.

4. A tub according to claim 2, substantially of the type with four sides (1, 2, 3 and 4), **characterised in that** the second portion (52) surrounds at least partially, on three sides, the first portion (51), forming a sloping upper surface starting from the second end (2), which extends towards the first end (1) of the tub.

5. A tub according to any of the previous claims, **characterised in that** at least the upper portion (11) of the first end (1) slopes, in accordance with an optimum inclination for the user's back, in any case to a greater extent than the slope of the lower portion (12) of the same end (1), with respect to the vertical.

6. A tub according to claim 5, of the type equipped with a whirlpool system with relative water outlets, **characterised in that** at least one outlet (7) is positioned in the lower portion (12) of the first end (1), in such a way that the flow of water is not blocked by the user and in such a way that it contributes to support the weight of the user.

7. A tub according to claim 6, **characterised in that** at least one additional outlet (8) is positioned on the side of the tub (6), and at least one other outlet (9) at the second end (2).

8. A tub according to any of the previous claims, **characterised in that** the second portion (52) is large enough to allow it to be used, if necessary, as a customary hip-bath.

9. A tub according to claim 7, **characterised in that** the second portion (52) is large enough to allow it

to be used, if necessary, as a customary hip-bath, at least the upper portion (21) of the second end (2) sloping, in accordance with an optimum inclination for the user's back, in any case to a greater extent than the slope of the lower portion (22) of the same end (2), with respect to the vertical. 5

10. A tub according to any of the previous claims, **characterised in that** it comprises an overflow channel (10) close to the upper edge (61) of the tub (6). 10

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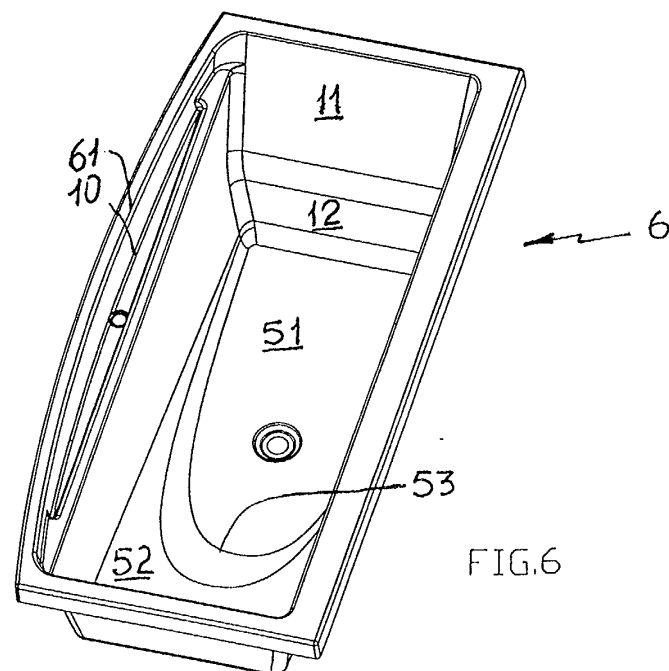
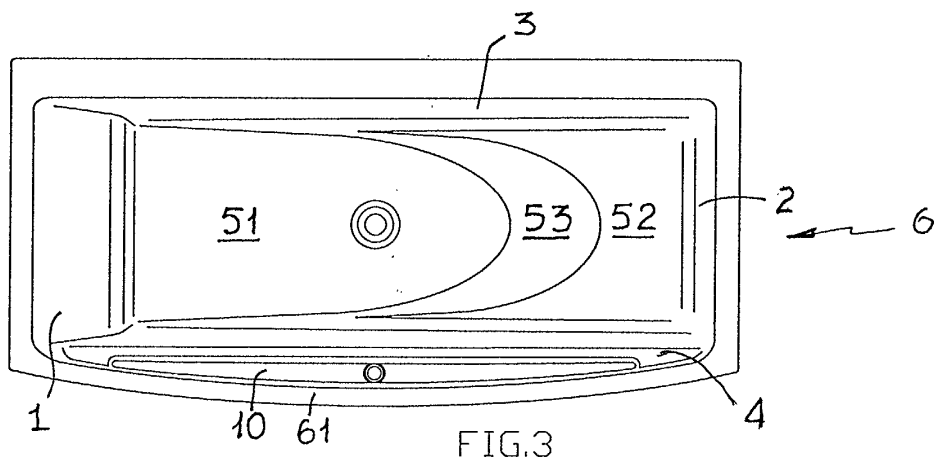
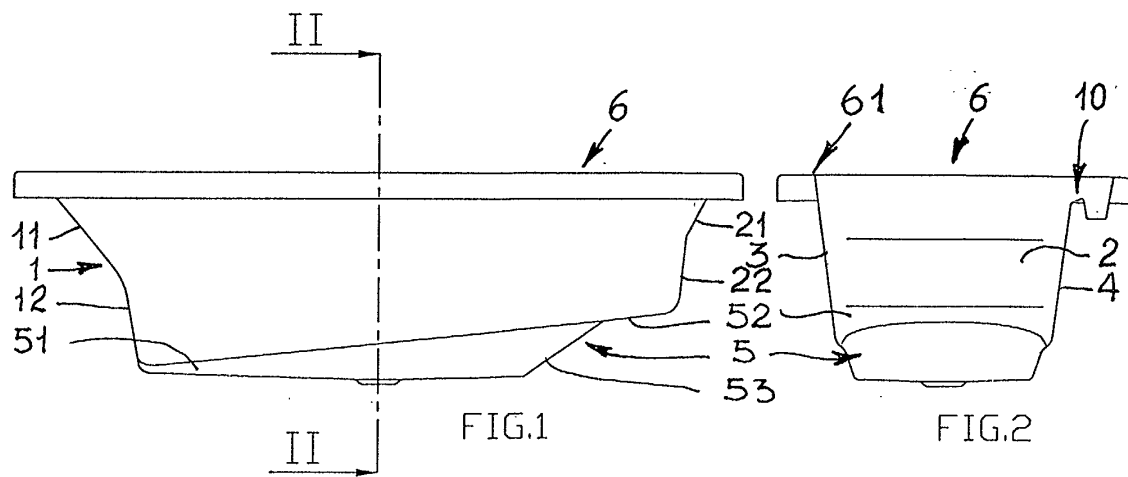
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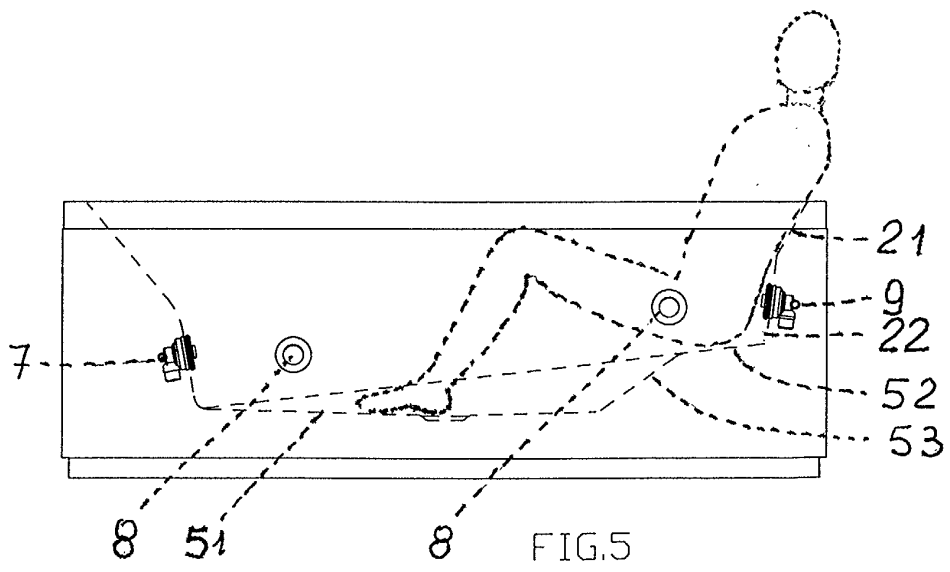
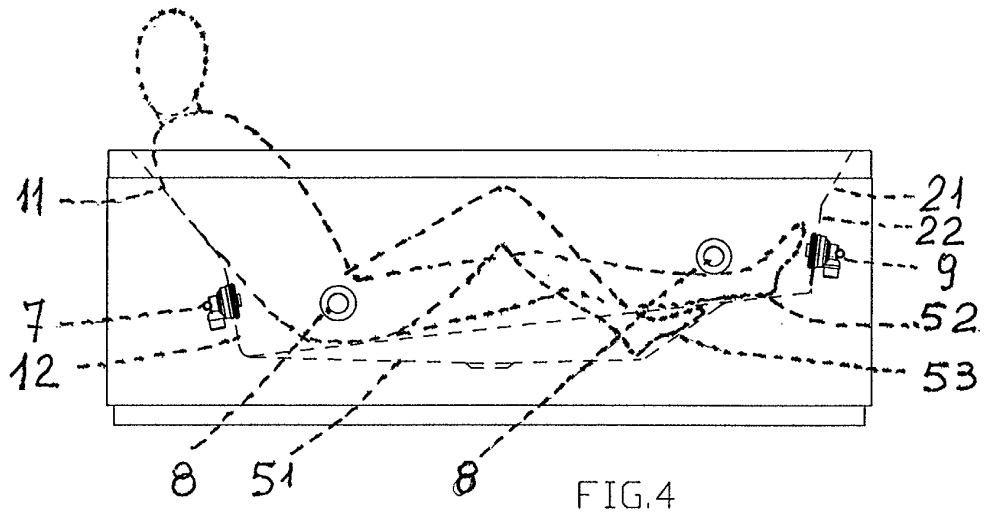
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EUROPEAN SEARCH REPORT

Application Number
EP 01 83 0505

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X	WO 98 33423 A (KOLAR PETR) 6 August 1998 (1998-08-06) * figures 2-5 *	1-3,8	A47K3/02 A61H33/00
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A	DE 43 07 436 A (BLOME JOSEF) 4 November 1993 (1993-11-04) * figure 2 *	5	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 7 November 2001	Examiner Delzor, F
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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