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(54) **Bathtub with variable volume**

Badewanne mit veränderbarem Volumen

Baignoire à volume variable

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Description

[0001] The present patent application relates to a bathtub with variable volume.

[0002] The peculiarities and advantages of the present invention will become evident after a brief description of the prior art and its drawbacks.

[0003] As it is known, bathrooms in apartments and flats are generally equipped with bathtubs or shower boxes.

[0004] Evidently, while they offer higher comfort for the user, bathtubs are impaired by a length that is often incompatible with the small dimensions of bathrooms, especially in the case of small flats.

[0005] A shower box is normally installed in similar situations because its total volume corresponds to the dimensions of the square shower tray.

[0006] While saving on space, a typical shower box is impaired by the fact that its conditions of use are quite uncomfortable for the user who is forced to stand for the entire duration of the shower.

[0007] In view of the above the use of a typical shower is especially critical, if not impossible, for elder users and for all those users with stability problems of the lower limbs, who find it difficult to stay for a certain period of time in upright position.

[0008] JP S63 38889 discloses a bathtub with variable volume according to the preamble of respective claims 1, 2 and 3.

[0009] KR20110017964 discloses a bath tub with variable volume, which can reduce waste of water by not receiving too much water and enables a user to conveniently control width of a space receiving water.

[0010] A careful evaluation of the prior art has resulted in the new bathtub with variable volume of the invention, which is a totally innovative device, it being for the first time able to offer the advantages of a shower box together with the benefits of a bathtub.

[0011] The specific purpose of the present invention is to devise a bathtub with the same longitudinal volume as a shower box (which is substantially limited to the dimensions of a typical shower tray), which at the same time allows the user to comfortably stay inside the bathtub and, most of all, to sit for the entire duration of the shower or bath.

[0012] Such a purpose has been achieved by a bathtub according to the features of respective claims 1, 2 or 3. The bathtub of the invention is provided with a vertical, preferably parallelepiped structure, the peculiarity of which consists in the fact that it is provided on one of its vertical walls with a pull-out compartment - which is adapted to project from the vertical wall - used to support a seat whereon the user can comfortably sit.

[0013] More precisely, it consists in a compartment adapted to slide in parallel direction or in a surface adapted to oscillate with respect to the bearing wall of the bathtub of the invention.

[0014] However, the most important feature is that, in

both cases, the compartment (together with the seat) can be brought from a non-operating position, wherein it is completely housed inside the bathtub, to an operating position, wherein it projects on the outside of the bearing wall.

[0015] Moreover, it must be noted that the seat mounted in the pull-out compartment can be used by the user only when the pull-out compartment is in operating position.

[0016] While the pull-out compartment is in non-operating position, it is impossible to use the seat and the useful space inside the bathtub is reduced.

[0017] The capability of the pull-out compartment of the bathtub of the invention of being in two different positions allows for defining the bathtub of the invention as "a bathtub with variable volume"; it being evident that the internal volume of the bathtub (together with its water capacity) will increase when the pull-out compartment is brought to its operating position.

[0018] Evidently, the user can keep the pull-out compartment of the bathtub in the non-operating position to reduce the total volume of the bathtub, whereas he can easily bring the pull-out compartment of the bathtub to the operating position when he intends to use the bathtub and sit inside it.

[0019] In consideration of the fact that the new bathtub of the invention is mainly devised for users who find it difficult to walk or stand in upright position, the additional purpose of the present invention is to facilitate the access and the exit of the user into and from the bathtub.

[0020] In view of the above, the bathtub is provided with a lateral door adapted to open up a passage section used by the user to comfortably access or exit the bathtub in "empty bathtub" condition.

[0021] For explanatory reasons, the description of the invention continues with reference to the attached drawings, which only have an illustrative, not limiting value, wherein:

- Figure 1 is an axonometric view of a first embodiment of the bathtub of the invention, shown with the pull-out compartment in non-operating position;
- Figure 2 is the same as Fig. 1, except for it shows the pull-out compartment in operating position;
- Figure 3 is an axonometric view of a second embodiment of the bathtub of the invention, shown with the pull-out compartment in non-operating position;
- Figure 4 is the same as Fig. 1, except for it shows the pull-out compartment in operating position;
- Figure 5 is an axonometric view of a third embodiment of the bathtub of the invention, shown with the pull-out compartment in non-operating position;
- Figure 6 is the same as the previous one, except for it shows the pull-out compartment in operating position.

[0022] Referring to Figs. 1 and 2, the bathtub of the invention (V) has a substantially parallelepiped structure

formed of a substantially rectangular bottom wall (1), from which two transversal walls (2a, 2a') and two longitudinal walls (2b, 2b') project upwards.

[0023] The first transversal wall (2a) is provided with a first vertical opening (3) adapted to facilitate the access and the exit of the user into and from the bathtub of the invention (V).

[0024] The first opening (3) is provided with a watertight door (4) that, when in opening position, allows the user to pass from the outside to the inside of the bathtub (V) and vice versa. When in closing position, the watertight door (4) is perfectly watertight with respect to the water loaded inside the bathtub (V).

[0025] A second opening (6) is provided on the first longitudinal wall (2b) for its entire height; in particular, the second opening (6) covers the majority of the central surface of the first longitudinal wall (2b), of which only two short sections remain, basically consisting in its lateral ends.

[0026] An oscillating box body (7) exactly operates in the second opening (6), it being hinged at the base of the border (1 a) of the bottom wall (1) and accordingly adapted to alternately rotate from the inside to the outside of the bathtub (V) through the second opening (6).

[0027] In particular, the oscillating box body (7) is formed of a front wall (7a) with substantially the same surface as the second opening (6), as well as of two lateral walls (7b) in symmetrically opposite position that project towards the inside of the bathtub (V) starting from the vertical borders of the front wall (7a).

[0028] Each of the lateral walls (7b) has a profile shaped as an upturned right-angled triangle and is provided for the entire height of its internal sloping border (7b') with a wing (8) folded at 90° towards the outside of the box body (7).

[0029] A seat (9) is provided inside the box body (7), in the direction of the bathtub (V), it being supported between the front wall (7a) and the two lateral walls (7b).

[0030] After describing its configuration, this description continues illustrating the operation of the bathtub (V).

[0031] Referring to Fig. 1, when the bathtub (V) is not used, the box body (7) is rotated towards the inside of the bathtub (V) in order to minimize its total volume.

[0032] In such a condition, the front wall (7a) of the box body (7) is perfectly aligned with the two lateral sections of the first longitudinal edge (2b) of the bathtub (V), without projecting on the outside of the longitudinal edge (2b).

[0033] Instead, when the user intends to use the bathtub (V), the box body (7) is rotated outwards, thus largely projecting from the first longitudinal wall (2b).

[0034] Such an outward rotation of the box body (7) ends when the two lateral wings (8) are stopped against the internal side of the two ending sections of the first longitudinal wall (2b).

[0035] Evidently, when in operating position, the bathtub of the invention (V) is watertight with respect to the water loaded inside it.

[0036] Such a watertight property is guaranteed by two

seals (10) vertically mounted on the inside of the two lateral sections of the first longitudinal wall (2b) and adapted to be compressed when the box body (7) reaches the end of the pulling-out travel, between the lateral ending sections of the first longitudinal edge (2b) and the two lateral wings (8) provided on the lateral walls (7b) of the box body (7).

[0037] The additional circumstance to be verified is that such an outward oscillation of the box body (7) brings the seat (9) in a perfectly horizontal position substantially outside the perimeter of the bottom wall (1) of the bathtub (V).

[0038] Now, in order to use the bathtub of the invention (V), the user will access the bathtub (V) through the door (4) and sit on the seat (9), and then he will start supplying water to fill the bathtub (V).

[0039] Evidently, such a filling will also affect the box body (7), in such manner that the user will be progressively immersed in the water of the bathtub (V), while comfortably sitting on the seat (9).

[0040] As soon as the bath is finished, the user will empty the bathtub (V), coming out of the bathtub (V) through the door (4) and bringing the box body (7) back to its non-operating position completely rotated towards the inside of the bathtub (V).

[0041] Referring to Figs. 3 and 4, the bathtub of the invention (V) can be also obtained according to a second embodiment, which is functionally equivalent to the first embodiment.

[0042] In such a case, the first longitudinal wall (2b) is provided with a second central opening (60) that only affects a top section.

[0043] A box body (70) substantially consisting in a drawer, is adapted to exactly slide through the second opening (60), from the inside to the outside of the bathtub (V) and vice versa.

[0044] As a matter of fact, the box body (70) is formed of a vertical front wall (70a) to which a horizontal bottom wall (70c) and two opposite lateral walls (70b) are associated.

[0045] The horizontal bottom wall (70c) is adapted to support a seat (9), whereas the two lateral walls (70b) are provided on the free vertical borders (70b') with wings (80) folded at 90° towards the outside of the box body (70).

[0046] Because of its capability of sliding in parallel direction, the box body (70) is adapted to be alternately disposed in the non-operating position shown in Fig. 3, and the operating position shown in Fig. 4.

[0047] In the first case the front wall (70a) is disposed substantially flush with the first longitudinal wall (2b) of the bathtub (V), in such manner that the entire structure of the box body (70), including the seat (9), is contained inside the bathtub (V).

[0048] In the second case, instead, the outward sliding of the box body (70) brings it in projecting position on the outside of the first longitudinal wall (2b), in such a condition that the user can comfortably sit on the seat (9)

and be progressively immersed in the water supplied in the bathtub (V) while sitting.

[0049] Evidently, also in such a case, perfect watertightness must be provided between the box body (70) in the latter operating position, and the first longitudinal wall (2b) of the bathtub (V).

[0050] In view of the above, two seals (10) are mounted on the inside of the first longitudinal wall (2b), substantially at the height of the vertical edges of the second opening (60).

[0051] The seals (10) are adapted to be compressed between the first longitudinal wall (2b) and the wings (80) that project laterally from the lateral walls (70b) of the box body (70).

[0052] It is understood that the interference between the wings (80) and the internal side of the first longitudinal wall (2b) provides a stop for the outward sliding of the box body (70).

[0053] Although it is not shown in the enclosed figures, an additional seal is provided to guarantee watertightness between the horizontal wall (70c) of the box body (70) - substantially at the height of the internal horizontal border (9a) of the seat (9) - and the lower horizontal edge of the second opening (60) of the first longitudinal wall (2b) of the bathtub (V).

[0054] Figs. 5 and 6 show a third embodiment of the bathtub of the invention (V), which is likewise provided with the same box body (70) of the embodiment shown in Figs. 3 and 4.

[0055] The peculiarity of the third embodiment consists in the fact that the box body (70) is of rotating type and does not slide as a drawer.

[0056] In such a case the first longitudinal border (70c') of the bottom wall (70c) of the box body (70) is hinged on the lower horizontal border of the second opening (60) provided in the center of the first longitudinal wall (2b) of the bathtub (V).

[0057] In view of the above, the box body (70) is adapted to pass from the non-operating position shown in Fig. 5 to the operating position shown in Fig. 6.

[0058] In the first case, in fact, the box body (70) is in such a position that the bottom wall (70c) is flush with the first longitudinal wall (2b) of the bathtub (V), in such a condition that its entire structure is "overturned" and contained inside the bathtub (V).

[0059] In the second case, after an outward rotation of approximately 90°, the box body (70) projects on the outside of the first longitudinal wall (2b), in such a condition that the bottom wall (70c) is in perfect horizontal position together with the seat (9).

[0060] Also in this case, the stop for a similar outward rotation of the box body (70) is provided by the interference established between the lateral wings (80) of the box body (60) and the internal side of the first longitudinal wall (2b).

[0061] Moreover, also in this case, the presence of the seals (10) guarantees watertightness between the lateral wings (80) and the lateral edges of the second opening

(60) of the first longitudinal wall (2b).

[0062] With reference to the latter embodiment of the invention, it must be noted that the box body (70) is provided with seals also at the height of the internal horizontal border (9a) of the seat (9) regardless of the fact that the seals are not shown in Figs. 5 and 6.

Claims

1. Bathtub (V) with variable volume comprising:

- a horizontal bottom wall (1),
- multiple vertical walls (2a, 2a', 2b, 2b'),
- a watertight pull-out box body (7) located in correspondence of an opening (6) obtained in one of the vertical walls (2b), the opening (6) being obtained for the entire height and in the center of the vertical wall (2b); said watertight pull-out box body (7) being adapted to be alternatively brought from a position wherein it is completely contained inside the bathtub (V), exactly covering the opening (6) and without creating any volume on the outside of the vertical wall (2b), to a projecting position wherein it projects from the vertical wall (2b), the watertight pull-out box body (7) comprising a front wall (7a) entirely covering the opening (6) and hinged at a base on a border (1 a) of the bottom wall (1) of the bathtub (V);

characterized in that

the opening (6) is comprised between two lateral sections of the vertical wall (2b), and the pull-out box body (7) comprises:

- two lateral walls (7b) in symmetrically opposite position, with a profile shaped as an overturned right-angled triangle and projecting towards the inside of the bathtub (V) starting from the vertical borders of the front wall (7a),
- two wings (8) laterally projecting outwards, basically at 90°, from internal sloping borders (7b') of the lateral walls (7b), said two wings (8) being adapted to interfere with an internal side of the lateral sections of the vertical wall (2b), when the pull-out box body (7) is brought to its projecting position with respect to said vertical wall (2b), thus generating a compression of corresponding seals (10) provided in said vertical wall (2b),
- a seat (9) supported, towards the inside of the bathtub (V), between said front wall (7a) and the lateral walls (7b) of the pull-out box body (7).

2. Bathtub (V) with variable volume comprising:

- a horizontal bottom wall (1),

- multiple vertical walls (2a, 2a', 2b, 2b'),
- a watertight pull-out box body (70) located in correspondence of an opening (60) obtained in one of the vertical walls (2b), said watertight pull-out box body (70) being adapted to be alternatively brought from a position wherein it is completely contained inside the bathtub (V), exactly covering the opening (60) and without creating any volume on the outside of the vertical wall (2b), to a projecting position wherein it projects from the vertical wall (2b),

characterized in that

the opening (60) that houses the pull-out box body (70) occupies a top central section of the vertical wall (2b);
the pull-out box body (70) is adapted to slide in parallel direction, similarly to a drawer, in correspondence of the opening (60) and the pull-out box body (70) comprises:

- a vertical front wall (70a) adapted to exactly occupy the entire surface of the opening (60), said vertical front wall (70a) being associated with a horizontal bottom wall (70c) and with two lateral opposite walls (70b) facing towards the inside of the bathtub (V) starting from vertical edges of the front wall (70a),
- two wings (80) laterally projecting outwards, basically at 90°, from vertical borders (70b') of the lateral walls (70b), said two wings (80) being adapted to interfere with internal side of the vertical wall (2b) at the height of the vertical borders of the opening (60) when the pull-out box body (70) is brought to its projecting position with respect to said vertical wall (2b), thus generating a compression of corresponding seals (10) provided in said vertical wall (2b),
- a seat (9) is supported, towards the inside of the bathtub (V), above the bottom wall (70c) of the pull-out box body (7).

3. Bathtub (V) with variable volume comprising:

- a horizontal bottom wall (1),
- multiple vertical walls (2a, 2a', 2b, 2b'),
- a watertight pull-out box body (70) located in correspondence of an opening (60) obtained in one of the vertical walls (2b), said watertight pull-out box body (70) being adapted to be alternatively brought from a position wherein it is completely contained inside the bathtub (V), exactly covering the opening (60) and without creating any volume on the outside of the vertical wall (2b), to a projecting position wherein it projects from the vertical wall (2b),

characterized in that

the opening (60) that houses the pull-out box body (70) occupies a top central section of the vertical wall (2b),
the pull-out box body (70) is adapted to alternately rotate by approximately 90°, from the inside to the outside of the bathtub (V), in correspondence of the opening (60) and the pull-out box body (70) comprises:

- a vertical front wall (70a) adapted to exactly cover the entire surface of the opening (60), said vertical front wall (70a) being associated with a horizontal bottom wall (70c) and with two opposite lateral walls (70b) facing towards the inside of the bathtub (V) starting from vertical borders of the front wall (70a); wherein a first longitudinal border (70c') of the bottom wall (70c) is hinged in correspondence of a lower horizontal border of the opening (60) in such manner that, when the pull-out box body (70) is completely contained inside the bathtub (V), the bottom wall (70c) is flush with the vertical wall (2b), and, when the pull-out box body (70) is brought to its projecting position, the bottom wall (70c) is basically orthogonal to the vertical wall (2b),
- two wings (80) laterally projecting outwards, basically at 90°, from vertical borders (70b') of the lateral walls (70b), said two wings (80) being adapted to interfere with the internal side of the vertical wall (2b) at the height of the vertical borders of the opening (60) when the pull-out box body (70) is brought into its projecting position with respect to said vertical wall (2b), thus generating a compression of corresponding seals (10) provided in said vertical wall (2b),
- a seat (9) mounted, towards the inside of the bathtub (V), above the bottom wall (70c) of the pull-out box body (70).

4. The bathtub (V) of any one of the preceding claims, wherein one of the vertical walls (2a, 2a', 2b') other than the vertical wall (2b) associated with said pull-out box body (7, 70) has an opening (3) provided with a watertight door (4).

Patentansprüche

1. Badewanne (V) mit variablem Volumen, umfassend:

- eine horizontale Bodenwand (1),
- mehrere vertikale Wände (2a, 2a', 2b, 2b'),
- einen kastenförmigen, ausziehbaren, wasserdichten Korpus, der an einer Öffnung (6) angeordnet ist, die in einer der vertikalen Wände (2b) herausgearbeitet ist, wobei die Öffnung (6) über die gesamte Höhe, in der Mitte der vertikalen Wand (2b) herausgearbeitet ist; wobei der kas-

tenförmige, ausziehbare, wasserdichte Korpus (7) dazu geeignet ist, abwechselungsweise von einer Stellung, in der er vollständig im Inneren der Badewanne (V) enthalten ist und die Öffnung (6) genau ausfüllt, ohne aus der vertikalen Wand (2b) hervorzustehen, in eine auskragende Stellung gebracht zu werden, in der er aus der vertikalen Wand (2b) hervorsteht, wobei der kastenförmige, ausziehbare, wasserdichte Korpus (7) eine Vorderwand (7a) umfasst, die die Öffnung (6) vollständig ausfüllt und an einer Basis auf einer Kante (1a) der Bodenwand (1) der Badewanne (V) angeschlagen ist,

dadurch gekennzeichnet, dass

die Öffnung (6) zwischen zwei seitlichen Abschnitten der vertikalen Wand (2b) liegt, und der kastenförmige, ausziehbare Korpus (7) Folgendes umfasst:

- zwei symmetrisch gegenüberliegende Wände (7b), die ein Profil in Form eines umgekehrten, rechtwinkligen Dreiecks aufweisen und ausgehend von den vertikalen Kanten der Vorderwand (7a) ins Innere der Badewanne (V) auskragen,
- zwei Flügel (8), die seitlich, im Wesentlichen im Winkel von 90° von schrägen Innenkanten (7b') der seitlichen Wände (7b) nach außen auskragen; wobei die beiden Flügel (8) dazu geeignet sind, in eine Innenfläche der seitlichen Abschnitte der vertikalen Wand (2b) einzugreifen, wenn der kastenförmige, ausziehbare Korpus (7) in seine gegenüber der vertikalen Wand (2b) auskragende Stellung gebracht wird und dadurch einen Druck auf die Dichtungen (10) ausübt, die an der vertikalen Wand (2b) vorgesehen sind,
- einen Sitz (9), der zur Innenseite der Badewanne (V) zwischen der Vorderwand (7a) und den beiden seitlichen Wänden (7b) des kastenförmigen, ausziehbaren Korpus gehalten wird.

2. Badewanne (V) mit variablem Volumen, umfassend:

- eine horizontale Bodenwand (1),
- mehrere vertikale Wände (2a, 2a', 2b, 2b'),
- einen kastenförmigen, ausziehbaren, wasserdichten Korpus (70), der an einer Öffnung (60) angeordnet ist, die in einer der vertikalen Wände (2b) herausgearbeitet ist, wobei der kastenförmige, ausziehbare, wasserdichte Korpus (70) dazu geeignet ist, abwechselungsweise von einer Stellung, in der er vollständig im Inneren der Badewanne (V) enthalten ist und die Öffnung (60) genau ausfüllt, ohne aus der vertikalen Wand (2b) hervorzustehen, in eine auskragende Stellung gebracht zu werden, in der er aus der vertikalen Wand (2b) hervorsteht,

dadurch gekennzeichnet, dass

die Öffnung (60), die den kastenförmigen, ausziehbaren Korpus (70) aufnimmt, einen mittleren, oberen Abschnitt der vertikalen Wand (2b) einnimmt; der kastenförmige, ausziehbare Korpus (70) dazu geeignet ist, parallel zu sich selbst, ähnlich wie eine Schublade, in der Öffnung (60) zu gleiten, wobei der kastenförmige, ausziehbare Korpus (70) Folgendes umfasst:

- eine vertikale Vorderwand (70a), die dazu geeignet ist, die gesamte Fläche der Öffnung (60) genau auszufüllen, wobei die vertikale Vorderwand (70a) mit einer horizontalen Bodenwand (70c) und zwei gegenüberliegenden, seitlichen Wänden (70b) verbunden ist, die ausgehend von den vertikalen Kanten der Vorderwand (70a) zum Inneren der Badewanne (V) gerichtet sind,
- zwei Flügel (80), die im Wesentlichen im Winkel von 90° von vertikalen Kanten (70b') der seitlichen Wände (70b) nach außen auskragen, wobei die beiden Flügel (80) dazu geeignet sind, in eine Innenfläche der vertikalen Wand (2b) auf der Höhe der vertikalen Kanten der Öffnung (60) einzugreifen, wenn der kastenförmige, ausziehbare Korpus (70) in seine gegenüber der vertikalen Wand (2b) auskragende Stellung gebracht wird und dadurch einen Druck auf die Dichtungen (10) ausübt, die an der vertikalen Wand (2b) vorgesehen sind,
- einen Sitz (9), der zur Innenseite der Badewanne (V) hin, oberhalb der Bodenwand (70c) des ausziehbaren, kastenförmigen Korpus gehalten wird.

3. Badewanne (V) mit variablem Volumen, umfassend:

- eine horizontale Bodenwand (1),
- mehrere vertikale Wände (2a, 2a', 2b, 2b'),
- einen kastenförmigen, ausziehbaren, wasserdichten Korpus (70), der an einer Öffnung (60) angeordnet ist, die in einer der vertikalen Wände (2b) herausgearbeitet ist, wobei der kastenförmige, ausziehbare, wasserdichte Korpus (70) dazu geeignet ist, abwechselungsweise von einer Stellung, in der er vollständig im Inneren der Badewanne (V) enthalten ist und die Öffnung (60) genau ausfüllt, ohne aus der vertikalen Wand (2b) hervorzustehen, in eine auskragende Stellung gebracht zu werden, in der er aus der vertikalen Wand (2b) hervorsteht,

dadurch gekennzeichnet, dass

die Öffnung (60), die den kastenförmigen, ausziehbaren Korpus (70) aufnimmt, einen mittleren, oberen Abschnitt der vertikalen Wand (2b) einnimmt, der kastenförmige, ausziehbare Korpus (70) dazu ge-

eignet ist, sich an der Öffnung (60) abwechselungsweise um ca. 90 ° vom Inneren zum Äußeren der Badewanne (V) zu drehen, wobei der kastenförmige, ausziehbare Korpus (70) Folgendes umfasst:

- eine vertikale Vorderwand (70a), die dazu geeignet ist, die gesamte Fläche der Öffnung (60) genau auszufüllen, wobei die vertikale Vorderwand (70a) mit einer horizontalen Bodenwand (70c) und mit zwei gegenüberliegenden, seitlichen Wänden (70b) verbunden ist, die ausgehend von den vertikalen Kanten der Vorderwand (70a) ins Innere der Badewanne (V) gerichtet sind; wobei die erste Längskante (70c') der Bodenwand (70c) an einer unteren, horizontalen Kante der Öffnung (60) derart angeschlagen ist, dass dann, wenn der kastenförmige, ausziehbare Korpus (70) sich vollständig im Inneren der Badewanne (V) befindet, die Bodenwand (70c) bündig mit der vertikalen Wand (2b) angeordnet ist, und wenn der kastenförmige, ausziehbare Korpus (70) in seine auskragende Stellung gebracht wird, die Bodenwand (70c) im Wesentlichen rechtwinklig zur vertikalen Wand (2b) angeordnet ist,
- zwei (Flügel (80), die im Wesentlichen im Winkel von 90 ° von vertikalen Kanten (70b') der seitlichen Wände (70b) nach außen auskragen, wobei die beiden Flügel (80) dazu geeignet sind, in eine Innenfläche der vertikalen Wand (2b) auf der Höhe der vertikalen Kanten der Öffnung (60) einzugreifen, wenn der kastenförmige, ausziehbare Korpus (7) in seine gegenüber der vertikalen Wand (2b) auskragende Stellung gebracht wird und dadurch einen Druck auf die Dichtungen (10) ausübt, die an der vertikalen Wand (2b) vorgesehen sind,
- einen Sitz (9), der zur Innenseite der Badewanne (V) hin, oberhalb der Bodenwand (70c) des ausziehbaren, kastenförmigen Korpus (70) angebracht wird.

4. Badewanne (V) nach einem beliebigen der vorstehenden Ansprüche, wobei eine der vertikalen Wände (2a, 2a', 2b'), mit Ausnahme der vertikalen Wand (2b), die mit dem kastenförmigen, ausziehbaren Korpus (7, 70) verbunden ist, mit einer Öffnung (3) versehen ist, die eine wasserdichte Tür (4) aufweist.

Revendications

1. Baignoire (V) à volume variable comprenant :

- une paroi horizontale de fond (1),
- plusieurs bords verticaux (2a, 2a', 2b, 2b'),
- un corps rectangulaire extractible étanche (7) disposé en correspondance d'une ouverture (6)

réalisée sur l'un des bords verticaux (2b), l'ouverture (6) étant obtenue sur toute la hauteur et au centre du bord vertical (2b) ; ledit corps rectangulaire extractible étanche (7) étant apte à se déplacer alternativement d'une assiette où il est entièrement contenu dans la baignoire (V), en tamponnant exactement l'ouverture (6) et sans créer des encombrements à l'extérieur du bord vertical (2b), à une assiette débordante où il se dispose en dehors par rapport au bord vertical (2b) ; ledit corps rectangulaire extractible étanche (7) comprenant une paroi antérieure (7a) qui couvre complètement l'ouverture (6) et qui est pivotée à une base sur un bord (1a) de la paroi de fond (1) de la baignoire (V),

caractérisée en ce que

l'ouverture (6) est comprise entre deux segments latéraux du bord vertical (2b), et
ledit corps rectangulaire extractible (7) comprend :

- deux parois latérales (7b), symétriquement opposées, ayant un profil en forme de triangle rectangle renversé et débordantes vers l'intérieur de ladite baignoire (V) à partir des bords verticaux de ladite paroi frontale (7a),
- deux ailettes (8) débordantes latéralement vers l'extérieur, pratiquement à 90°, depuis des bords inclinés (7b') des dites parois latérales (7b) ; lesdites deux ailettes (8) étant aptes à interférer avec une face intérieure des dits segments latéraux du bord vertical (2b), lorsque le corps rectangulaire extractible (7) est amené sur son assiette débordante par rapport au dit bord vertical (2b), en générant une compression des respectifs joints d'étanchéité (10) prévus sur ledit bord vertical (2b)
- une assise (9) supportée, vers l'intérieur de la baignoire (V), entre ladite paroi frontale (7a) et lesdites parois latérales (7b) du corps rectangulaire extractible (7).

2. Baignoire (V) à volume variable comprenant :

- une paroi horizontale de fond (1),
- plusieurs bords verticaux (2a, 2a', 2b, 2b'),
- un corps rectangulaire extractible étanche (70) disposé en correspondance d'une ouverture (60) réalisée sur l'un des bords verticaux (2b) ; ledit corps rectangulaire extractible étanche (70) étant apte à se déplacer alternativement d'une assiette où il est entièrement contenu dans la baignoire (V), en tamponnant exactement l'ouverture (60) et sans créer des encombrements à l'extérieur du bord vertical (2b), à une assiette débordante où il se dispose en dehors par rapport au bord vertical (2b),

caractérisée en ce que

l'ouverture (60) qui loge ledit corps rectangulaire extractible (70) occupe un segment central de sommet du dit bord vertical (2b) ;

ledit corps rectangulaire extractible (70) résulte apte à coulisser parallèlement à lui-même, comme un tiroir, en correspondance de ladite ouverture (60) et ledit corps rectangulaire extractible (70) comprend :

- une paroi verticale frontale (70a) apte à occuper exactement l'entière surface de l'ouverture (60) ; ladite paroi verticale frontale (70a) étant associée à une paroi horizontale de fond (70c) et à deux parois latérales opposées (70b) tournées vers l'intérieur de la baignoire (V) à partir des bords verticaux de la paroi frontale (70a),
- deux ailettes (80) débordantes latéralement vers l'extérieur, pratiquement à 90°, depuis des bords verticaux (70b') des parois latérales (70b) ; lesdites deux ailettes (80) étant aptes à interférer avec une face intérieure du bord vertical (2b), à la hauteur des bords verticaux de l'ouverture (60), lorsque le corps rectangulaire extractible (7) est amené sur son assiette débordante par rapport au dit bord vertical (2b), en générant une compression des respectifs joints d'étanchéité (10) prévus sur ledit bord vertical (2b),
- une assise (9) supportée, vers l'intérieur de la baignoire (V), au-dessus de ladite paroi de fond (70c) du corps rectangulaire extractible (7).

3. Baignoire (V) à volume variable comprenant :

- une paroi horizontale de fond (1),
- plusieurs bords verticaux (2a, 2a', 2b, 2b'),
- un corps rectangulaire extractible étanche (70) disposé en correspondance d'une ouverture (60) réalisée sur l'un des bords verticaux (2b) ; ledit corps rectangulaire extractible étanche (70) étant apte à se déplacer alternativement d'une assiette où il est entièrement maintenu dans la baignoire (V), en tamponnant exactement l'ouverture (60) et sans créer des encombrements à l'extérieur du bord vertical (2b), à une assiette débordante où il se dispose en dehors par rapport au bord vertical (2b),

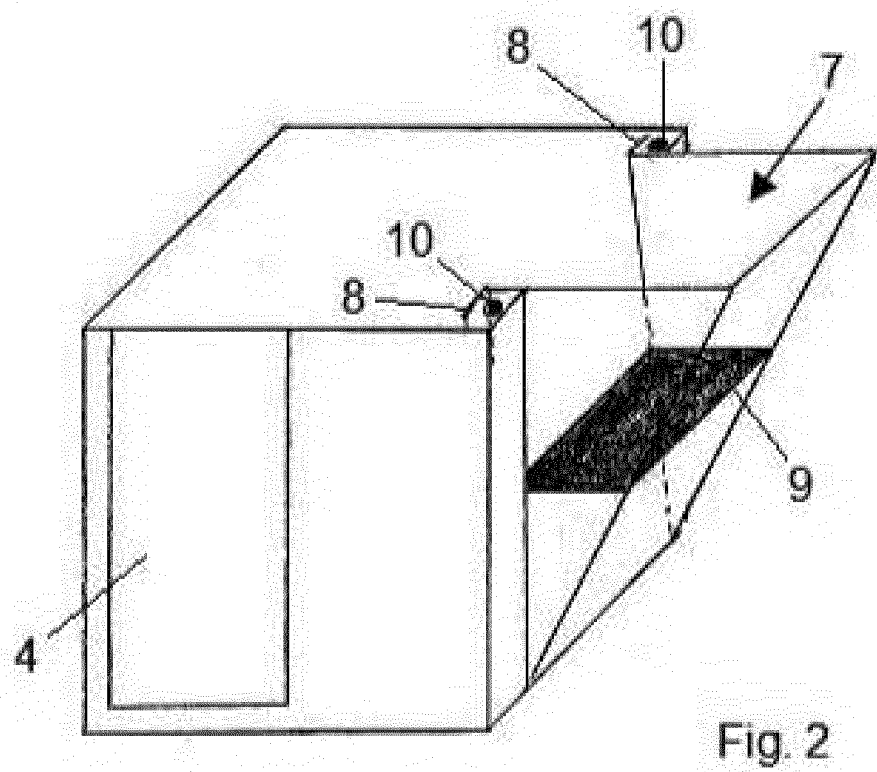
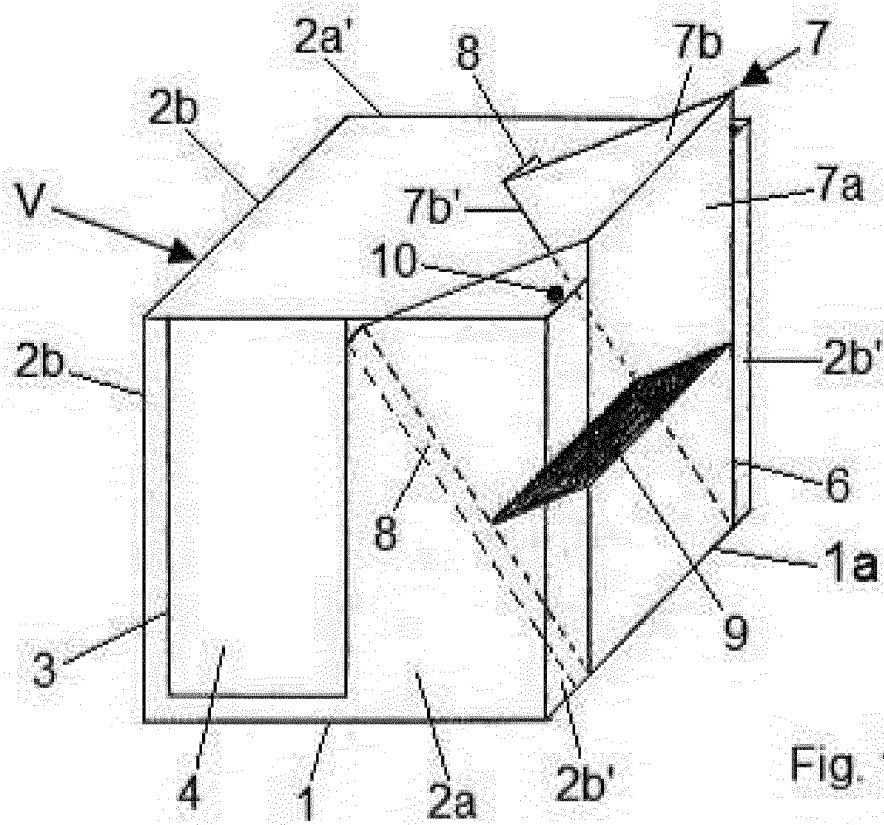
caractérisée en ce que

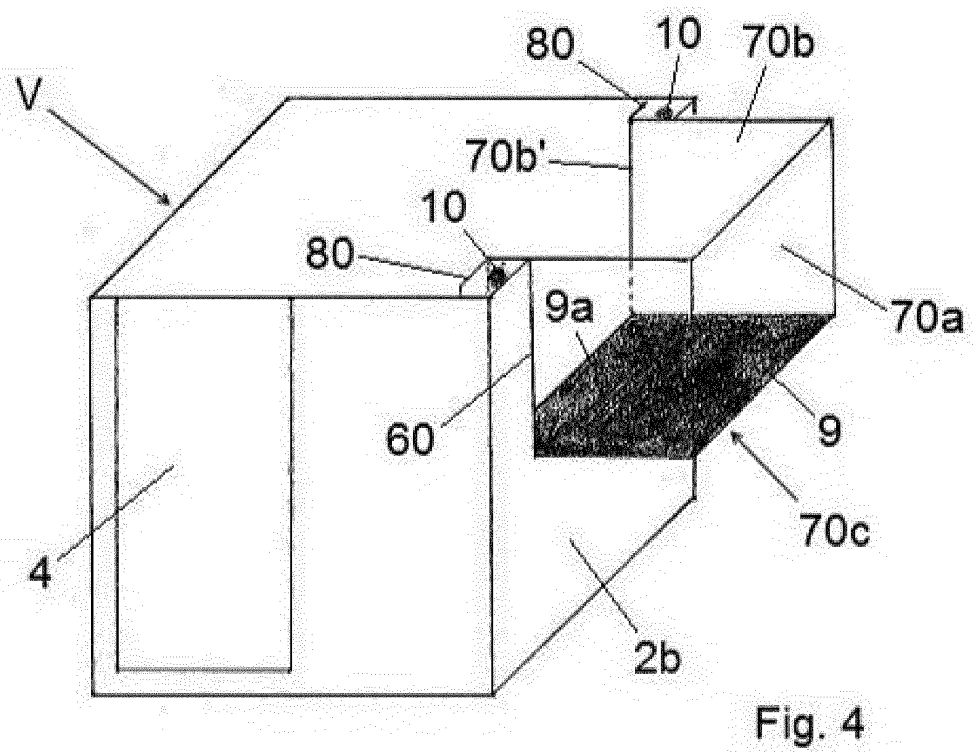
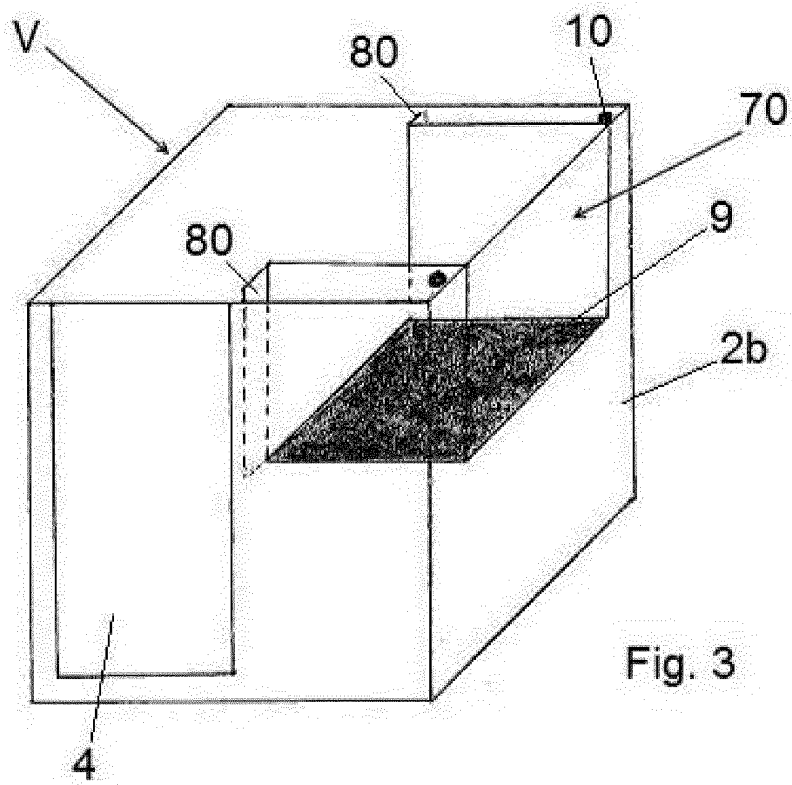
ladite ouverture (60) qui loge ledit corps rectangulaire extractible (70) occupe un segment central de sommet du dit bord vertical (2b) ;

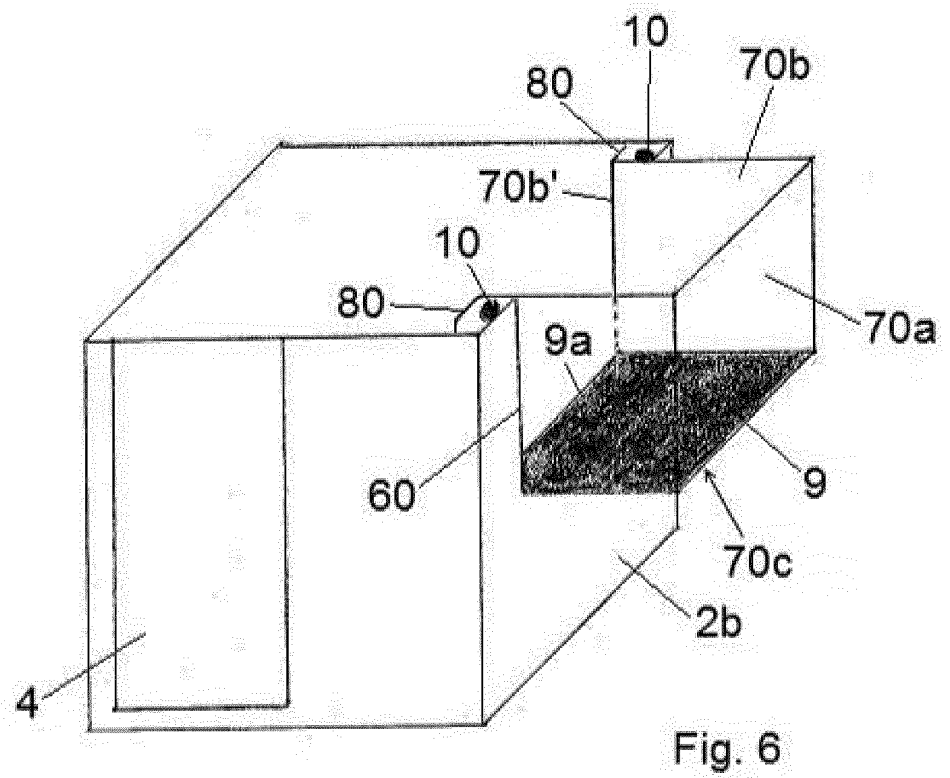
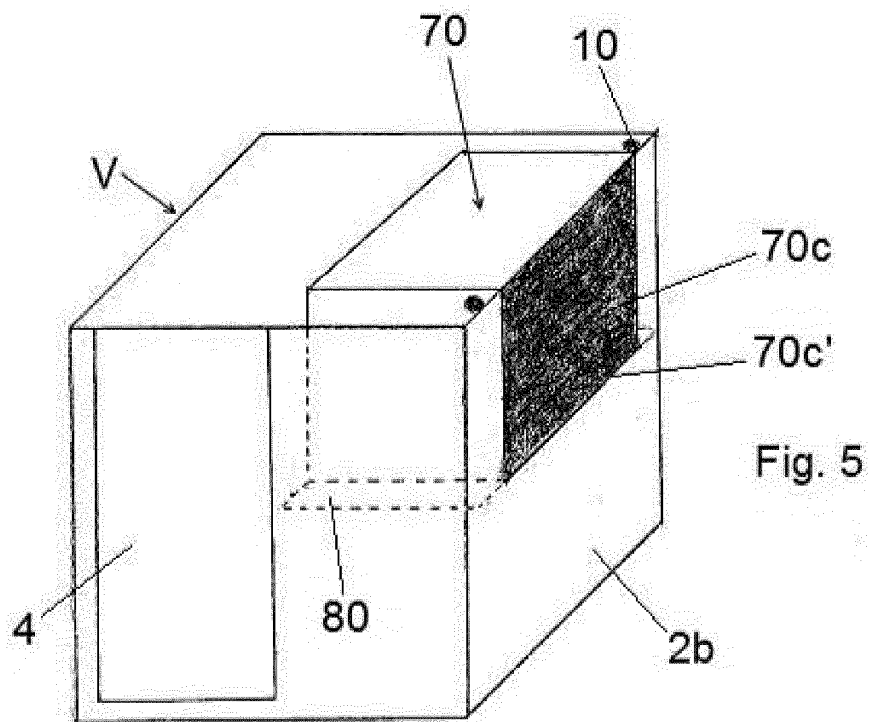
ledit corps rectangulaire extractible (70) étant apte à pivoter alternativement d'environ 90°, de l'intérieur vers l'extérieur de la baignoire (V), en correspondance de ladite ouverture (60) ; ledit corps rectangulaire extractible (70) comprenant :

- une paroi verticale frontale (70a) apte à occuper exactement l'entière surface de l'ouverture (60) ; ladite paroi verticale frontale (70a) étant associée à une paroi horizontale de fond (70c) et à deux parois latérales opposées (70b) tournées vers l'intérieur de la baignoire (V) à partir des bords verticaux de la paroi frontale (70a) ; où un premier bord longitudinal (70c') de ladite paroi de fond (70c) résulte pivoté en correspondance d'un bord horizontal inférieur de ladite ouverture (60) de sorte que, lorsque le corps rectangulaire (70) se trouve entièrement logé à l'intérieur de la baignoire (V), la paroi de fond (70c) est apte à se disposer en aplomb avec ledit bord vertical (2b), et, lorsque ledit corps rectangulaire extractible (70) se dispose sur sa susdite assiette débordante, la paroi de fond (70c) est apte à se disposer sur une assiette pratiquement orthogonale par rapport au bord vertical (2b),
- deux ailettes (80) débordantes latéralement vers l'extérieur, pratiquement à 90°, depuis des bords verticaux (70b') des dites parois latérales (70b) ; lesdites deux ailettes (80) étant aptes à interférer avec une face intérieure du bord vertical (2b), à la hauteur des bords verticaux de l'ouverture (60), lorsque le corps rectangulaire extractible (7) est amené sur son assiette débordante par rapport au dit bord vertical (2b), en générant une compression des respectifs joints d'étanchéité (10) prévus sur ledit bord vertical (2b),
- une assise (9) montée, vers l'intérieur de la baignoire (V), au-dessus de ladite paroi de fond (70c) du corps rectangulaire extractible (70).

4. Baignoire (V) selon l'une quelconque des revendications précédentes, où l'un des bords verticaux (2a, 2a', 2b') différent du bord vertical (2b) associé au dit corps rectangulaire extractible (7, 70) est doté d'une ouverture (3) munie de porte étanche (4).







REFERENCES CITED IN THE DESCRIPTION

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