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(54) **Bathtub with mobile partition**

(57) Bathtub (1) comprising a main compartment (2), an access door (3) to said main compartment (2) and a mobile partition (4), which divides said main compartment (2) in two semi-compartments (21, 22) and com-

prising at least one hole (F) and at least one outflow valve (5) disposed in said at least one hole (F) in order to provide communication between said two semi-compartments (21, 22).

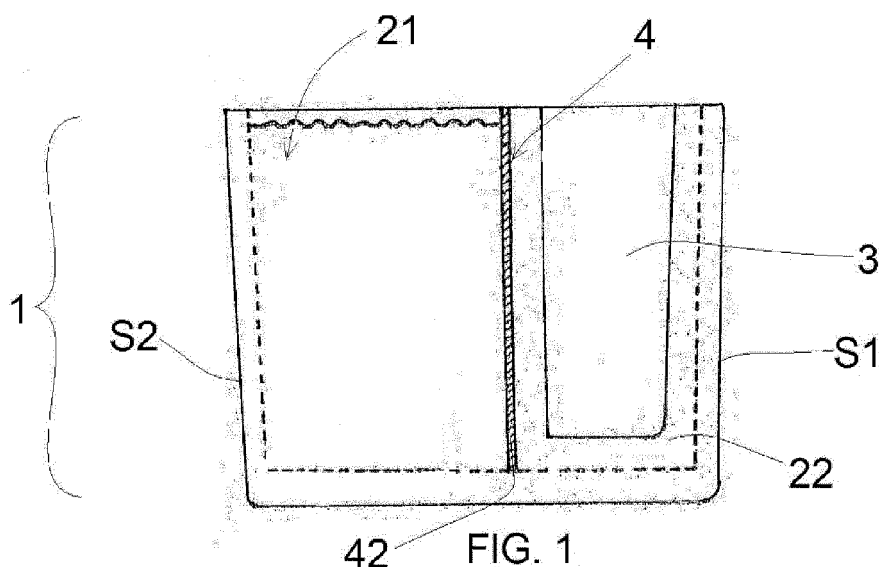


FIG. 1

Description

[0001] The present patent application for industrial invention relates to a bathtub with mobile partition.

[0002] The present invention has been developed in the field of bathtubs with a main compartment adapted to contain water and entered by the user by means of an access door.

[0003] Similar bathtubs are designed for users that are not able to climb over the border of a traditional bathtub, i.e. a bathtub without access door, because of a motor disability or simply because of their old age, thus encountering serious, often insurmountable problems to get into and out of the bathtub.

[0004] The presence of said access door provides easier access to the bathtub, thus allowing people with limited motor skills to use the bathtub in total safety.

[0005] As it is known, in case of a bathtub without access door, the user enters the bathtub after filling it with hot water.

[0006] Vice versa, in case of a bathtub with said access door, the user enters the main compartment of the bathtub before filling it with water, in such manner to prevent water from coming out of the access door.

[0007] In other words, in case of a bathtub with access door, the user enters the main compartment of the bathroom, starts the water and waits until it reaches the desired level.

[0008] Consequently, every time he or she wants to take a bath, the user of a similar bathtub is forced to sit naked for several minutes in an uncomfortable situation, waiting for the bathtub to get filled.

[0009] The purpose of the present invention is to devise a bathtub able to remedy the drawbacks of the prior art and guarantee a high comfort level.

[0010] The bathtub of the invention comprises a main compartment, an access door to said main compartment, and a mobile partition adapted to be in a first position, wherein it is disposed vertically inside the main compartment, dividing it into two semi-compartments.

[0011] Specifically, said mobile partition comprises at least one hole and one outflow valve, which is disposed in said hole and adapted to be in a first position, wherein it blocks said at least one hole, preventing water from passing through said at least one hole, and a second position, wherein it allows water to pass through said at least one hole, thus providing communication between said two semi-compartments.

[0012] For explanatory reasons, the description of the bathtub according to the present invention continues with reference to the attached drawings, which only have illustrative, not limiting value, wherein:

- Figure 1 is a diagrammatic side view of the bathtub according to a first embodiment, with mobile partition in said first position;
- Figure 2 is a view of the bathtub of Fig. 1, without mobile partition, after removing it from the main com-

partment;

- Figure 3 is a top view of the bathtub of Fig. 2;
- Figures 4 and 4 are two diagrammatic side views of the bathtub according to a second embodiment, with mobile partition respectively in said first and second position;
- Figure 6 is a top view of the bathtub of Fig. 5;
- Figures 7 and 4 are two diagrammatic side views of the bathtub according to a third embodiment, with mobile partition respectively in said first and second position;
- Figure 9 is a top view of the bathtub of Fig. 8;
- Figures 10 and 11 are two diagrammatic side views of the bathtub according to a fourth embodiment, with mobile partition respectively in said first and second position;
- Figure 12 is a diagrammatic side view of the bathtub according to a fourth embodiment, with mobile partition in said first position;
- Figure 13 is a view of the bathtub of Fig. 10, without mobile partition, after removing it from the main compartment;
- Figure 14 is a view of the outflow valve fixed on the mobile partition of the bathtub according to the present invention;
- Figures 15 and 16 are sectional side views of the bathtub of the invention, with the outflow valve of Fig. 12, respectively in a first and second position.

[0013] Referring to the attached figures, the bathtub of the invention is disclosed, generally indicated with reference numeral (1).

[0014] The bathtub (1) of the invention comprises a main compartment (2) and an access door (3) to said main compartment (2).

[0015] Referring to Figs. 3, 6 and 9, the bathtub (1) of the invention comprises a bottom wall (12) and four side walls (11), of which two longitudinal parallel walls (11a) and two transversal walls (11b, 11c), of which a first transversal wall (11b) and a second transversal wall (11c).

[0016] The bathtub (1) of the invention comprises a mobile partition (4) adapted to be in two positions, of which:

- a first position, wherein it is disposed vertically inside the main compartment (2), in parallel position with respect to the transversal walls (11b, 11c) of the bathtub (1), dividing the main compartment (2) into a first semi-compartment (21) and a second semi-compartment (22), as shown in Figs. 1, 4, 7 and 10;
- a second position, wherein the mobile partition (4) does not divide the main compartment (2) and, according to the various embodiments shown in Figs. 1 to 9, can be alternatively placed side by side with the bottom wall (12), as shown in Figs. 5 and 6, side by side with one of the side walls (11), as shown in Figs. 8 and 9, or completely removed from the main compartment (2), as shown in Figs. 2 and 3.

[0017] Specifically, the first semi-compartment (21) extends between the first transversal wall (11b) and the mobile partition (4), whereas the second semi-compartment (22) extends between the mobile partition (4) and the second transversal wall (11c) of the bathtub (1) of the invention.

[0018] Specifically referring to Figs. 15 and 16, the mobile partition (4) comprises two parallel lateral borders (42) and a lower border (41); more precisely, when the mobile partition (4) is in its first position, the lower border (41) is adapted to stop against the bottom wall (12) of the bathtub (1), whereas the two lateral borders (42) are adapted to stop against the longitudinal walls (11a) of the bathtub (1).

[0019] It is noted that the access door (3) of the bathtub (1) of the invention is situated in one of the two longitudinal walls (11a); more specifically, each longitudinal wall (11a) is connected to the two adjacent transversal walls (11b) at the two corners (S1, S2) and said access door (3) is disposed between one of said two corners (S1, S2) and one of the lateral borders (42) of the mobile partition (4) in such manner to provide access to one of the two semi-compartment (21, 22), as shown in Figs. 1, 4, 7, and 10.

[0020] Specifically, said access door (3) is disposed in the second semi-compartment (22).

[0021] Referring to Figs. 15 and 16, the mobile partition (4) comprises a hole (F) advantageously obtained in proximity of the lower border (41) of said mobile partition (4) and an outflow valve (5) disposed in said hole (F).

[0022] Specifically, the outflow valve (5) can have two positions, of which:

- a first position, wherein it blocks up the hole (F), preventing water from passing through said hole (F), as shown in Fig. 15;
- a second position, wherein it allows water to pass through the hole (F), providing communication between the two semi-compartment (21, 22), as shown in Fig. 16.

[0023] Referring to Figs. 14, 15 and 16, the outflow valve (5) comprises a mobile element (51), which is provided with a slot (52) for water passage.

[0024] More precisely, said mobile element (51) of the outflow valve (5) can have two positions, of which:

- a first position, wherein the slot (52) is misaligned with respect to the hole (F) of the mobile partition (4), as shown in Fig. 15; said mobile element (51) being in said first position when the outflow valve (5) is in its first position;
- a second position, wherein the slot (52) of said mobile element (51) is aligned with the hole (F) of the mobile partition (4) in order to allow water to pass between the two semi-compartment (21, 22), as shown in Fig. 16; said mobile element (51) being in said second position when the outflow valve (5) is in

its second position.

[0025] Specifically, the mobile element (51) of the outflow valve (5) has a substantially circular configuration and rotates around a substantially horizontal axis of rotation (X-X).

[0026] More precisely, the mobile element (51) is advantageously provided with a handle (53) that can be grabbed by the user in order to manually actuate the outflow valve (5) making the mobile element (51) rotate around its axis of rotation (X-X) in such manner to move the mobile element (51) between said first and second position.

[0027] Referring to Figs. 1 and 2, the bathtub (1) of the invention is described according to a first embodiment, wherein the mobile partition (4) can be pulled out from the main compartment, in such manner to allow water to pass from the first semi-compartment (21) to the second semi-compartment (22).

[0028] Referring to Figs. 4 and 5, the bathtub (1) of the invention is described according to a second embodiment, wherein the mobile partition (4) is hinged to the bottom wall (12) of the bathtub (1) on the lower border (41) by means of a pin with horizontal axis.

[0029] In such a case, when in said second position, said mobile partition (4) is side by side with the bottom wall (12) of the bathtub (1), as shown in Fig. 5.

[0030] Figs. 7 and 8 show the bathtub (1) of the invention according to a third embodiment, wherein the mobile partition (4) is hinged on one of the lateral borders (42) to one of the longitudinal walls (11a) of the bathtub (1) by means of a pin with vertical axis.

[0031] In such way, when in said second position, said mobile partition (4) is side by side with the longitudinal wall (11a) to which it is hinged, as shown in Fig. 8.

[0032] Referring to Figs. 10 and 11, the bathtub (1) of the invention according to a fourth embodiment is described, wherein said bathtub (1) comprises a seat (6) disposed in said first semi-compartment (21).

[0033] In such a case, the mobile partition (4) is advantageously hinged to the seat (6) on the lower border by means of a pin with horizontal axis, in such manner that, when the mobile partition (4) is in said second position, it is disposed on top of said seat (6).

[0034] Figs 12 and 13 show the bathtub (1) of the invention according to a fifth embodiment, wherein the seat (6) is collapsible.

[0035] Specifically, said seat (6) is advantageously hinged to the first transversal wall (11b) by means of a pin with horizontal axis, in such manner to go from idle position, wherein it is side by side with the first transversal wall (11b), to operating position, wherein it is in horizontal position parallel to the bottom wall (12) of the bathtub (1).

[0036] In such a case, said mobile partition (4) can be advantageously pulled out from the main compartment (2) of the bathtub (1), as shown in Fig. 13.

[0037] Because of the provision of said outflow valve (5) in the bathtub (1) of the invention, the hot water con-

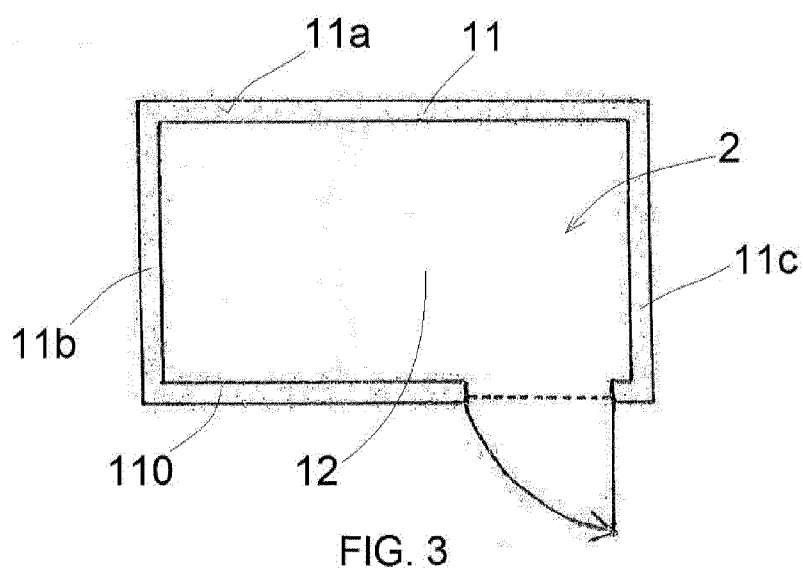
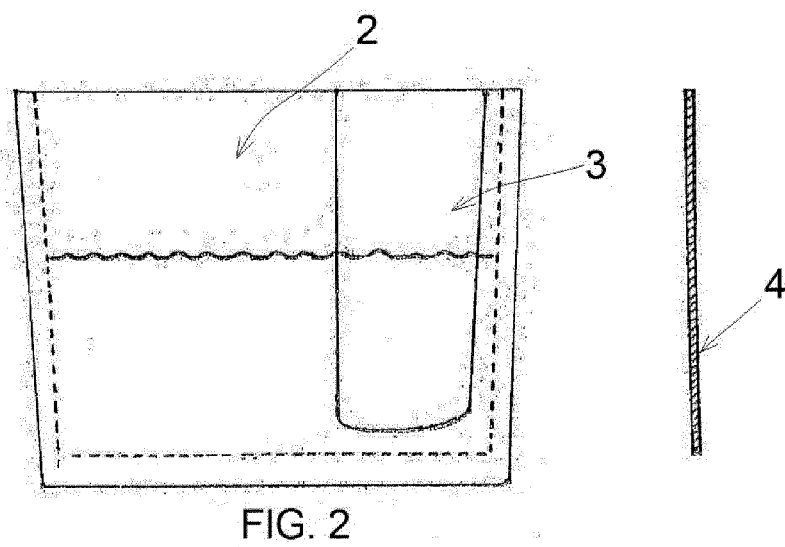
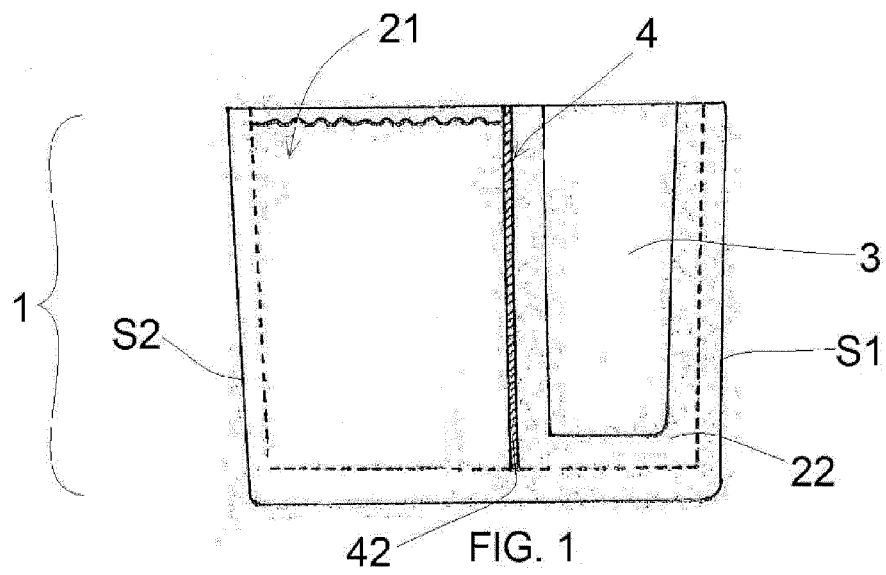
tained in the first semi-compartment (21) can be easily conveyed to the second semi-compartment (22).

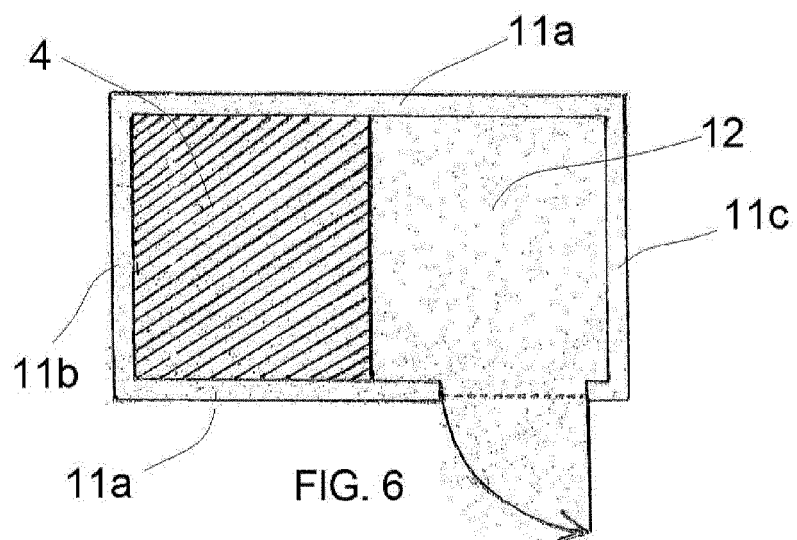
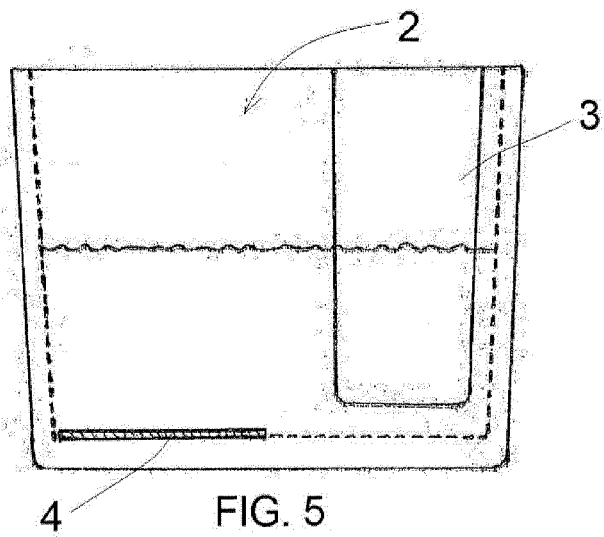
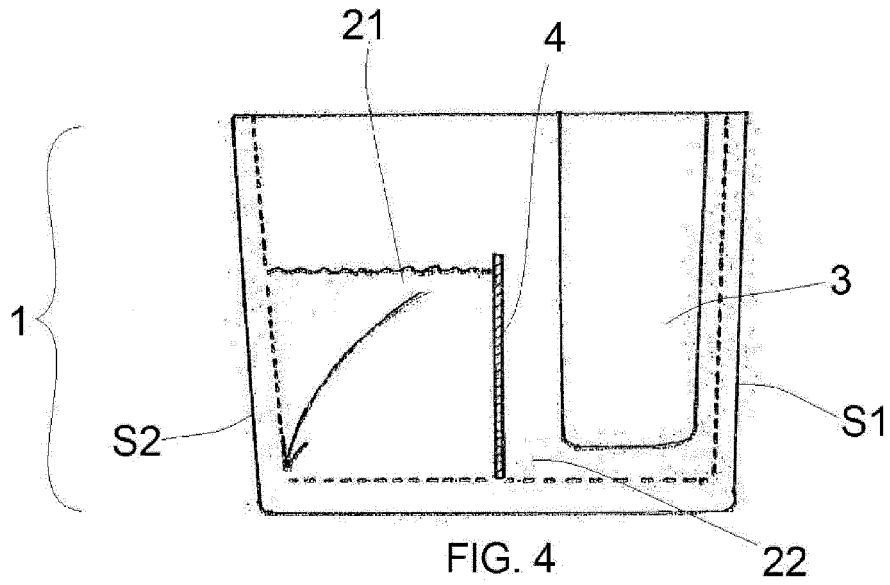
[0038] More precisely, as soon as the user actuates the mobile element (51) of the outflow valve (5) to said second position, the slot (52) of said mobile element (5) is aligned with the hole (F) of the mobile partition (4), allowing water to pass from the first (21) to the second semi-compartment (22).

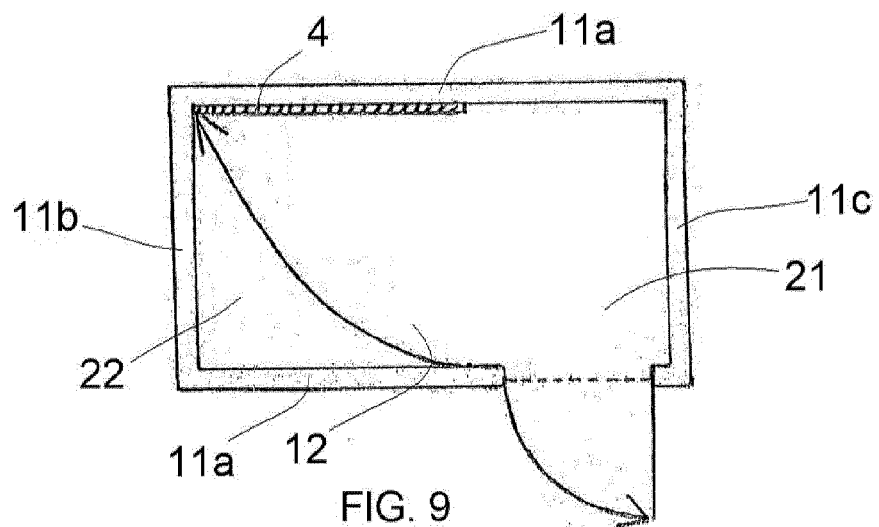
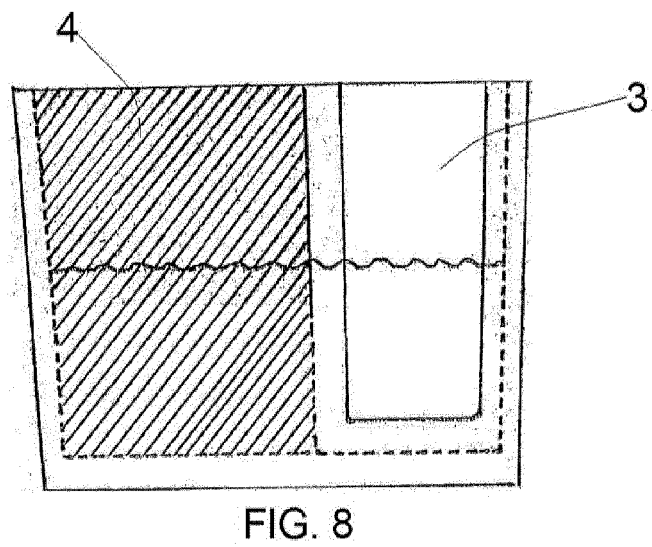
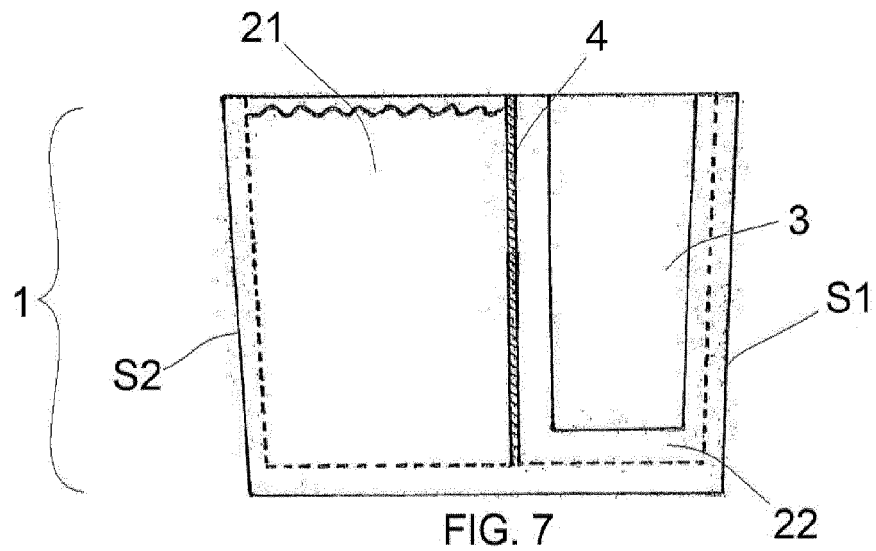
[0039] As water flows through the hole (F) of the mobile partition (4), the pressure exerted by water on said mobile partition (4) decreases until said mobile partition (4) is disposed in its second position.

Claims

1. Bathtub (1) comprising a main compartment (2) and access door (3) to said main compartment (2); bathtub (1) **characterized in that** it comprises a mobile partition (4) adapted to be in a first position, wherein it is disposed vertically inside the main compartment (2), dividing said main compartment (2) into two semi-compartments (21, 22); said mobile partition (4) comprising at least one hole (F) and at least one outflow valve (5) disposed in said at least one hole (F); said at least one outflow valve (5) being adapted to be in a first position, wherein it blocks up said at least one hole (F), preventing water from passing through said at least one hole (F), and a second position, wherein it allows water to pass through said at least one hole (F), providing communication between the two semi-compartments (21, 22).
2. The bathtub (1) of claim 1, wherein said mobile partition (4) is provided with a lower border (41) and said at least one hole (F) is situated in proximity of said lower border (41).
3. The bathtub (1) of claim 1 or 2, wherein said at least one outflow valve (5) comprises a mobile element (51), provided with a slot (52) for water passage; said mobile element (51) being adapted to be in a first position, wherein said slot (52) is misaligned with respect to said at least one hole (F) of the mobile partition (4), and a second position, wherein said slot (52) is aligned with said at least one hole (F) of the mobile partition (4) in order to allow water to pass between the two semi-compartments (21, 22).
4. The bathtub (1) of any one of the preceding claims, comprising at least one lateral wall (11) and a bottom wall (12) defining said main compartment (2); said mobile partition (4) being adapted to be in at least a second position, wherein it is side by side with said at least one lateral wall (11) or said bottom wall (12) of the bathtub (1).
5. The bathtub (1) of claim 4, wherein said mobile partition (4) comprises two lateral borders (42) and is hinged on one of said two lateral borders (42) to said at least one lateral wall (11) of the bathtub (1) by means of a pin with vertical axis; said mobile partition (4) being side by side to said at least one lateral wall (11) of the bathtub (1) when it is in said second position.
6. The bathtub (1) of claim 4, wherein said mobile partition (4) is hinged on one of said lower border (41) to said bottom wall (12) of the bathtub (1) by means of a pin with horizontal axis; said mobile partition (4) being side by side to said bottom wall (12) of the bathtub (1) when it is in said second position.
7. The bathtub (1) of any one of the previous claims, comprising a seat (6) disposed in one of said two semi-compartments (21, 22).
8. The bathtub (1) of claim 7, wherein said mobile partition (4) is hinged to the seat (6) on the lower border (41) by means of a pin with horizontal axis in such manner to be in a second position wherein it is disposed on top of said seat (6).
9. The bathtub (1) of any one of the previous claims, wherein said access door (3) is disposed in one of said two semi-compartments (21, 22).







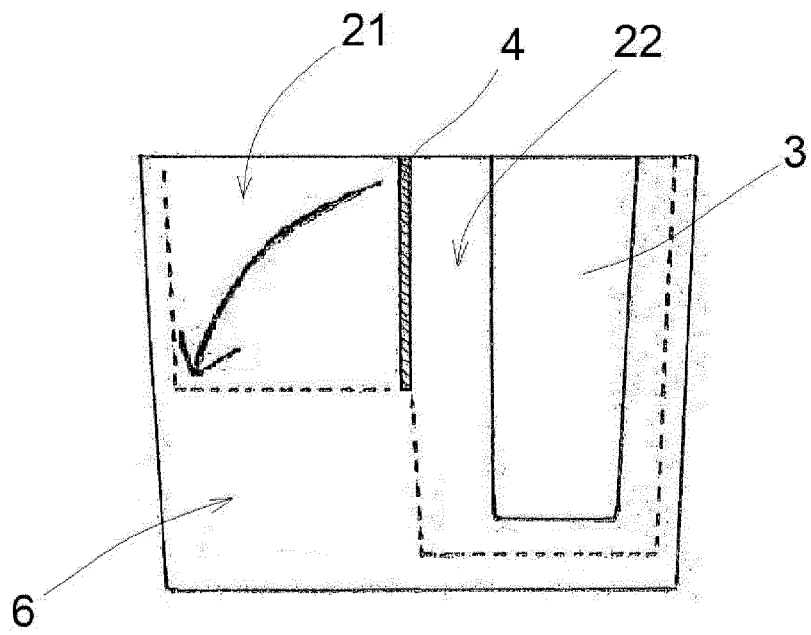


FIG. 10

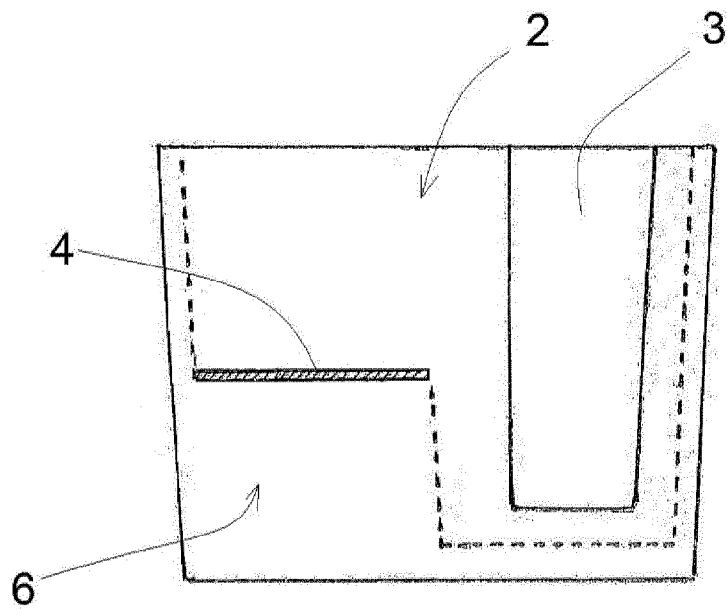


FIG. 11

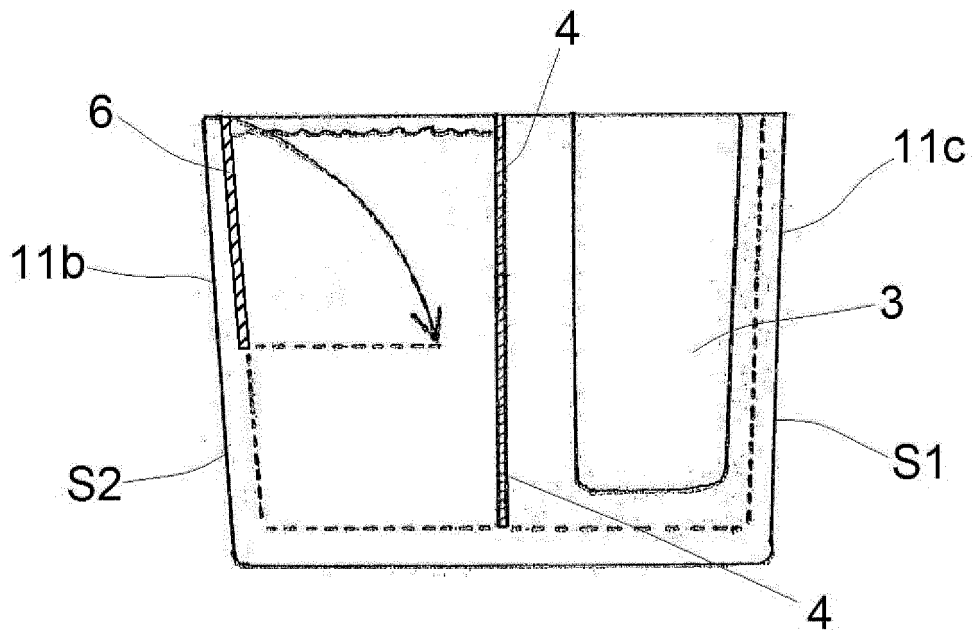


FIG. 12

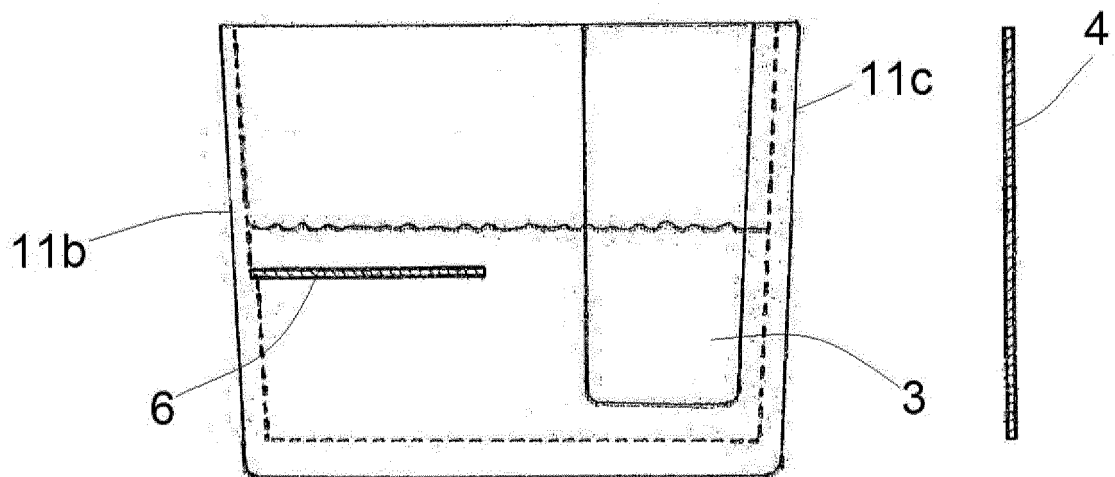


FIG. 13

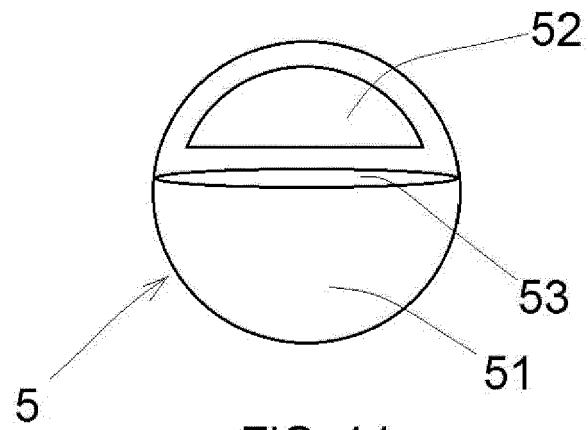


FIG. 14

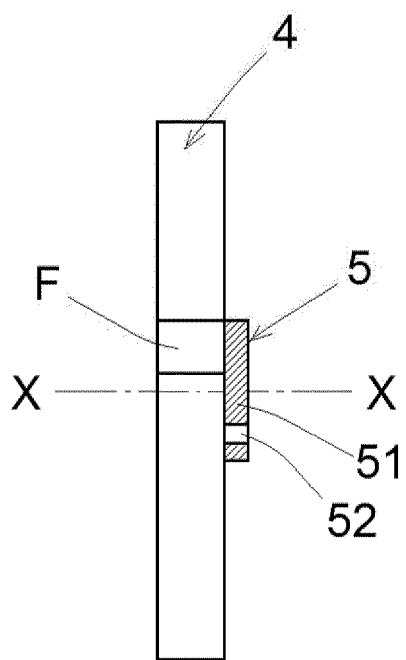


FIG. 15

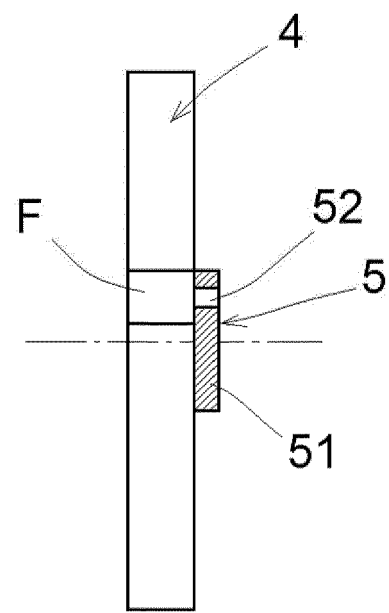


FIG. 16



EUROPEAN SEARCH REPORT

Application Number
EP 13 18 8581

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2010/325789 A1 (OUYOUNG SCOTT [TW]) 30 December 2010 (2010-12-30) * paragraphs [0007], [0096], [0097]; figures 21,22 *	1-9	INV. A47K3/00
A	EP 1 428 467 A1 (MUELLER THEODOR [CH]; VOEGELI PETER [CH]) 16 June 2004 (2004-06-16) * paragraph [0021] - paragraph [0027]; figure 1 *	1,4,5,9	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47K
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 January 2014	Examiner Fordham, Alan
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			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 13 18 8581

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14-01-2014

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2010325789	A1	30-12-2010	CA	2679587 A1	30-12-2010
			TW	201100047 A	01-01-2011
			US	2010325789 A1	30-12-2010

EP 1428467	A1	16-06-2004	NONE		
