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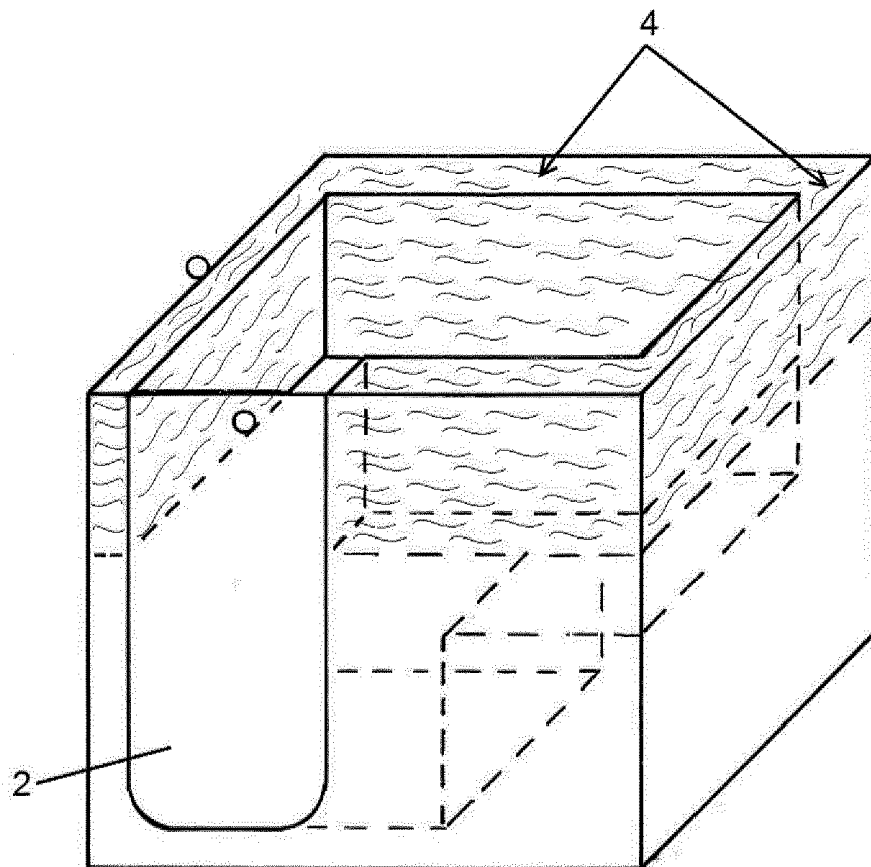
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(54) **Bathtub provided with hot water storage tank**

(57) Bathtub provided with vertical edges and one access door, characterized in that it has a water storage tank provided with one or more emptying valves to pour the water contained inside the tank into the bathtub.

Fig. 2



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Description

[0001] The present patent application relates to a bathtub provided with hot water storage tank.

[0002] The invention has been expressly devised to remedy the problems shown by the current models of bathtubs, especially when they are used by individuals impaired by reduced mobility or uncertain movements.

[0003] As a matter of fact, for this type of users, it is practically impossible, and even dangerous, to use a traditional bathtub, in view of their impossibility to jump over the edge of the bathtub and sit inside it.

[0004] In view of the above, bathtubs have been sometimes provided with an access door and an internal seat where the user can be accommodated comfortably.

[0005] As a matter of fact, when the access door is opened, a passage is created in a section of the bathtub, which can be used by the user to comfortably access the bathtub, without jumping over any obstacle and remaining on the wheelchair in case of disabled users.

[0006] However, the bathtubs provided with door are not perfectly satisfactory from the functional viewpoint.

[0007] In particular, the main drawback is encountered when filling the bathtub, with a considerable discomfort for the user.

[0008] It is worthless saying that, in case of a bathtub provided with a door, the user must enter the bathtub before it is filled with water.

[0009] Otherwise, the opening of the door would cause the uncontrolled leakage of the water in the room where the bathtub is mounted.

[0010] In view of the above, the user must access a similar bathtub when the bathtub contains no water and can start filling the bathtub with water only after entering the bathtub, in a situation in which the body of the user sitting inside the bathtub is progressively covered by the water, while the water level increases progressively.

[0011] The filling of the bathtub is rather uncomfortable for the user sitting inside the bathtub.

[0012] The main cause of discomfort consists in the fact that the user must wait for a few minutes before the level of the water, which has been suitably heated, covers the majority of his or her body.

[0013] During such lapse of time, especially in case of weak health, the user suffers a dangerous cooling of his limbs, especially at chest's level, considering that this part of the body tends to be the last one to be covered by the water that is progressively filling the bathtub.

[0014] On the other hand, the presence of the user inside the bathtub while the bathtub is being filled may expose the user to another type of drawback, if the water that is filling the bathtub is too hot or too cold.

[0015] In the first case, the user may be exposed to the typical pain caused when burning the skin at an early stage; whereas in the second case the user may be exposed to the cold suffered while the bathtub is being filled.

[0016] A careful observation of the drawbacks of the prior art has resulted in devising the new bathtub of the

invention, which has allowed to reach a totally satisfactory technical-functional standard.

[0017] The main purpose of the present invention is to allow the bathtub provided with access door - which is typically adapted to accommodate the user in "empty bathtub" condition - to be instantaneously filled with the correct volume of water according to the specific needs of the user.

[0018] Of course, such an instantaneous filling of the bathtub can be a practically complete filling, such that the body of the user is covered with water.

[0019] Another purpose of the present invention is to make sure that the water used for instantaneous filling is dispensed at the most comfortable temperature for the user, thus avoiding the discomfort caused when the temperature is too high or too low.

[0020] The inventive idea that has allowed achieving the aforementioned purposes has been to provide the bathtub of the invention with a water storage tank, preferably obtained in an empty space of the bathtub edges.

[0021] In view of the above the user can access the bathtub in "empty bathtub" condition, however knowing that the quantity of water needed to fill the bathtub (which has already been heated to the correct temperature) is already contained in the tank.

[0022] Therefore, as soon as the user has been accommodated inside the bathtub, he will simply need to enable the instantaneous pouring of the water from the tank to the internal space of the bathtub; it being provided, in particular, that such pouring is made possible by opening one or more emptying valves provided in the tank.

[0023] In order to simplify the structure of the bathtub of the invention, the hot water storage tank is provided towards the top of the bathtub edges; this allows for using the force of gravity to instantaneously pour the water, thus avoiding the use of pumps or other mechanical parts.

[0024] For explanatory reasons, the description of the invention continues with reference to attached drawings, which only have an illustrative, not limiting value, wherein:

- Fig. 1 is a diagrammatic view of the structure of the bathtub of the invention;
- Fig. 2 shows the bathtub of the invention in operating condition before it is accessed by the user;
- Fig. 3 shows the bathtub of the invention in operating condition as soon as the user has completed his access.

[0025] With reference to Fig. 1, the bathtub of the invention (V), which is traditionally surrounded by vertical edges (1) is traditionally provided with a watertight access door (2) and an internal seat (3).

[0026] As mentioned above, the peculiarity of the bathtub (V) consists in the provision of a tank (4) used to store the water intended to be poured inside the bathtub (V).

[0027] According to the preferred embodiment of the invention, specifically, the vertical edges (1) are internally

empty, in such manner that the empty internal space is used to create the storage tank (4).

[0028] Moreover, it must be noted that the tank (4) is provided with a filling valve (4a) used to pour the water to be stored in the tank (4) and with an emptying valve (4b) adapted to suddenly pour the water into the internal space (5) of the bathtub of the invention (V).

[0029] After illustrating the structure of the invention, with reference to Figs. 2 and 3, this description continues illustrating the operation mode of the bathtub of the invention.

[0030] With reference to Fig. 2, the user can access the bathtub of the invention (V) by means of the access door (2) in "empty bathtub" condition.

[0031] However, when accessing the bathtub, the storage tank (4) is already filled with the desired volume of water according to the level to be reached by the water inside the bathtub (V).

[0032] As mentioned above, the water contained in the tank (4) is at the correct temperature; it being provided that the water has been heated even before being introduced in the tank (4) or that such a heating takes place directly inside the tank (4) that, in this case, is provided with one or more traditional heating elements.

[0033] As soon as the user has been accommodated in the bathtub (V), it will be necessary to open said one or more emptying valves (4b) in order to instantaneously pour the water contained in the tank (4) inside the bathtub (V), thus covering the upper and lower limbs of the user sitting on the seat (3); such a situation is shown in Fig. 3.

[0034] When the user has finished using the bathtub of the invention (V), he will enable the ordinary emptying of the bathtub, and then come out of the bathtub (V) through the access door (2) in "empty bathtub" condition. As shown in the three attached figures, the storage tank (4) is provided on top of the vertical edges (1) of the bathtub (V); such a position is justified by the fact that in this way the pouring of the water from the tank (4) to the bathtub (V) is favored by the force of gravity.

4. The bathtub of one of the preceding claims, wherein the storage tank (4) is internally provided with one or more electrical heating elements.

5. The bathtub of one of the preceding claims, wherein the internal compartment (5) of the bathtub (V) is provided with a seat (3).

Claims

1. Bathtub provided with vertical edges (1) and one access door (2), **characterized in that** it has a water storage tank (4) provided with a filling valve (4a), as well as with one or more emptying valves (4b) adapted to pour the water contained inside the tank (4) into the compartment (5) of the bathtub (V).

2. The bathtub of claim 1, wherein the vertical edges (1) are internally empty and the storage tank (4) consists in the internal cavity of the vertical edges (1).

3. The bathtub of claim 2, wherein said storage tank (4) is provided towards the top of the vertical edges (1).

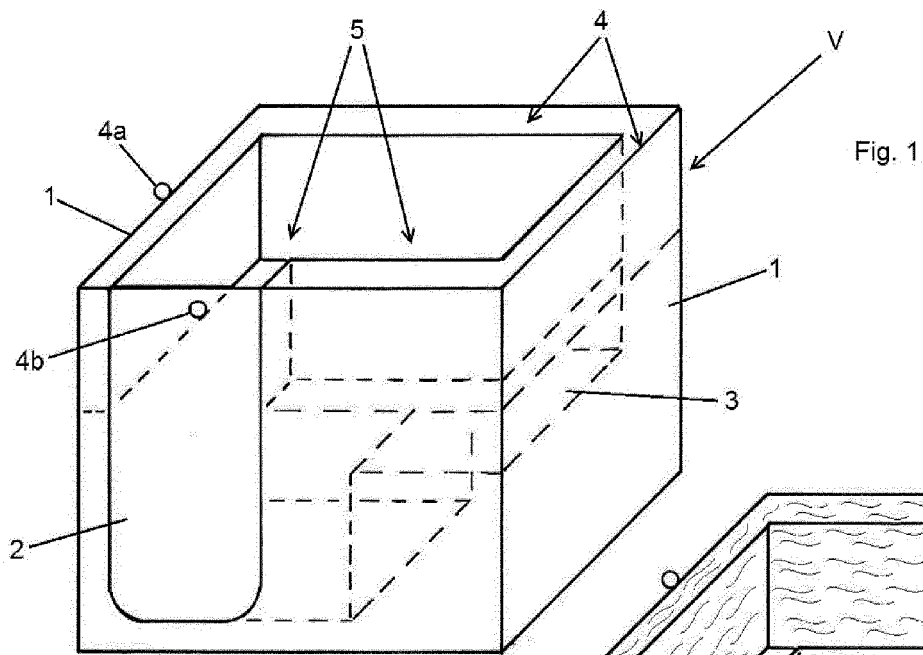


Fig. 2

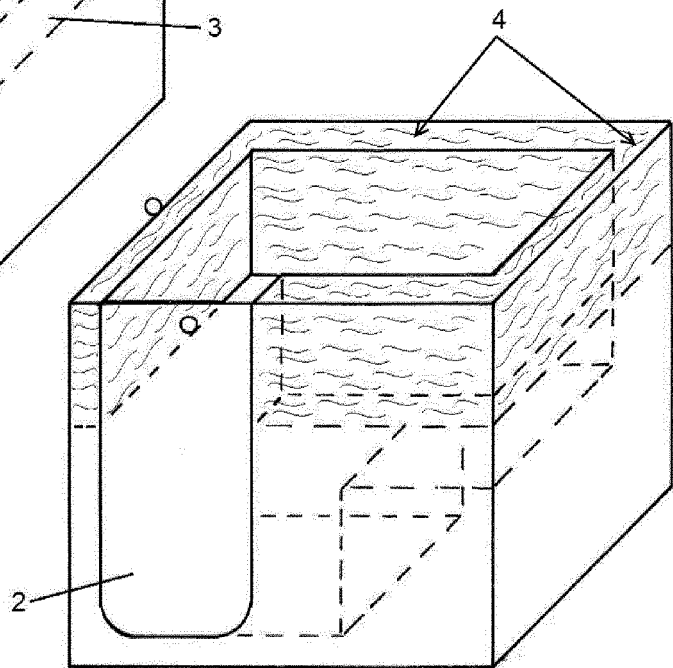
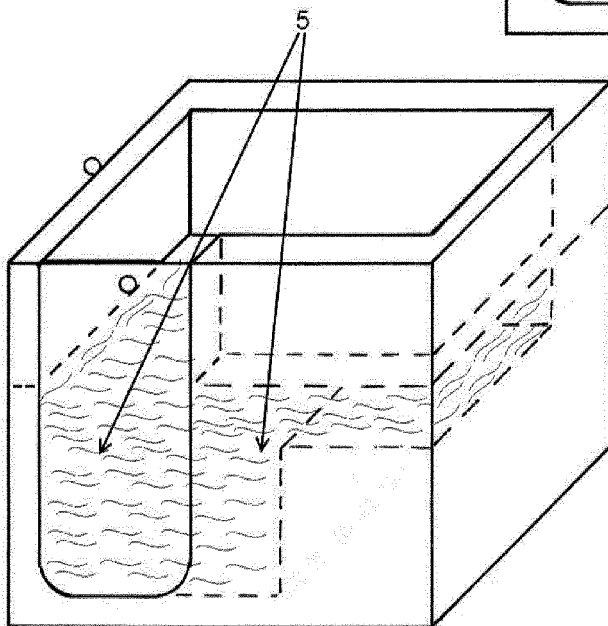


Fig. 3





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EP 15 15 1022

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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 21 May 2015	Examiner Fordham, Alan
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