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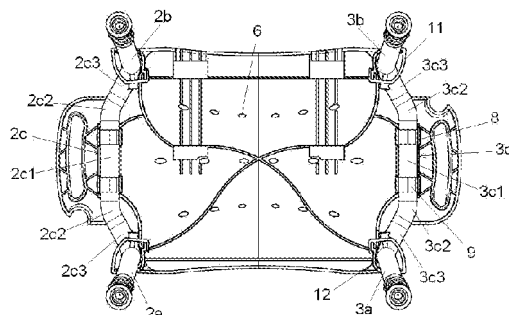
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(54) **Shower chair**

(57) The present invention relates to a foldable shower chair (10) comprising at least four legs (2a, 2b, 3a, 3b) connected to a seat (1), said chair having a first unfolded and stable position and a second folded position in which the chair occupies less space than in said first position, wherein said legs can be pivoted to change from said first to said second position and vice versa, wherein a pair of lateral, left and/or right side legs (2a, 2b; 3a, 3b) are rigidly connected to each other by way of a connection

profile (2c; 3c), said connection profile (2c; 3c) being pivotally connected to a lower surface of the seat (1) and wherein each of said legs (2a, 2b, 3a, 3b) is fixed and stabilised in said first position by way of at least one locking means (11), said locking means rigidly fixing said legs to said seat, characterized in that said seat (1) and said connection profile (2c, 3c) are configured so that said legs (2a, 2b, 3a, 3b) can be positioned over said seat (1) in said second position.



**Fig.5**

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**Description****Technical Field**

[0001] The present invention relates to a chair with pivotable legs. The chair of the invention is particularly suitable as a shower chair in shower rooms.

**Prior Art and the Problem Underlying the Invention**

[0002] Currently available seating furniture for bathrooms and shower rooms are supplied with rigidly mounted legs or with separately supplied legs. This situation has the disadvantage that these products require a lot of space during transport or, in the second case, need to be mounted by the customer with tools. When the seating furniture is stored because it is not needed, it again occupies a lot of space.

[0003] Elderly person and persons suffering from any kind of disablement may require seating furniture for bathrooms in different situations requiring different properties. For example, when taking a shower, a stool devoid of arm- and backrests may be most appropriate. In some situations, for example when taking a bath, a seat surface that can be placed on a frame structure fixedly arranged in the bathing tube is preferable. Accordingly, it is an objective of the invention to provide a shower chair that can be easily adapted to a specific use or to the preferences of the user.

[0004] The present invention addresses the problems depicted above.

**Summary of Invention**

[0005] The present invention relates to a foldable chair with pivotable legs.

[0006] In an aspect, the present invention relates to a foldable shower chair comprising at least four legs connected to a seat surface support structure, said chair having a first, unfolded and stable position and a second, folded position in which the chair occupies less space than in said first position, wherein said legs can be pivoted to change from said first to said second position and vice versa, said chair being characterized by the features defined in claim 1.

[0007] Further important features of the shower chair of the present invention are defined in the claims depending of claim 1.

**Brief Description of the Drawings**

[0008]

**Figure 1** is a rear view of an embodiment of a chair of the present invention in the unfolded position of the chair.

**Figure 2** shows the chair in the same view as shown

in Figure 1, but in the folded position of the chair.

**Figure 3** is a top view of the chair of Figure 1.

**Figure 4** shows the chair in the same view as shown in Figure 3, but in the folded position of the chair.

**Figure 5** is a bottom view of the chair of Figure 1.

**Figure 6** shows in greater detail the rear left side of Figure 5 in a perspective view.

**Figure 7** shows a cross-section of a locking means disposed at the front left side of the chair of Figure 5.

**Figure 8** shows a perspective view of a further embodiment of a locking means useable in the chair of the present invention.

**Detailed Description of the Preferred Embodiments**

[0009] The invention will be illustrated and described herein below by way of the exemplary embodiment shown in the figures.

[0010] For the purpose of the present specification, situations and directions of the chair and elements thereof are determined by the perspective of a user seated in the chair. Accordingly, the left side of the chair corresponds to the left side of Figure 1. The situations or directions "up" or "top" and "down" or "bottom", "rear" or "back" and "front", "behind" and "in front", "distal" and "proximal", "lateral" and "central" follow the same rule. The term "longitudinal" indicates a direction of an element, such as a tube, having, as a major direction component, the rear-to-front direction. Such an element may also to some or to a minor extent be skewed laterally and or towards the bottom or the top.

[0011] **Figures 1 to 5** show the chair 10 of the invention comprising four legs 2a, 2b, 3a, 3b carrying a seat 1. Said seat 1 is formed by a plate, preferably made in a plastic material, said plate comprising, as shown on Figure 3, a central part 1a having an approximately rectangular form and two lateral extension parts 1b, 1c, said lateral parts 1b, 1c being contiguous to the left and right side, respectively, of said central part 1a along a segment, the length L1 of said segment being less than the length L2 of said left or right side of said central part 1a. The contour of the seat 1 between said central part 1a and said lateral extension parts 1b, 1c describes a concave line. As explained in greater detail in the following description, these concave lines allow to position the legs 2a, 2b, 3a, 3b over the upper surface of the seat in the folded position of the chair 10. In the illustrated embodiment, each lateral extension part 1b, 1c comprises an aperture 4b, 4c, said aperture being configured to lodge one or more fingers of a person so that said person can easily hold the chair 10. Each lateral extension part 1b, 1c comprises also a recess 5b, 5c on its contour, said recess being configured

to hold a shower head. To improve the comfort of the seat, the plate forming the seat 1 is curved-shaped, its concavity being orientated to the upper side of the seat 1. Furthermore, the central part 1a of the plate is advantageously perforated with one or more holes 6 so that the water delivered by the shower can easily flow out through the seat 1.

**[0012]** The legs 2a, 2b, 3a, 3b of the chair shown in Figures 1 to 5 are provided in the form of telescopically guided, inner and outer tubes, allowing the adjustment of the height of the chair by way of a lockable telescope mechanism. The bottom of each leg designed to reside on the floor when the chair is put in place comprises a cap 7, which is preferably made in a material that is suitable to prevent gliding and/or improve adhesion of the chair on smooth and/or wet surfaces as it is often the case in bathrooms, shower cabins or bathing tubes. In this way, the danger of slipping or falling down is reduced. The cap's material may comprise rubber.

**[0013]** The chair 10 has a first unfolded and stable position of use, shown on Figures 1, 3 and 5, and a second folded position, shown on Figures 2 and 4, in which the chair occupies less space than in said first position. In the unfolded position of the chair, the legs 2a, 2b, 3a, 3b are positioned so that they are aligned with each corner C1, C2, C3, C4 of the central part 1a of the seat 1 and they define a direction approximately perpendicular to a plane P defined by said corners. In the folded position of the chair, the legs 2a, 2b, 3a, 3b are positioned over the upper surface of the seat 1, said legs 2a and 2b being approximately aligned with said plan P and said legs 3a, 3b abutting against said legs 2a, 2b, respectively, and forming with said plan P a small angle, preferably less than 10°.

**[0014]** Figure 5 shows the chair of Figure 3 in an upside-down situation, thereby revealing the way the legs 2a, 2b, 3a, 3b of the chair are attached to the seat 1.

**[0015]** It can in particular be seen that the legs 2a and 2b, respectively 3a and 3b, are rigidly connected with each other by way of a connection profile 2c, respectively 3c, extending in a longitudinal rear-to-front direction in parallel to the left or right side of the central part 1a of the seat 1. The connection profile 2c or 3c is straight in its central part 2c1 or 3c1, said central part being connected at its two ends to the legs 2a, 2b or 3a, 3b by way of two successive bends 2c2, 2c3 or 3c2, 3c3. The pair of front and rear legs 2a, 2b or 3a, 3b thus forms a U-shaped profile together with the connection profile 2c or 3c. In the illustrated embodiment, the connection profile 2c or 3c is advantageously positioned in the unfolded position of the chair 10 so that the bends 2c3 or 3c3 follow at least partially the contour of the seat 1 between its central part 1a and its lateral parts 1b or 1c and are apparent when one looks the chair 10 from its top view, as shown in Figure 3. Said connection profiles 2c, 3c are pivotably harboured in at least one bracket 8 formed in the lower surface of the seat 1, said bracket 8 being integrated into a lateral extension part 1b or 1c of the seat 1.

**[0016]** Figure 6 shows in greater detail the rear left side of the chair illustrated in Figure 5. It is noted that the discussion below with respect to the rear left side seen in Figure 6 also applies to the right side and to the front side.

**[0017]** In the position of use of the chair, the legs 2a, 2b, 3a, 3b are unfolded and rigidly secured to the seat 1. As also understood with a view to Figure 5, the elements that rigidly fix the two legs of one side of the chair are on the one hand two brackets 8 provided in a rigid manner on the seat 1, in which the connection profile 2c or 3c connecting the front and rear legs 2a, 2b or 3a, 3b is placed. On each of the two brackets 8, a clamp 9 is removably fixed, which constrains the tubular connection profile 2c or 3c to the seat 1. The clamps 9 can be removed so that the U-shaped profile comprising the front and rear legs 2a, 2b or 3a, 3b and the corresponding connecting profile 2c or 3c can be completely removed from the chair 10. However, such a complete removal is not envisaged to be conducted by the user and cannot be easily done by hand for security reasons. In some situation such a removal of the legs may, however be useful as discussed further below.

**[0018]** At the same time, each of said legs is fixed and stabilised in said unfolded position by way of at least one locking means 11, said locking means rigidly fixing said legs to a retaining structure 12 provided on said seat 1. Said locking means 11 is configured so as to be unlocked and locked by hand by a user without the need of any tool. The retaining structure 12 is rigidly connected to the seat 1 and may be made as a one piece element with the latter, or may be fixed by ways of screws or welding. The retaining structure 12 has a shape that partially surrounds and thus harbours the upper end of one leg of the chair 10 when said chair 10 is in its unfolded position.

**[0019]** Figure 7 shows that the locking means 11 used in the embodiment illustrated in Figures 1 to 6 comprises at least one pin 11a, said pin being guided through at least one bore 13 formed in one leg 2a, 2b, 3a, 3b an/or one connection profile 2c, 3c and through at least one bore 14 formed in the retaining structure 12 contiguous to said leg 2a, 2b, 3a, 3b and/or said connection profile 2c, 3c. Said locking means 11 comprises also a clip structure 11b, said clip structure being rigidly connected to said pin 11a and configured so as to be engaged in a clip-like manner around said retaining structure 12 when said pin 11a is guided through said bores 13 and 14. In the illustrated embodiment, the clip structure 11b consists in a band that partially surrounds the upper end of one leg 2a, 2b, 3a, 3b when said clip structure 11b is connected to said retaining structure 12, said clip structure 11b and said retaining structure 12 totally surrounding said upper end of said leg when they are connected to each other. Said clip structure 11b may comprise for instance at one of its ends a flange that is elastically retained by one end of said retaining structure 12 and at its other end two flanges forming a groove that elastically retains one end of said retaining structure 12. The clip

structure 11b can be removed by hand from the retaining structure 12 and replaced around the retaining structure by hand, too. The clip structure 11b and/or the retaining structure 12 is made, for example, in an elastic metal or plastic material so as to confer a sufficient elasticity to said clip structure 11b and/or said retaining structure 12 and such that only little force is required to unclip said clip structure 11b from said retaining structure 12 or to clip it onto said retaining structure 12. In addition, the clip structure 11b is sufficiently rigid to prevent spontaneous falling off from the retaining structure 12 without specific and directed manual drawing force being applied by the user. Identical locking means 11, retaining structures 12 and bores 13, 14 in the respective retaining structures and the three other legs of the chair 10 are provided in identical manner as can be seen from Figures 1 to 5. Since pairs of front and rear lateral legs 2a, 2b and 3a, 3b are rigidly connected with each other, it is necessary to remove the two locking means 11 of one side in order to be able to pivot the legs of one side upwards and outwards. As shown on Figure 2, the U-profile comprising each pair of legs 2a, 2b and 3a, 3b, respectively, is pivotable around the connection profile 2c, 3c, respectively. Due to the situation of the U-profile and the form of the contour of the seat 1, in particular the concave line between the lateral extension parts 1b, 1c and the central part 1a, the outward pivoting movement of the legs is allowed. On the contrary, due to the situation and form of the retaining structures 12, an inward pivoting movement of the legs is prevented by said retaining structures 12, which not only stabilise the legs, but also block them in the inward direction. The pivoting movement by rotation of the connection profiles 2c, 3c is further enabled by the way the latter are fixed by brackets 8 and clamps 9 to the seat 1, as described above. In particular, said brackets 8 and said clamps 9 surround said connection profiles 2c, 3c without preventing them to rotate around an axis defined by their central part 2c1, 3c1, respectively.

**[0020]** Figure 8 shows a locking means 11' used in a further embodiment of the invention. Said locking means 11' comprises a pin 11'a and a clip structure 11'b forming a band and having the shape of an open circle. The clip structure 11'b and the pin 11'a are rigidly connected by way of a connecting bridge, which does not carry a reference number. The locking means 11' is a one-piece element. The clip structure 11'b can be engaged in a clip-like manner around a leg of the chair 10. This clip structure 11'b can be removed by hand from the leg and replaced around the leg by hand, too. The clip structure 11'b is made, for example, in an elastic metal or plastic material so as to confer a sufficient elasticity to said clip structure 11'b and such that only little force is required to unclip said clip structure 11'b from the leg or to clip it onto the leg, respectively. In addition, the clip structure 11'b is sufficiently rigid to prevent spontaneous falling off from the leg without specific and directed manual drawing force being applied by the user.

**[0021]** The chair of the invention is particularly useful as a shower chair, that is a chair that is preferably to be used in bath-rooms, including shower cabins, and the like. It is noted that the seat 1 is preferably made from plastic material.

**[0022]** The caps 7 may be part of a screw-based mechanism, which allows slight modification of the length of the legs, so that all legs can be optimally placed on the floor even on uneven ground.

**[0023]** As mentioned above with reference to Figure 6, the legs 2a, 2b, 3a, 3b can be completely removed from the chair by opening the clamps 9 provided on each side of the chair 10 and retaining the connection profiles 2c, 3c, fixedly connected to said legs, on brackets 8. With the pivotable legs being removed, the seat 1 can be fixed on a different support than legs, for example onto a support frame that is provided on a bathing tube or on a wheelchair.

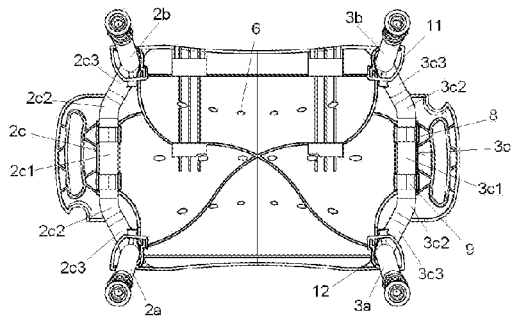
**[0024]** For example, a rigid frame (not shown) can be installed on a bathing tube and the chair of the invention can then be fixed on this frame.

**[0025]** In a further embodiment (not shown) of the invention, the chair may be equipped with armrests and/or a backrest, said armrests and/or said backrest being removably or fixedly connected to the seat.

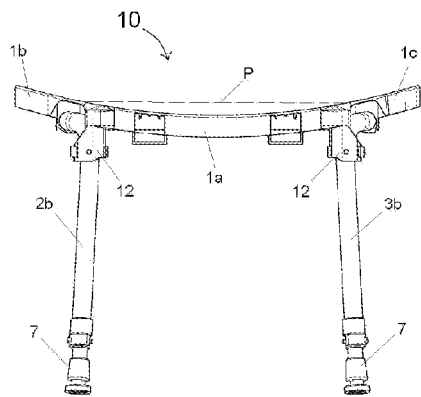
## Claims

1. A foldable shower chair (10) comprising at least four legs (2a, 2b, 3a, 3b) connected to a seat (1), said chair having a first unfolded and stable position and a second folded position in which the chair occupies less space than in said first position, wherein said legs can be pivoted to change from said first to said second position and vice versa, wherein a pair of lateral, left and/or right side legs (2a, 2b; 3a, 3b) are rigidly connected to each other by way of a connection profile (2c; 3c), said connection profile (2c; 3c) being pivotally connected to a lower surface of the seat (1) and wherein each of said legs (2a, 2b, 3a, 3b) is fixed and stabilised in said first position by way of at least one locking means (11, 11'), said locking means rigidly fixing said legs to said seat, **characterized in that** said seat (1) and said connection profile (2c, 3c) are configured so that said legs (2a, 2b, 3a, 3b) can be positioned over said seat (1) in said second position.
2. The shower chair (10) according to claim 1, wherein said seat (1) is formed by a plate, said plate comprising a central rectangular part (1a), and wherein said legs (2a, 2b, 3a, 3b) are positioned in the unfolded position of the chair (10) so that they are aligned with each corner (C1, C2, C3, C4) of said central part (1a) and they define a direction approximately perpendicular to a plane (P) defined by said corners.

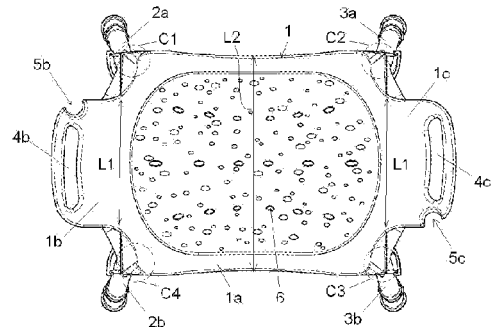
3. The shower chair (10) according to claim 2, wherein said connection profile (2c, 3c) is pivotably harboured in at least one bracket (8) formed in the lower surface of the seat (1), said bracket being integrated into a lateral extension part (1b, 1c) of the seat, said lateral extension part being contiguous to the left or right side of said central part (1a). 5
4. The shower chair (10) according to claim 3, wherein said central part (1a) and said lateral extension part (1b, 1c) are contiguous along a segment, the length (L1) of said segment being less than the length (L2) of said left or right side of said central part (1a). 10
5. The shower chair (10) according to any one of claims 3 and 4, wherein the contour of said seat (1) between said central part (1a) and said lateral extension part (1b, 1c) describes a concave line. 15
6. The shower chair (10) according to any one of claims 3 to 5, wherein said lateral extension part (1b, 1c) comprises at least an aperture (4b, 4c), said aperture being configured to lodge one or more fingers of a person so that said person can easily hold said chair. 20
7. The shower chair (10) according to any one of the preceding claims, wherein said seat (1) comprises at least a recess (5b, 5c) on its contour, said recess being configured to hold a shower head. 25
8. The shower chair (10) according to any one of claims 2 to 7, wherein said seat (1) is curved-shaped, its concavity being orientated to its upper side. 30
9. The shower chair (10) according to any one of claims 2 to 8, wherein said central part (1a) is perforated with one or more holes (6) so that the water can easily flow out through the seat (1). 35
10. The shower chair (10) according to any one of the preceding claims, wherein said locking means (11, 11') is configured so as to be unlocked and locked by hand by a user without the need of any tool. 40
11. The shower chair (10) according to claim 10, wherein said locking means (11, 11') comprises at least one pin (11a, 11'a), said pin being guided through at least one bore (13) formed in at least one leg (2a, 2b, 3a, 3b) and/or in at least one connection profile (2c, 3c) and through at least one bore (14) formed in at least one retaining structure (12) provided on said seat (1). 45
12. The shower chair (10) according to claim 11, wherein said at least one pin (11a, 11'a) is arranged so as to be movable by hand and without the need of any tool from a locked position used in the unfolded position of use of the chair to a disengaged position, wherein, in said locked position, said pin (11a, 11'a) is engaged inside said bore (13) of said leg (2a, 2b, 3a, 3b) and/or said connection profile (2c, 3c) and inside said bore (14) of said retaining structure (12) and wherein, in said disengaged position, said pin (11a, 11'a) is disengaged from said bore (13) of said leg (2a, 2b, 3a, 3b) and/or said connection profile (2c, 3c) and/or from said bore (14) of said retaining structure (12), so that said at least pair of lateral legs (2a, 2b; 3a, 3b) is pivotable. 50
13. The shower chair (10) according to claim 12, wherein said locking means (11') comprises a clip structure (11'b), said clip structure being rigidly connected to said pin (11'a) and being configured so as to be engaged in a clip-like manner around said leg (2a, 2b, 3a, 3b) when said pin (11'a) is in its locked position. 55
14. The shower chair (10) according to claim 12, wherein said locking means (11) comprises a clip structure (11b), said clip structure being rigidly connected to said pin (11a) and being configured so as to be engaged in a clip-like manner around said retaining structure (12) when said pin (11a) is in its locked position.
15. The shower chair (10) according to claim 13 or 14, wherein a pair of lateral, left and/or right side legs (2a, 2b; 3a, 3b) can be pivoted upon manual manipulation of at least two lateral locking means (11, 11') of said pair of legs. 30
16. The shower chair (10) according to any one of the preceding claims, wherein said pair of legs (2a, 2b; 3a, 3b) connected by a connection profile (2c, 3c) forms a U-shaped profile. 35
17. The shower chair (10) according to any one of the preceding claims, wherein at the end of each leg (2a, 2b, 3a, 3b), designed to come in contact with the floor on which the chair is placed, a cap (7) is provided, said cap being made of a material suitable to minimize gliding of the chair. 40
18. The shower chair (10) according to any one of the preceding claims, wherein said pair of lateral, left or right side legs (2a, 2b; 3a, 3b) is made in one piece with said connection profile (2c, 3c). 45
19. The shower chair (10) according to the preceding claim, wherein said pair of lateral, left or right side legs (2a, 2b; 3a, 3b) and said connection profile (2c, 3c) form a single tube. 50



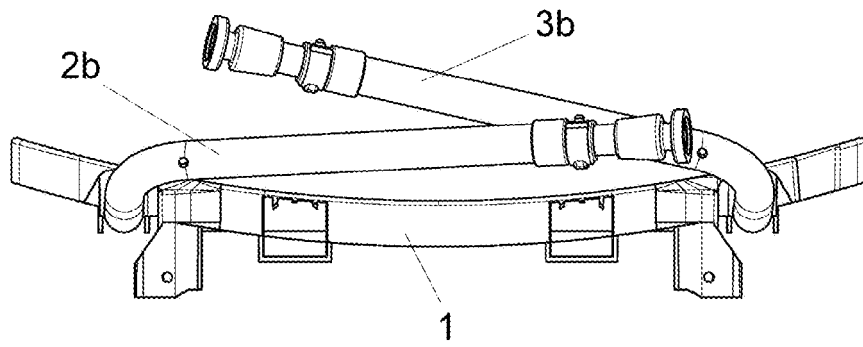
**Fig.5**



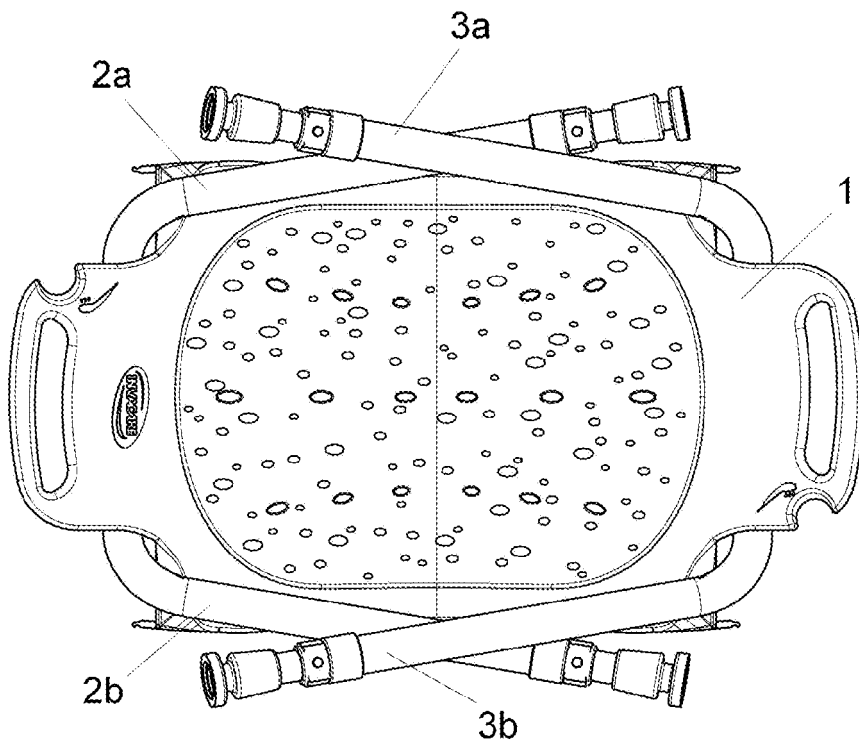
**Fig.1**



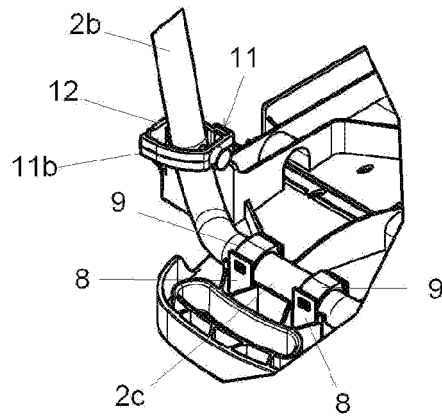
**Fig.3**



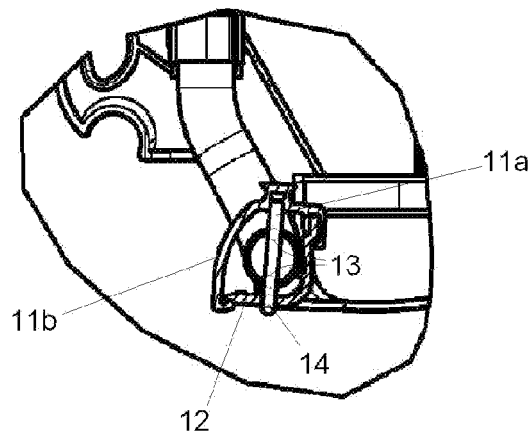
**Fig.2**



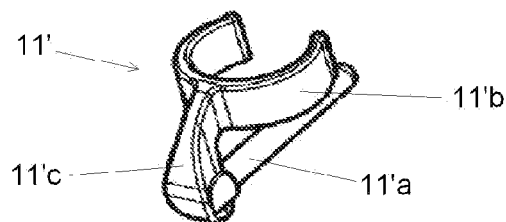
**Fig.4**



**Fig.6**



**Fig.7**



**Fig.8**





EUROPEAN SEARCH REPORT

Application Number  
EP 11 15 3104

| DOCUMENTS CONSIDERED TO BE RELEVANT  |  |   |   |
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| 1 The present search report has been drawn up for all claims   |  |   |   |
| Place of search<br><b>Munich</b>   |  | Date of completion of the search<br><b>20 June 2011</b>   | Examiner<br><b>Fajarnés Jessen, A</b>               |
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