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- (73) Patenthaver: **Mattei, Andrea, Piazza Kennedy 25, 10092 Beinasco, Italien**
- (72) Opfinder: **Mattei, Alessandro, Via Rossini 29, 10042 Nichelino (TO), Italien**
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Description**TECHNICAL FIELD**

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[0001] The present invention relates to the field of aid devices for washing infants, children or the like according to the preamble of claim 1.

STATE OF THE ART

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[0002] It is generally known that the cleaning operation for an infant is a difficult operation, especially when an operator (parent, nanny, nurse or other) has to deal with it by himself/ herself.

15

[0003] Such difficulties are mainly related to the fact that the child may unexpectedly move, slipping from the grasp of the operator, a situation made worse by the fact that the child is wet and/or soapy and therefore the operator has not a firm grasp.

20

[0004] Moreover the washing operation of the private parts of the child is also made difficult by the fact that it would be necessary to keep the child's legs open wide and to wash the area of interest at the same time for an accurate cleaning: when an operator deals with this operation by himself/herself he/she also has to support the child, with the consequence that often the cleaning is not accurate.

25

[0005] In order to assist such washing operation, a number of solutions specifically designed for this purpose have been developed over time.

30

[0006] Examples of such solutions are shown in U.S. patents U.S. 2,902,699 to Miller and U.S. 3,239,846 to Smith: these solutions share the fact that a structure is provided to be made which is mounted on the bath by means of guides being hinged in different ways; these solutions have a twofold drawback: on the one hand they provide fixed devices to be installed on the bath, that clutter it even when they are not used and on the other hand they do not contain the child to be

washed, but simply define a kind of additional tank, arranged higher than the traditional bath (usually placed on the floor) wherein the cleaning operation is carried out, which therefore has the same drawbacks mentioned above.

5 **[0007]** Another solution is the one described in U.S. patent U.S. 5,718,011 to Nogues; in this solution the child is placed on a table provided with a "U" shaped support hinged thereto: the child's legs are tied to the support and his/her trunk to the table, which rests by four legs extending from the face opposite to that on which the child is placed, on the bottom of the bath, where the washing operation
10 is performed.

[0008] While this solution contains child's movements, if any, however it has other drawbacks: firstly it is a serious constraint for the child, who is tied to the device without having the possibility of making even small movements anymore (neither
15 with arms, nor with body nor with legs), with the result, at least, to irritate him/her and to let him/her associate the cleaning operation to an unpleasant moment.

[0009] In addition the provision of the four supports at the back of the table causes it to be suitable for being placed in a stable manner only on the bottom of baths
20 having a quite regular shape; modern or designer baths may not allow the device to be used.

[0010] Finally, a last drawback of this device derives from the fact that the child's head is placed in the lower part: this means that it is not possible to fill the bath
25 over a given level (otherwise the water level could reach in a short time the upper respiratory airways of the child).

[0011] A solution according to which the child is held and his/her head remains in a raised position is shown in U.S. patent application US2007/0294820 to Zanardelli
30 et al. : although it is advantageous as regards some points of view however in this solution the washing of the private parts of the child is hampered by the seat surface; the solution described in JP H657288 is similar to the latter therefore having the same problem.

[0012] Another device like that shown in U.S. patent U.S. 5,599,063 to Lister et al. is also known.

5 **[0013]** This device is a sort of deckchair and it comprises a central area provided with a support face for the backbone of the child and with an opposite face from which two support legs project by means of which the device rests on a surface; the device further comprises an inguinal support for the child, supporting him/her when the device is mounted at an angle, but it hinders the washing operations of
10 such private parts, similarly to what happens for the devices in US2007/0294820 and JP H657288.

[0014] Still another similar device is known from EP 0 156 690 A1, which discloses the preamble of claim 1 of the present invention.

15

[0015] A further problem, in common to all the known solutions examined up to now, is related to the fact that they allow the child to be washed only in the bath, the only sanitary facility that usually has such a shape and size to allow the aid device to be arranged therein.

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[0016] The bottom of the home bath, however, is usually placed at the floor level and therefore this forces an operator to perform the washing operation in a less ergonomic position, that is in the kneeling down position and with the back bent forward.

25

OBJECTS AND SUMMARY OF THE INVENTION

[0017] The aim of the present invention is to overcome the drawbacks of the prior art.

30 **[0018]** In particular, the aim of the present invention to provide an aid device for washing infants or children that is practical, that allows the operator to perform the washing operation also by himself/herself, in a complete safe manner and easily, being able to effectively reach the child's private parts.

[0019] These aims are achieved by providing a device having the characteristics of the first annexed claim.

5 [0020] Thus it is possible to advantageously make an aid device that allows the child to be positioned in a stable manner with his/her legs open wide, such that an operator involved in the cleaning operation can perform it even without external assistance, by acting in the operating access free area; this device proves itself, among other things, to be particularly suitable for being placed in a stable manner
10 in a washbasin, thus allowing an operator to perform the washing operation in such an ergonomically comfortable manner.

[0021] Further advantageous characteristics are the subject of the dependent claims, which are considered as an integral part of the present description.

15

[0022] The advantages deriving from such characteristics are related to the fact that the device according to the invention is suitable to be used in a multi-functional way, allowing a child to be supported in a position hanging on the wash-basin, for example in order to teach him/ her how to wash hands or the teeth or the
20 face.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] The invention will be described below with reference to non-limitative examples, provided for the purpose of explanation and not in a limitative manner in
25 the annexed drawings. These drawings illustrate different aspects and embodiments of the present invention and, where appropriate, reference numbers showing structures, components, materials and/ or similar elements in different figures are denoted by similar reference numbers.

30 Figure 1 is a front view of a base embodiment of the device of the present invention;

figure 2 is a side view of the device of fig. 1;

figure 3 is a top view of the device of figs. 1 and 2;

figure 4 is an operating phase of a first mode for using the device of the preceding figures;

figure 5 is an operating phase of a second mode for using the device of the preceding figures;

figure 6 is a front view of an evolved embodiment of the device of the present invention;

5 figure 7 is a side view of the device of fig. 6;

figure 8 is a top view of the device of figs. 6 and 7;

figure 9 is an operating phase of the device of figures 6-8;

figure 10 is an accessory for the device of the preceding figures;

10 figure 11 is the accessory of figure 10 assembled on the device of figures 1-9.

DETAILED DESCRIPTION OF THE INVENTION

[0024] While the invention is susceptible to various modifications and alternative forms, some relevant illustrated embodiments are shown in the drawings and will be described below in detail. It should be understood, however, that there is no intention to limit the invention to the specific embodiment illustrated, but, on the contrary, the invention intends to cover all modifications, alternative forms, and equivalents falling within the scope of the invention as defined in the claims.

20 **[0025]** The use of "for example", "etc", "or" indicates non-exclusive alternatives without limitation unless otherwise indicated. The use of "including" means "including, but not limited to", unless otherwise indicated.

[0026] Referring to figs. 1-3 they show a basic embodiment of the device of the present invention, denoted in its entirety by reference number 1.

[0027] The aid device 1 for washing infants, children or similar, comprises a body 2 provided with a concave backrest 3 and with a convex rear face 4 opposite to said concave backrest 3.

30

[0028] In this example it is made as one-piece, of anti-slip plastic material; generally, however, it has to be understood that it could be made by two or more mutually engageable pieces, but preferably it has no hinges with the greater advantage of its strength, low cost and easiness of production.

[0029] Two supports 5 for the device 1 project from the convex rear face 4, the purpose of which will be better described below.

5 **[0030]** The body 2 then comprises a sitting area 6 provided with two curved supports 7A, 7B for supporting child's legs open wide; these supports 7A, 7B are developed particularly at the free end of the sitting area 6 itself.

[0031] The sitting area 6 further comprises an operating access free area 8, for
10 accessing to and washing a private part of a child: at the sides of the operating access free area 8 the curved supports 7A, 7B develop, such that a child, once placed on the device 1 lies with his/her legs open and with the private parts exposed to facilitate the cleaning operation.

15 **[0032]** To this end it has to be noted that the two curved supports 7A, 7B has a concavity faced in the same direction as that of the concave backrest 3: in this way the child is received and contained in a safe and gentle mode at the same time, avoiding overly coercive solutions, as it was the case with some prior art devices.

20 **[0033]** The concave backrest 3 has a double concavity, it being both curved according to its plane of symmetry Y (shown in figure 3) and according to a plane perpendicular thereto: this further facilitates the safe containment of the child and prevents undesirable movements.

25 **[0034]** According to an important characteristic of the present invention the concave backrest 3 ends with a free end 9 which advantageously supports the child's head during washing, thus acting as a real headrest.

[0035] Basically, at the headrest 9 and at the convex rear face 4 of the body 2
30 there is provided only one curved hooking arm 10 which is placed centrally on the longitudinal plane of symmetry Y of the device 1.

[0036] It should be noted, with reference to fig. 2, that the curved hooking arm 10 has a concavity facing in the opposite direction than that of two curved supports

7A, 7B: the function and advantages of this arrangement will be explained a little further.

5 **[0037]** The fact that there is provided only one curved hooking arm 10 and it being positioned centrally and at the headrest 9 exerts its advantageous effects as regards the stability of the device 1 and makes it usable even in sanitary facilities having tanks with quite small radii of curvature and with few flat areas, as is the case of washbasins, as it will be described below with reference to figure 4.

10 **[0038]** Returning to the device 1, it is pointed out that it is preferably made as one piece, for example with a monolithic body 2 made of anti-slip plastic material, such to permit a simple and inexpensive manufacturing phase, for example by molding or injection. The types of materials and/or coatings used for this purpose are known per se and therefore no further reference is made thereto.

15

[0039] With reference to fig. 4 it shows the device 1 in a step using it with a child B.

20 **[0040]** As it can be noted the device 1 is placed in a washbasin and the child B leans the back on the concave backrest 3 and the base of the head on the headrest 9.

25 **[0041]** The back of the thighs of the child B is supported on, and held by, the two curved supports 7A, 7B; consequently the private parts of the child B are positioned at the operating access free area 8 and advantageously they are exposed such to allow the operator to easily and completely cleaning them.

30 **[0042]** The device 1 is held in a stable position thanks to the two supports 5, resting on the internal surface of the washbasin and thanks to the curved hooking arm 10, engaging the edge of the washbasin.

[0043] It has to be noted that the provision of only three points of contact (supports 5 and arm 10) between the washbasin and the device 1 makes the latter iso-

static and able therefore to be used advantageously with a plurality of washbasins, with different shapes or curvatures.

5 **[0044]** This possibility makes the device 1 very versatile and allows an operator to perform the washing operation of the child in an ergonomically comfortable position, as well as by himself/herself.

[0045] It has to be noted that fig. 4 further shows a safety belt 11 which helps in holding in place the child: such belt 11 is optional and serves only for increasing
10 the safety margin of the device 1 against sudden movements of the child B.

[0046] A further advantage of the present invention is related to its versatility of application, which allows it to be used also to aid the cleaning of teeth, hands or face of the child, for example if these simple operations are desired to be taught
15 him/her.

[0047] In this case, an adult who wants to teach a child to independently carry out these tasks is hampered by the fact that the washbasin is too high for the child. The adult then has to hold the child in his/her arms in front of the washbasin and at
20 the same time to teach the simple cleaning operations mentioned above, an operation that is very uncomfortable and even dangerous in some ways, because the adult is forced to use one arm to support the child and the other one to teach him the movements.

25 **[0048]** Instead, the device 1 according to the present invention, because of its shape, lends itself advantageously to support the child even in this operation.

[0049] An example is given in fig. 5, where the device 1 is placed upside down compared to the case of fig. 4: thus the two curved supports 7A, 7B are hooked at
30 the edge of the washbasin and the child rests on the device 1 sitting mounted of the curved hooking arm 10.

[0050] In order to improve the child seat, the arm 10 is optionally provided with a straight or slightly curved intermediate section 10A.

[0051] It has to be noted that, in this operating condition, the two supports 5 are intended to provide a safety against lateral movements of the child; obviously even in this case, in order to avoid the child to move backwardly, a safety belt (not shown in the figure), is optionally provided which holds the child in place.

[0052] In this case, therefore, the child B is housed at the convex face 4 of the device 1, while the concave face 3 is the one facing the washbasin.

[0053] If the device 1 is desired to be used for rather heavy children, or if the washbasin is provided with an edge with such a shape to affect the stability of the child and/or of the device, there is provided a more advanced embodiment of the device 1, shown in figs. 6-8.

[0054] In this case, the evolved form is different from the basic one just described because of the provision of the pedestal 15.

[0055] Because of its use the pedestal 15 is usable only when the device 1 (to which no further reference is made for brevity purposes) is employed to help washing the hands, teeth, face and like, that is in the operating condition of fig. 5.

[0056] The pedestal 15 comprises a base 16 and a shaft 17 which extends to the coupling means 18 provided on the body 2.

[0057] Such coupling means 18 comprises, in this example, a through sleeve defining a housing with a shape complementary with the end portion of the shaft 17, which is thus fitted into said housing and held in place therein by a retaining device, for example a release or screw device 18, depending on preferences.

[0058] It has to be noted, in fig. 7, how the shaft 17 branches from an edge of the base 16: this solution causes the center of gravity of the device 1 with the child B not to fall perfectly within the geometric center of the base 16 itself.

[0059] On one hand while this may appear to be a drawback, however, it has to

be noted that this arrangement is particularly advantageous if the device 1 is desired to be used, according to such evolved form, with washbasins having at the base a cabinet or a structure extending up to the floor.

5 **[0060]** In these cases, if the shaft 17 is placed centrally to the base 16, it will hamper the positioning of the device 1, hitting the structure of the washbasin or alternatively it will require the device 1 to be remotely positioned from the washbasin, compromising the use.

10 **[0061]** Thus, on the contrary, the weight of the adult, assisting the washing operation, is used for balancing the device 1 in its evolved form, as shown in fig. 9: in this case the adult A, in order to help the child B, is naturally positioned behind his/her back, weighing on the base 16 and balancing it.

15 **[0062]** It has to be noted that in this evolved form of the device 1 the optional safety belt 11 is also shown, which is intended to hold the child when performing the washing: advantageously this belt 11 is the same safety belt 11 shown in fig. 4, it extends between the supports 5 and it passes alternatively in front of the backrest 3 or in front of the rear face 4, depending on how the device 1 is used.

20

[0063] Obviously many variants to what described up to now are possible.

[0064] In particular, a variant relates to the shape of the base 16 of the pedestal 17, which comprises two or more deployable supporting arms.

25

[0065] Another improvement concerns the supports 5, the arm 10 and the shaft 17 which are all or only some of them, of the telescopic type or anyway adjustable in length, in order to allow the flexibility in using the device 1 to be improved.

30 **[0066]** Again another improvement concerns the positioning of the curved hooking arm 10 on the body 2: in the examples just given, they are as one piece, however, if it is necessary to improve the ergonomics and flexibility of use, the curved hooking arm 10 is provided to be coupled so as to be moved to the body 2, such

that it can be displaced with respect to the latter, always with movements along the Y plane of symmetry of the device.

[0067] A further, optional, improvement is shown in figs. 10 and 11: it is a safety device 30 comprising three pillows 31, 32, 33 made of soft plastic material and preferably of waterproofing material (such as neoprene or the like) that are connected to each other by a base structure 35. Two symmetrical pillows 31, 32 are opposite each other, are spaced apart and inclined such to form a sort of side walls, while the central pillow 33 makes a soft support for the child's head, as shown in an operating phase of fig. 11. The safety device 30 can be fastened to the device 1 in different manners, but preferably the two are simply fitted on one the other, given the complementarity of the corresponding shapes.

[0068] Another optional improvement is the possibility of providing auxiliary fastening means, arranged in the concave areas of the single curved hooking arm 10 and/or of said curved supports 7A, 7B.

[0069] In general, these auxiliary fastening means are intended to increase the friction with the surface of the washbasin (in this case they are preferably felts and/or pads made of soft rubber), or to make a real grasping or attachment action (in this case they are preferably suction cups or the like).

[0070] Thus the aims mentioned above are achieved.

PATENTKRAV

1. Hjelpeindretning (1) til vask af spædbørn, børn eller lignende, omfattende en grunddel (2), der er forsynet med et konkavt ryglæn (3) og en konveks bagside (4) orienteret modsat af det konkave ryglæn (3), to støtter (5) for indretningen (1), hvilke rager ud fra den konvekse bagside (4), hvor grunddelen (2) omfatter et siddeareal (6), der er udstyret med
- to krumme støtter (7A, 7B), som støtter barnets spredte ben, og
 - et frit betjeningsadgangsområde (8) til vask af intimområdet på et barn, hvilket
- 10 frie betjeningsadgangsområde (8) er anbragt centralt i forhold til de krumme støtter (7A, 7B),
- hvor de krumme støtter (7A, 7B) har en konkavitet pegende i samme retning som det konkave ryglæn (3), der slutter i en hovedstøtteende (9), **kendetegnet ved**, at den er fremstillet af et monolitisk enkeltstykke fremstillet af anti-slip plastmateriale,
- 15 og at der ved hovedstøtteenden (9) af det konkave ryglæn er tilvejebragt en enlig krummet krogarm (10), som rager ud fra siden af den konvekse bagside (4) og er placeret centralt på et langsgående symmetriplan (Y) i indretningen.
2. Indretning (1) ifølge krav 1, hvor det konkave ryglæn (3) har en
- 20 dobbeltkonkavitet, hvor det på samme tid er krummet ifølge symmetriplanet (Y) og ifølge et plan vinkelret derpå.
3. Indretning (1) ifølge krav 1 eller 2, hvor den krumme krogarm (10) har en konkavitet, der peger i modsat retning af de krumme støtter (7A, 7B).
- 25
4. Indretning (1) ifølge et eller flere af de foregående krav, hvor der ved et konkavt område af den enlige krumme krogarm (10) og/eller ved konkave områder af de krumme støtter (7A, 7B) er tilvejebragt hjælpefastgøringsorganer, såsom sugeskiver og/eller filtskiver og/eller puder af blødt gummi.
- 30
5. Indretning (1) ifølge et eller flere af de foregående krav, hvor mindst én af støtterne (5) og den krumme krogarm (10) kan bredes ud.

6. Indretning (1) ifølge et eller flere af de foregående krav, hvilken yderligere omfatter et sikkerhedsbælte (11), der strækker sig mellem støtterne (5) og passerer enten foran det konkave ryglæn (3) eller foran den konvekse bagside (4).
- 5 7. Indretning (1) ifølge et eller flere af de foregående krav, hvor den krumme krogarm (10) er udstyret med en hovedsageligt lige mellemsektion (10A).
8. Indretning (1) ifølge et eller flere af de foregående krav, omfattende et stativ (15), som igen omfatter en bund (16) og et skaft (17) samt koblingsorganer
10 (18) til sammenkobling af grunddelen (2) og skaftet (17).
9. Indretning (1) ifølge det foregående krav, hvor skaftet (17) grener sig ud fra en kant på bunden (16).
- 15 10. Indretning (1) ifølge krav 8 eller 9, hvor skaftet (17) kan trækkes ud, navnlig et teleskopisk skaft.
11. Indretning (1) ifølge et eller flere af de foregående krav, hvor den krumme krogarm (10) er tilkoblet på en sådan måde, at den kan føres hen til grunddelen
20 (2).
12. Indretning (1) ifølge et eller flere af de foregående krav, omfattende en sikkerhedsanordning (30), der igen omfatter tre puder (31, 32, 33), der er indbyrdes forbundet ved en basisstruktur (35), hvor to symmetriske puder (31, 32)
25 er placeret over for hinanden, i indbyrdes afstand og skråtstillet for at danne sidevægge.
13. Indretning (1) ifølge et eller flere af de foregående krav, hvor sikkerhedsanordningen (30) er forsynet med grunddelen (2) og begge er forsynet
30 med sammenhørende komplementære former.
-

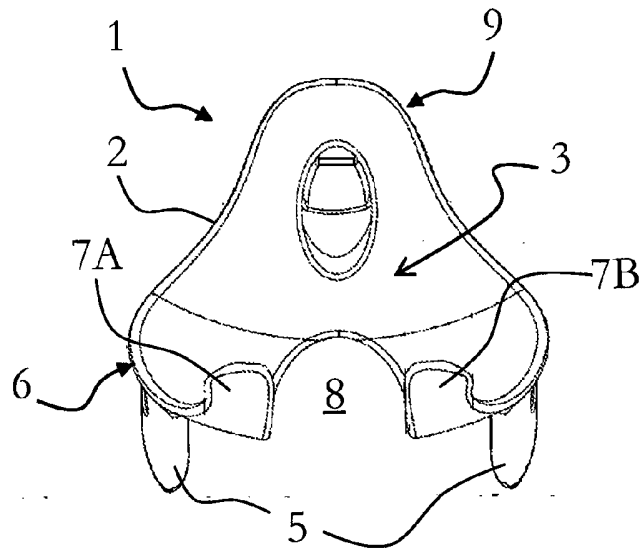


Fig.1

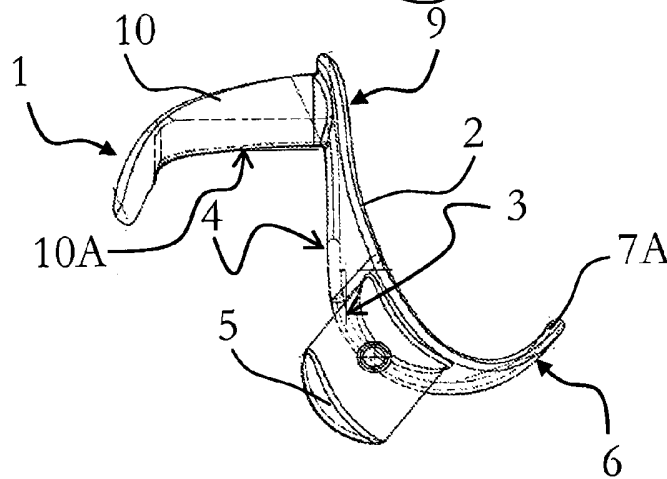


Fig.2

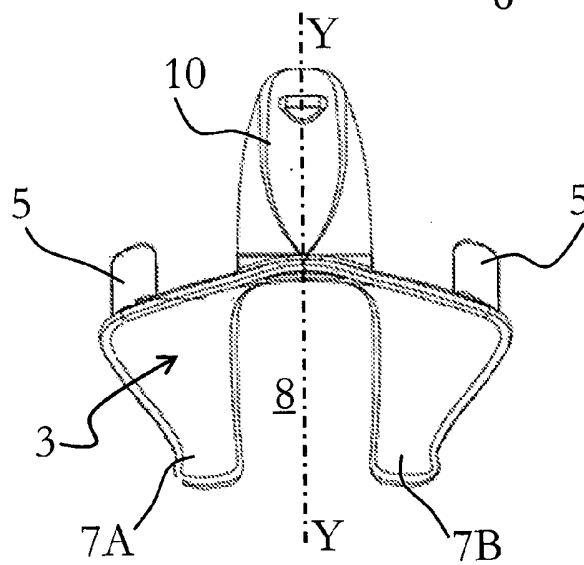


Fig.3

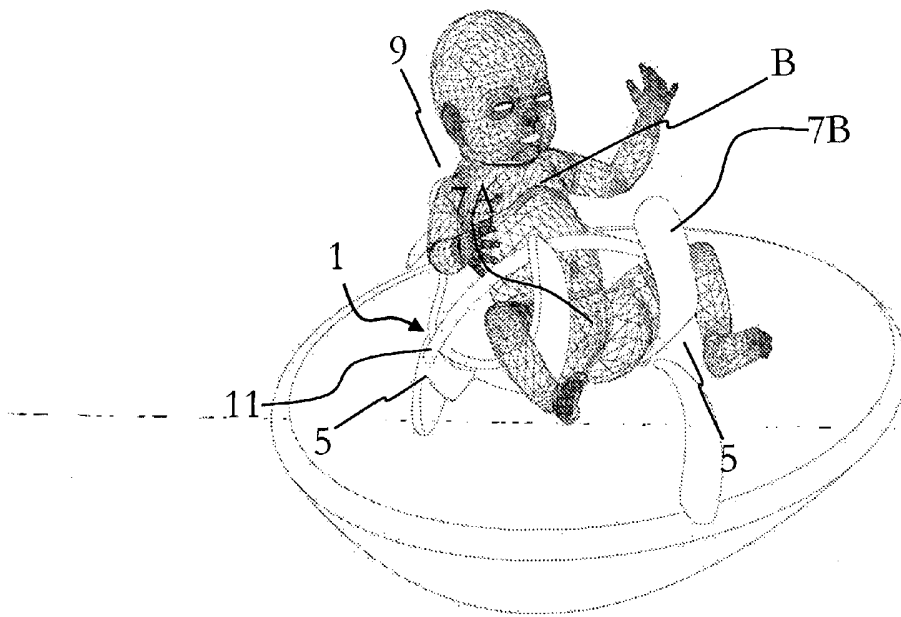


Fig.4

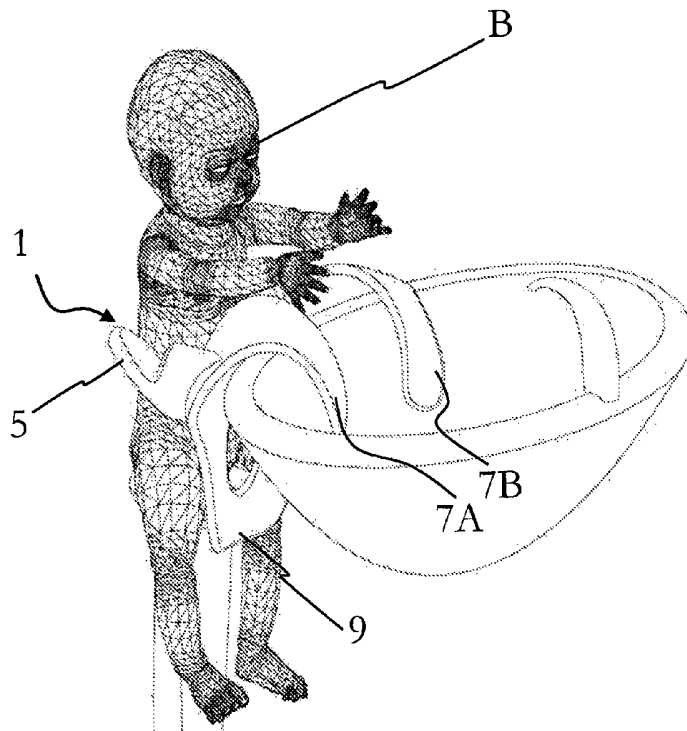


Fig.5

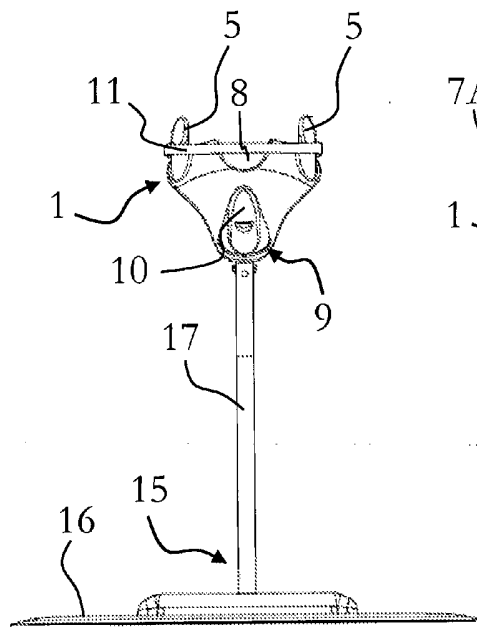


Fig.6

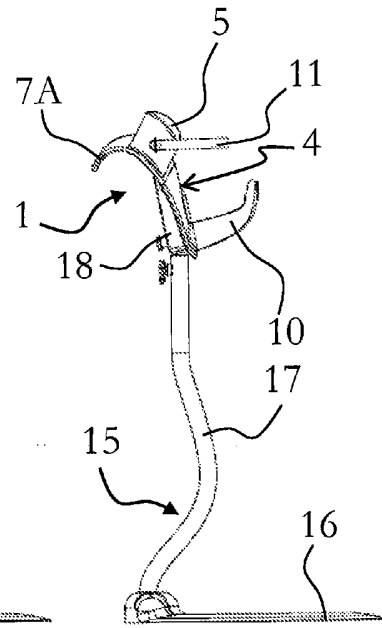


Fig.7

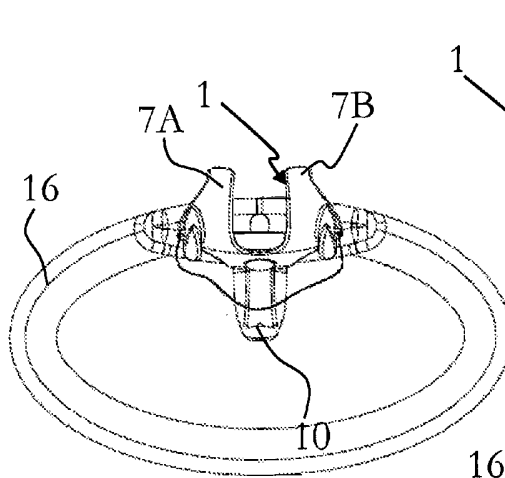


Fig.8

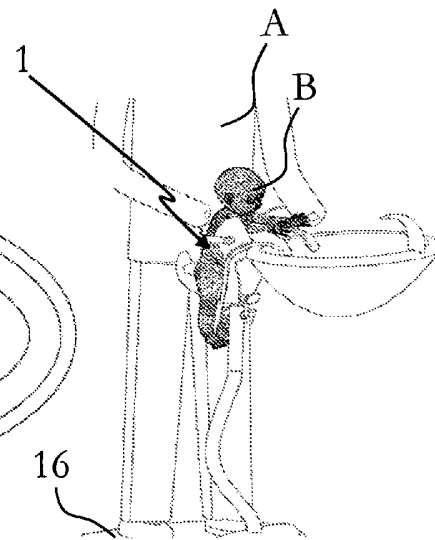


Fig.9

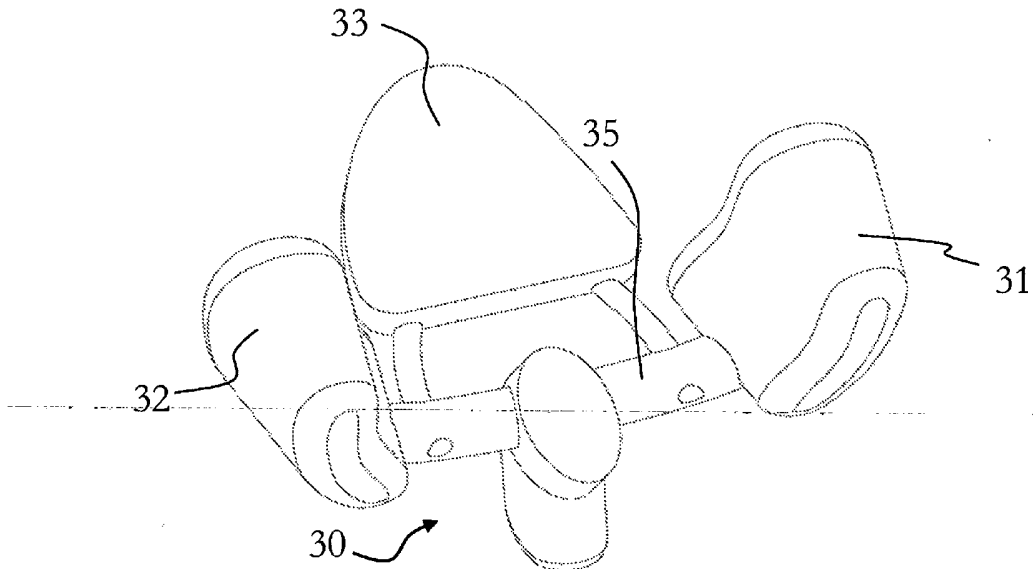


Fig.10

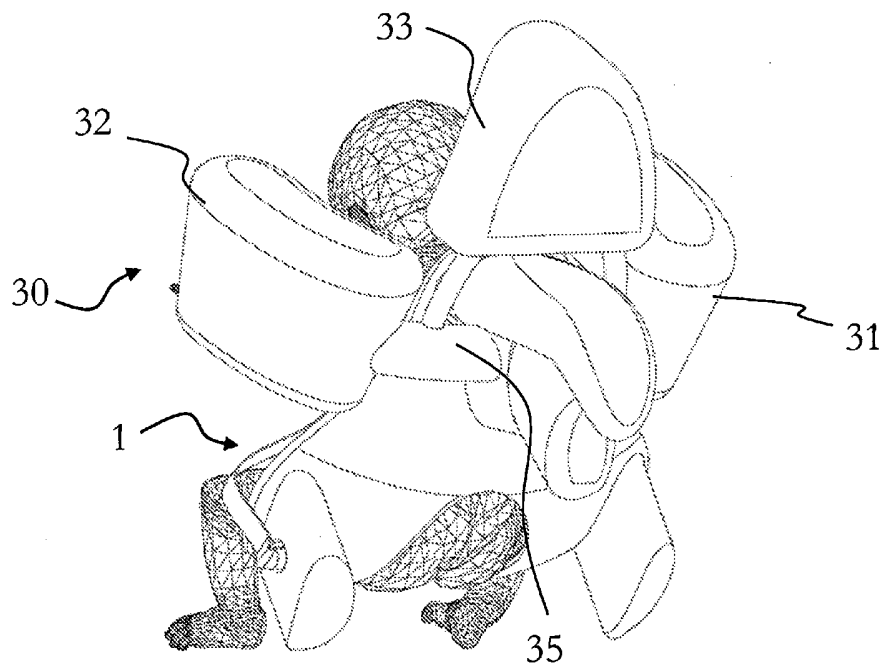


Fig.11