(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 4 389 100 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
26.06.2024 Bulletin 2024/26

(21) Application number: **23383332.6**

(22) Date of filing: **20.12.2023**

(51) International Patent Classification (IPC):
A61G 15/00 *(2006.01)*

(52) Cooperative Patent Classification (CPC):
A61G 15/005

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

(30) Priority: **20.12.2022 ES 202200396 U**

(71) Applicant: **García Castiella, Berta**
28260 Galapagar (ES)

(72) Inventor: **García Castiella, Berta**
28260 Galapagar (ES)

(74) Representative: **Espiell Gomez, Ignacio**
R. Volart Pons y Cia., S.L.
Pau Claris, 77 2º 1ª
08010 Barcelona (ES)

(54) **A DEVICE FOR SUPPORTING AND SHELTERING THE USER DURING LABOUR, THE EXPULSION STAGE AND IMMEDIATE POSTPARTUM**

(57) The present invention relates to a compartment, with a support and shelter function, for childbirth and immediate postpartum, which comprises a structure defining a body in the shape of a hollow spherical cap, at the upper end of which said body has a structure with a head support pad (5) in the shape of a circle and with a centre hole, in which under said pad (5) it has a vertical chest support structure (4), with two L-shaped forearm support structures (2a) and (2b), wherein the left lateral side of the compartment constitutes a padded wall (3), wherein the lower portion of said body has a folding padded knee support element (1) that has a V-shape in the folded position, and wherein the intermediate area of the spherical body has an inner concavity that constitutes an inner cavity, suitable for accommodating the reclining mother.

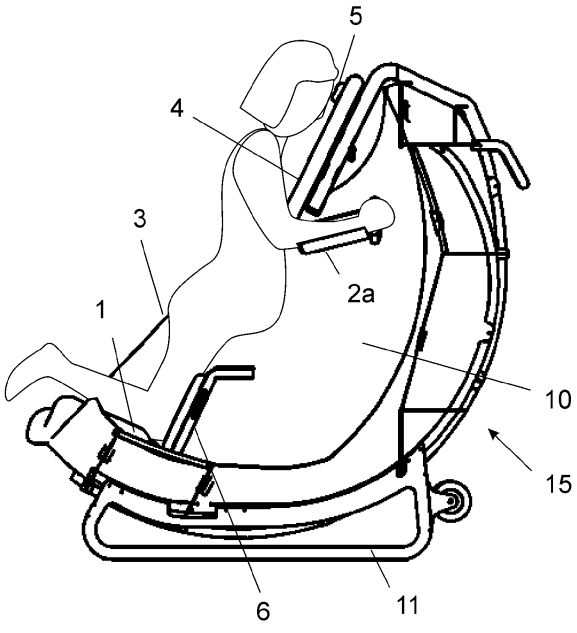

Fig. 1

EP 4 389 100 A1

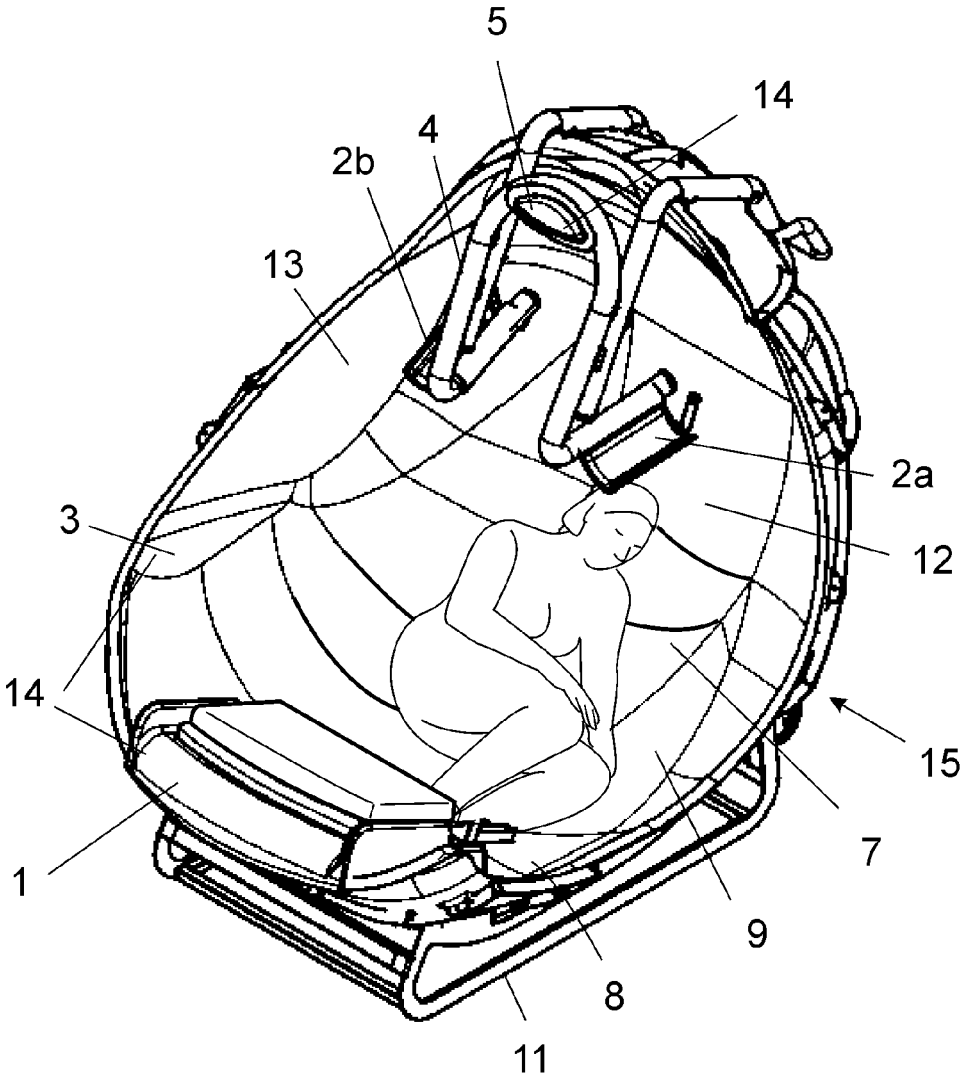

Fig. 3

Description

OBJECT OF THE INVENTION

[0001] The object of the present invention is a device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum that incorporates a series of advantages over the current devices and supports used for this purpose.

[0002] The device provides a structure with support elements where the future mother can rest without having to maintain the weight of her body in a position that is relaxing for her and the foetus, and which also helps during labour.

[0003] In this way, the future mother can gain strength by resting for a few moments in a comfortable position given her state and thus be able to continue moving if she later wishes with renewed energy.

[0004] The structure also comprises means for adopting a position that makes it possible to push out the baby in the device itself.

[0005] Finally, the structure of the device has a warm immediate postpartum retreat area for mother and baby that will facilitate skin-to-skin contact as well as the start of breastfeeding.

FIELD OF APPLICATION OF THE INVENTION

[0006] The field of application of the present invention falls within the maternity and childcare sector, focusing specifically on the industry dedicated to the manufacture of systems, apparatus, devices and elements for accompanying childbirth, in particular natural childbirth.

BACKGROUND OF THE INVENTION

[0007] It is known that the most common elements in labour rooms or had by doulas to accompany home births are: swimming pools, pilates balls, birthing chairs, birthing tables or slings. None of these elements allow the future mother to rest comfortably during the often long and exhausting expulsion stage. The device of the present invention solves this problem by establishing a device where the future mother can rest without having to maintain the weight of her body in a position that is relaxing for her and the foetus, and which also helps during labour.

[0008] Devices similar to the one described in the present invention that reflect the state of the art related to the same exist. Some of these devices are indicated and the reference for one of them is mentioned below.

[0009] Document ES-0277489_A3 relates to a device for a birthing bed.

[0010] In this device, the mother is placed on her back and in a horizontal position, the posture does not help the future mother with natural birth or labour, and it is only more comfortable for the healthcare personnel, although it greatly hinders birth from a physiological point of view.

[0011] There are also other devices such as the birthing chair, where the future mother sits on a stool with an opening to push out the baby. This device does not allow the future mother to take a break from supporting the weight of her body since her entire trunk is left without a support point and it contributes to vaginal tears, as well as episiotomies.

DESCRIPTION OF THE INVENTION

[0012] The invention consists of a device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum that, in addition to offering a series of support points that provide a resting position for the future mother during the dilation stage and the expulsion stage, it offers a shelter area for the mother and baby, once childbirth is complete.

[0013] The device is configured from a structure, at the upper end of which it comprises a head support structure, preferably with a padded area as a head support pad, in the shape of a circle and with a centre hole to allow the mother to breathe in the resting position. Below the head support structure, it has a preferably L-shaped forearm support structure (2a) and (2b). Finally, the lower portion of the structure has an element for supporting the knees and also preferably the quadriceps and calves, which allows the kneeling mother to be in a relaxed position during the dilation stage.

[0014] Preferably, the element for supporting the knees can be folded, which makes it possible to leave it in an extended position, establishing a substantially horizontal platform that allows the mother to squat over the same when pushing out the baby. Preferably the element for supporting the knees is V-shaped.

[0015] The device object of the invention preferably comprises a structure defining a body in the shape of a hollow spherical cap, generating a concavity that constitutes a warm retreat area for the mother to place herself in the immediate postpartum, which will facilitate skin-to-skin contact as well as the start of breastfeeding. Even more preferably, the left lateral side of the body in the shape of a hollow spherical cap has a padded wall, to allow the mother to rest on it.

[0016] The body in the shape of a hollow spherical cap optionally has a padded lower portion of the wall of the immediate postpartum retreat area, so that the mother and baby are supported and to facilitate breastfeeding, optionally there is also a space for the mother's legs, a receptacle to place the placenta that allows late clamping of the umbilical cord, and a large entrance area in said retreat area which has a system that allows a curtain to be installed that can close the entrance to promote the privacy of mother and baby and reduce the amount of light that enters, favouring lighting conditions and conditions for retreat that are more similar to the mother's womb and can make the newborn feel calmer.

[0017] Preferably, one or more of the support elements

of the different parts of the user's body of the device object of the invention are adjustable in order to adapt to the different dimensions of each user's body.

[0018] This device solves the problems of future mothers who are in labour and do not have a place to rest during the long hours that a birth can last, which requires great physical, mental and emotional effort and requires moments of relaxation between contractions so that the future mother can regain strength.

[0019] It also offers magnificent support for childbirth in a diagonal squatting position with support on the trunk to facilitate the stability and safety of the future mother when pushing out the baby, something that does not exist in other current devices since they do not respect the natural birth position.

[0020] Lastly, it also provides a unique opportunity for mother and baby to get to know each other in an intimate environment that helps keep the newborn calm, an element that does not currently exist in either hospitals or accessories for doulas.

DESCRIPTION OF THE DRAWINGS

[0021] To complement the description provided herein, and for the purpose of helping to make the features of the invention more readily understandable, said description is accompanied by a set of drawings constituting an integral part of the same, which by way of illustration and not limitation represents the following:

Figure 1 shows a schematic side elevation view of an example of the device according to the invention, represented with the mother in a resting position;
Figure 2 shows a view of the device similar to the previous one, in this case represented with the mother in a position of pushing out the baby; and
Figure 3 shows a perspective view of the device shown in the previous figures, in this case represented with the mother in an immediate postpartum retreat position.

PREFERRED EMBODIMENT OF THE INVENTION

[0022] The aforementioned figures show a non-limiting preferred exemplary embodiment of the device for supporting and sheltering (compartment) the user during labour, the expulsion stage and immediate postpartum according to the invention, which comprises what is described in detail below, in accordance with the numbering adopted based on the following list of references:

1. Folding padded knee support element.
2a and 2b. Arm support structures.
3. Padded lateral for the side.
4. Vertical joining structure.
5. Cervical head rest pad.
6. Horizontal platform for squatting.
7. Padded lower portion of the wall of the inner retreat area.
8. Space for the mother's legs in the retreat area.
9. Receptacle for the placenta.
10. Entrance to the immediate postpartum retreat area.
11. Legs with wheels.
12. Inner wall of the retreat area.
13. Curtain of the retreat area.
14. Padded support areas, on the chest structure 4, the head pad 5 and the arm structures 2a and 2b.
15. Compartment

[0023] The figures show the structure of the device, in its support function: in the rest or labour position (Figure 1) and in the position of pushing out the baby (Figure 2), and in its shelter function: an immediate postpartum position (Figure 3).

[0024] Figures 1 and 3 show how the device (15), which is configured from a structure defining a body in the shape of a hollow spherical cap, where the upper end has a structure with a head support pad (5), in the shape of a circle and with a centre hole; where the lower portion of said head support pad has an L-shaped forearm support structure (2a) and (2b), which is shown in Figure 2; where the left lateral side of the body of the device constitutes a padded wall (3) to facilitate the lateral support of the mother. Furthermore, the lower portion of said body has a folding padded knee support element (1), which has a V-shape when it is in a folded rest position, serving to support the user's quadriceps, knees and calves (Figure 1). The intermediate area of the spherical body has an inner concavity that constitutes an inner cavity suitable for accommodating the reclining mother, for the shelter function in the immediate postpartum position, as shown in Figure 3.

[0025] Figure 2 shows the horizontal platform (6) configured when the folding support element (1) has been made to move from the "V" position to the extended position due to the fact that it has a joint at the vertex of said "V" that allows said folding, allowing the mother to squat over said platform (6) at the time of pushing out the baby.

[0026] Figure 3 shows the device (15) in its shelter function, in the immediate postpartum position, where the intermediate area of the spherical body has a concavity that constitutes an inner cavity and has a padded lower portion (7) of the inner wall (12) of the immediate postpartum retreat area, so that the mother and baby are supported, and to facilitate breastfeeding, and there is a space for the mother's legs (8), a receptacle for the placenta (9), and a large entrance area (10) on the right lateral portion thereof, and also a curtain (13) that promotes the privacy of the mother and baby.

[0027] Preferably, the V-shaped folding padded support element (1) of the lower portion for kneeling support of the mother, the horizontal platform (6) and the vertical chest support structure (4) with the two arm supports (2a, 2b) are adjustable in position, in order to adapt to the

different dimensions of each woman's body.

[0028] Preferably, the spherical body of the device (15) is supported on legs (11) with wheels.

[0029] The invention is industrially applicable, using mainly two materials for the same: roto-moulded plastic and aluminium for the structure of the device (15), and synthetic plastic for the padding (14); of the padded lateral (3) for the side, of the structure for the upper chest (4) or arms (2a, 2b) and of the padding (5) for the head.

[0030] Having sufficiently described the nature of the present invention, as well as the ways in which it may be implemented, it is not considered necessary to elaborate on the explanation thereof in order for a person skilled in the art to understand the scope of the invention and the advantages derived therefrom.

Claims

1. A device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, **characterised in that** it comprises:

   - at its upper end, a head support structure (5),
   - under said head support structure (5), a forearm support structure (2a) and (2b),
   - in the lower portion, a knee support element (1).

2. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to claim 1, **characterised in that** it comprises a structure defining a body in the shape of a hollow spherical cap.

3. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to claim 2, **characterised in that** the inner cavity of the structure defining a body in the shape of a hollow spherical cap has a padded area (7) at least in the lower portion (12) thereof.

4. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to claim 2 and 3, **characterised in that** in the inner cavity the structure defining a body in the shape of a hollow spherical cap has a space for the mother's legs (8), a receptacle for the placenta (9), and a large entrance area (10) on the right lateral portion thereof.

5. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to any of claims 2 to 4, **characterised in that** it comprises a curtain (13) that can close the entrance to the structure defining a body in the shape of a hollow spherical cap.

6. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to any of the preceding claims, **characterised in that** the knee support element (1) can be folded such that in a folded position it supports the knees and also preferably the quadriceps and calves, which allows the kneeling mother to be in a relaxed position during the dilation stage, and in an extended position it allows the mother to squat over it when pushing out the baby.

7. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to the preceding claims, **characterised in that** the forearm support structure (2a) and (2b) is adjustable in height.

8. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to any of the preceding claims, **characterised in that** the spherical body of the compartment (15) is supported on legs (11) with wheels.

9. The device for supporting and sheltering the user during labour, the expulsion stage and immediate postpartum, according to any of the preceding claims, **characterised in that** the structure of the compartment (15) is made of roto-moulded plastic and aluminium and the padding (14) is made of synthetic plastic.

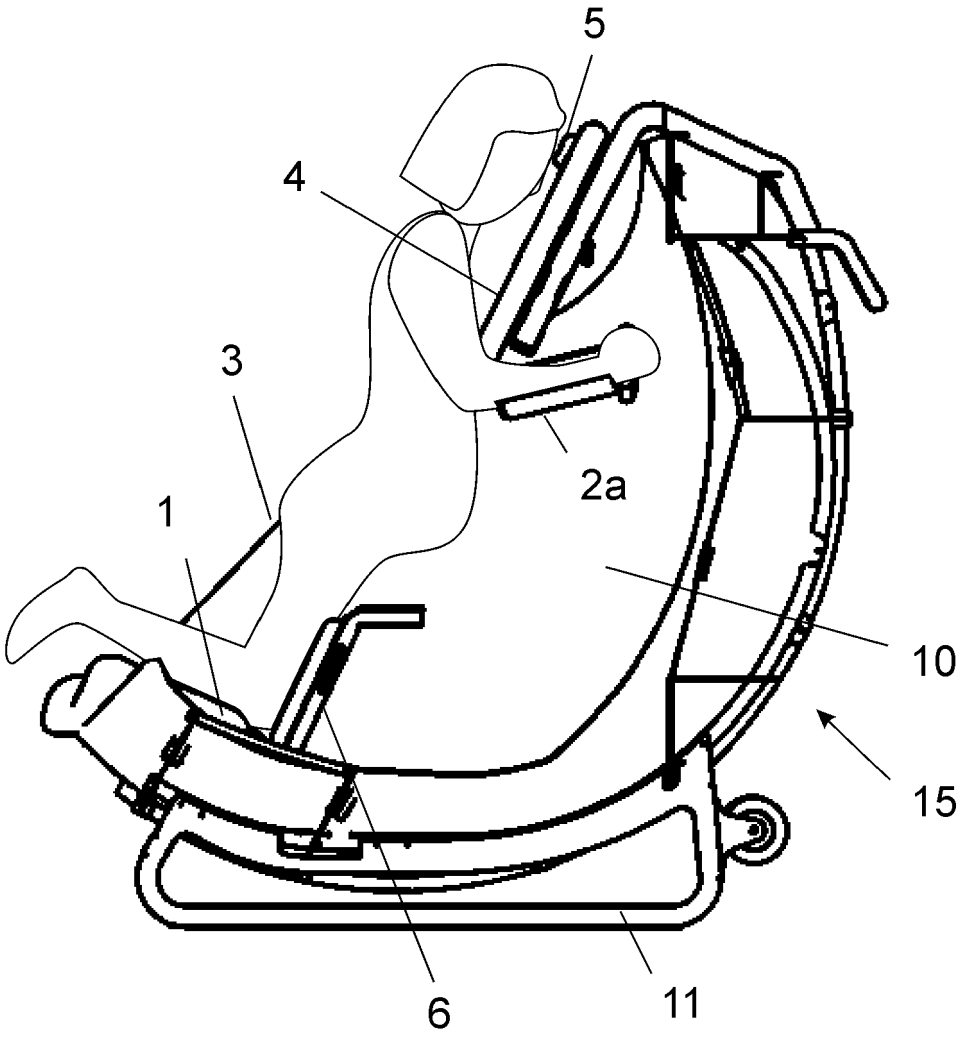

Fig. 1

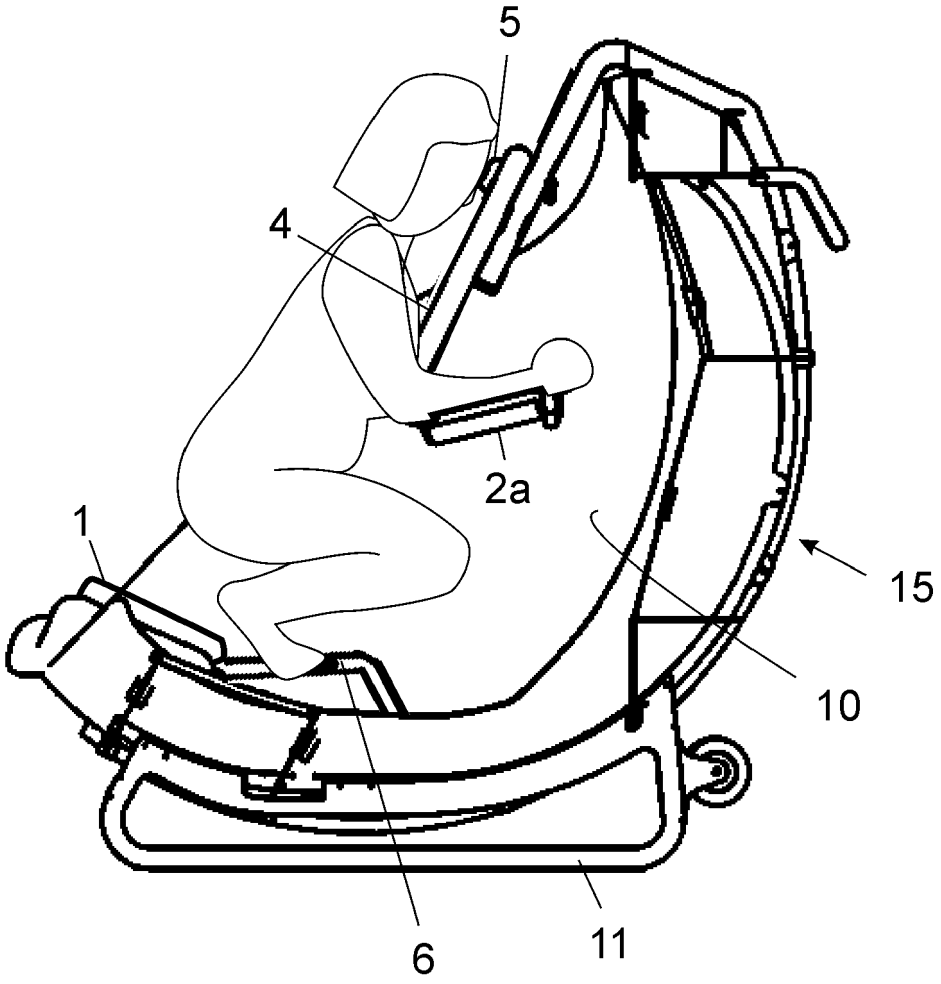

Fig. 2

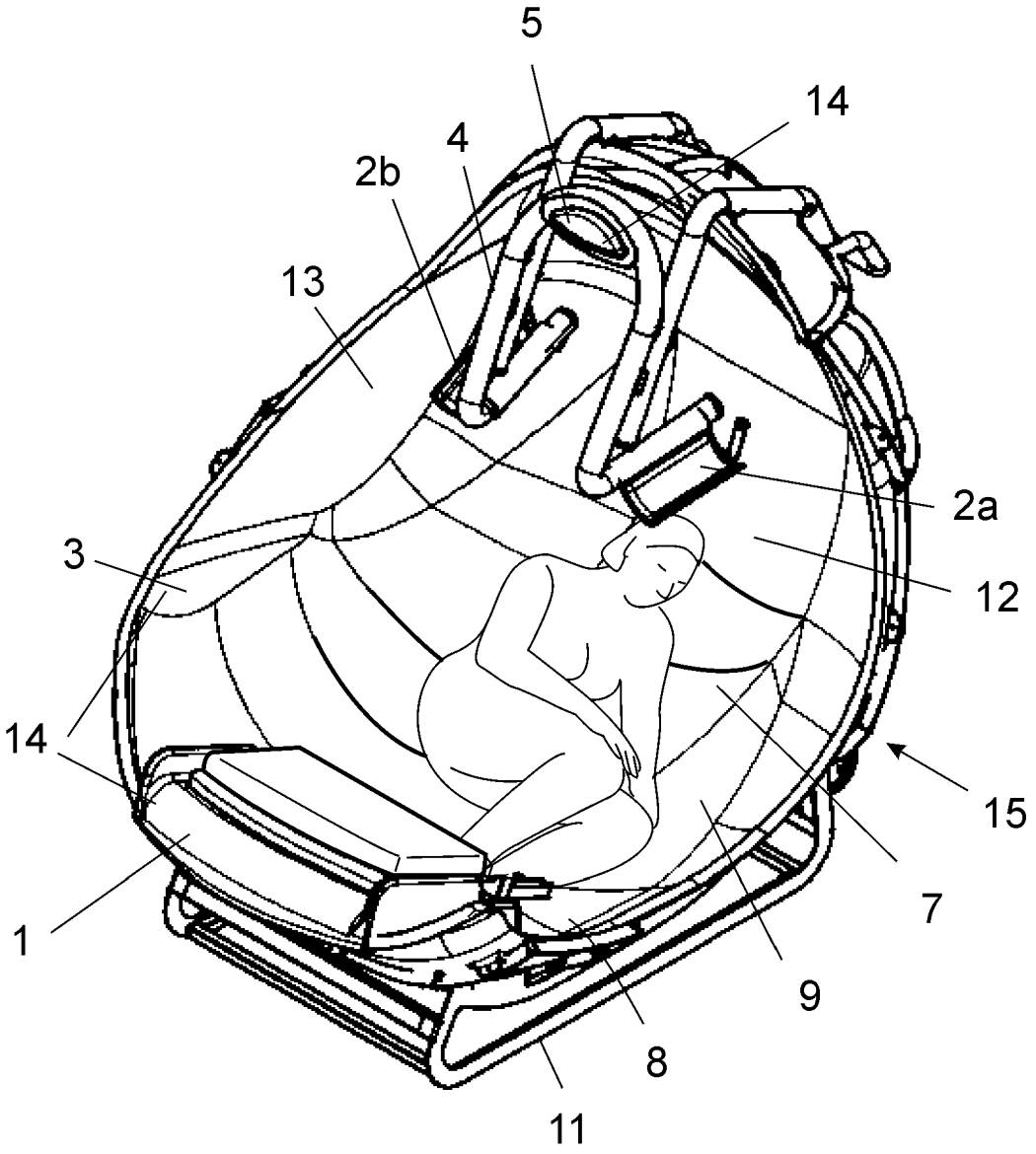

Fig. 3

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 23 38 3332

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	GB 2 458 330 A (LOCHRIE DENISE PATRICIA [GB]; HUBBARD GUY RICHARD [GB]) 16 September 2009 (2009-09-16)	1,2	INV. A61G15/00
A	* page 4, line 7 - page 6, line 5; figures 1-4 *	3-9	
X	US 9 173 800 B2 (PESSINEN EIJA [FI]; RELAXBIRTH OY [FI]) 3 November 2015 (2015-11-03) * column 7, line 27 - column 8, line 67 * * column 11, lines 26-44 *	1,2	

TECHNICAL FIELDS SEARCHED (IPC)

A61G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	18 April 2024	Birlanga Pérez, J

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

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 23 38 3332

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-04-2024

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2458330 A	16-09-2009	GB 2458330 A	16-09-2009
		WO 2009115833 A1	24-09-2009
US 9173800 B2	03-11-2015	BR PI0822704 A2	01-12-2015
		CA 2724480 A1	19-11-2009
		CN 102026608 A	20-04-2011
		DK 2276443 T3	02-10-2017
		EP 2276443 A1	26-01-2011
		ES 2641585 T3	10-11-2017
		JP 5391268 B2	15-01-2014
		JP 2011520489 A	21-07-2011
		KR 20110030460 A	23-03-2011
		PL 2276443 T3	31-01-2018
		RU 2010147804 A	27-06-2012
		US 2011067180 A1	24-03-2011
		WO 2009138548 A1	19-11-2009

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- ES 0277489 A3 **[0009]**