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

(11) EP 1 719 489 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
08.11.2006 Bulletin 2006/45

(51) Int Cl.:
A61H 33/00 *(2006.01)* ***A63B 22/08*** *(2006.01)*

(21) Application number: **05425289.5**

(22) Date of filing: **04.05.2005**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR LV MK YU

(71) Applicant: **Tomatis, Stefano**
12010 Peveragno (IT)

(72) Inventor: **Tomatis, Stefano**
12010 Peveragno (IT)

(74) Representative: **Spandonari, Carlo**
Spandonari & Modiano S.r.l.
Corso Duca degli Abruzzi 16
10129 Torino (IT)

Remarks:
Amended claims in accordance with Rule 86 (2) EPC.

(54) Station for gymnastics in water

(57) The station comprises a tub (12) suited to be filled with water and shaped to receive a user (35) partially immersed therein, and a gymnastics device (24) comprising a frame (26, 28, 30) receivable within the tub (12) and supporting a seat (32) and a revolving pedal crank (36) that is arranged in front of the seat (32). The pedal crank is pivotally supported on supports (38, 40) integral with the frame and provided with three hinge seats (38a, 38b, 38c e 40a, 40b, 40c) which are differently spaced from the seat (32) and are selectively engageable by the pedal crank.

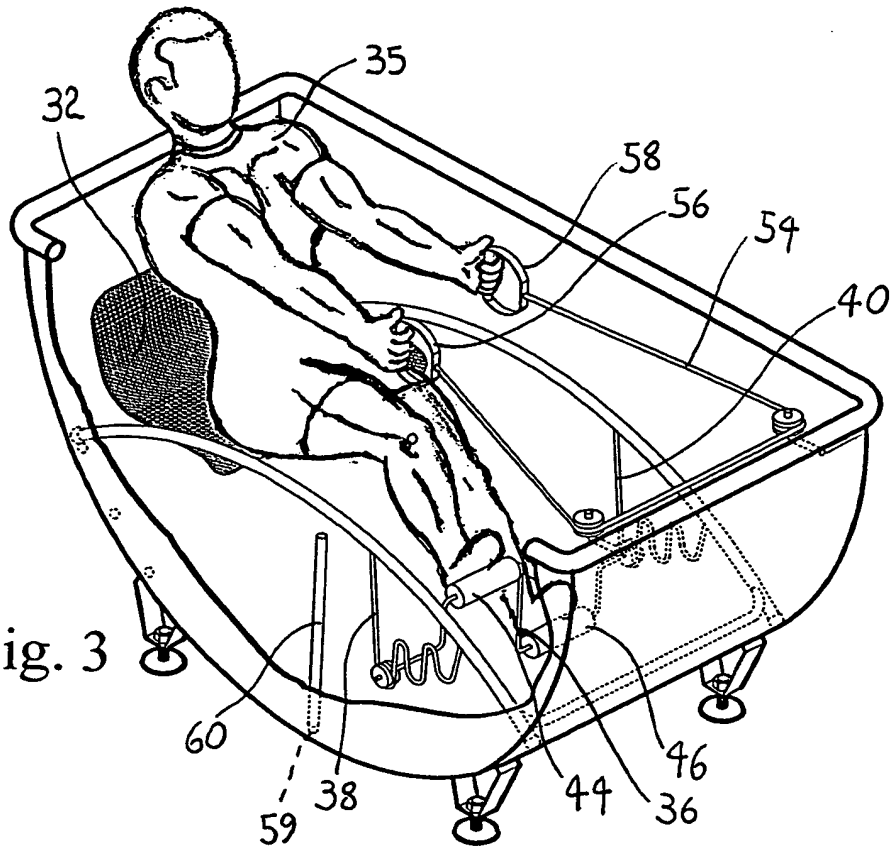

Fig. 3

EP 1 719 489 A1

Description

[0001] The present invention relates to a station for gymnastics in water.

[0002] Advantages coming from doing gymnastics in water have been known for many years. To this purpose, swimming-pools, sports centers and the like, as well as clinics and physiotherapy institutes, are often provided with large basins for physical training in water, sometimes with groups of persons under the supervision of a qualified trainer, e.g., for post-traumatic rehabilitation, muscle-reinvigorating exercises for old persons or athletes, and the like. The wall of the basin is usually provided with handrails to which a user can cling for carrying out particular exercises or for helping himself to keep his balance while walking in the water.

[0003] Nevertheless, devices are widespread for physical training in the home or in exercise rooms of a traditional gymnasium, such as cyclettes, rowing machines, tapis roulants, steppers, and the like, as well as various types of multifunctional exercise machines, none of which, however, provides that the user does gymnastics while plunged in the water.

[0004] Therefore, it is a main object of the present invention to provide a station for gymnastics which allows physical exercises to be carried out in the water, and which is suited for home use or for training in exercise rooms of a traditional gymnasium.

[0005] Said object and other aims and advantages, which will better appear from the following description, are achieved by a station for gymnastics in water having the features recited in claim 1, while the other claims state other advantageous, though secondary features of the invention.

[0006] The invention will be now described in more detail with reference to a preferred embodiment, shown by way of non limiting example in the attached drawings, wherein:

Fig. 1 is a perspective view of a station for gymnastics in water according to this invention;

Fig. 2 is an exploded, perspective view of the station of Fig. 1;

Fig. 3 is a perspective view of the station of Fig. 1 in association with a user.

[0007] With reference to the above Figures, a station for gymnastics in water 10 according to this invention comprises a tub 12 provided with two side walls having a semicircular profile 14, 16 and joined along their round edges by a bent bottom wall 18. Tub 12 is supported on four feet 20 adjustable for height and welded to bottom wall 18, and is provided with a beveled border 22.

[0008] A first gymnastics device 24 is housed within tub 12. Gymnastics device 24 comprises a longitudinal frame consisting of a pair of arched lateral rods 26, 28 joined by a transverse rod 30 at the front longitudinal end of the frame. A seat 32 is welded to lateral rods 26, 26 at the opposite, or rear, longitudinal end of the frame. Seat 32 consists of a perforated metal plate that is bent to form a seat base 32a with a seat back 32b. The ends of lateral rods 26, 28 are provided with respective rubber caps 34 by which the lateral rods lie on bottom wall 18 of tub 12.

[0009] Three bulges in form of bosses 14a, 14b, 14c and 16a, 16b, 16c project inwardly at different heights from each one of side walls 14, 16 near bottom wall 18, in the area engaged by the rear ends of lateral rods 26, 28, the bosses on one wall being aligned to the bosses on the opposite wall. The bosses help in supporting the frame within the tub with a desired slope, and in preventing the frame from skidding on the bottom on the tub, particularly when subjected to the load of a user 35 sitting on on seat 32.

[0010] A pedal crank 36 is supported in front of seat 32 on a pair of supports 38, 40 welded to lateral rods 26, 28 respectively. Supports 38, 40 each consist of a metal rod that is multiply bent on a vertical plane to form three semicircular hinge seats 38a, 38b, 38c e 40a, 40b, 40c which are progressively lower and nearer to the seat.

[0011] Pedal crank 36 consists of a metal rod that is multiply bent at right angles to define diametrically opposite portions which are parallel to the axis of rotation and are engageable by the feet of user 35. The ends of the rod 36a, 36b project along the axis of rotation of the pedal crank to define hinge pins for the pedal crank, and bear respective rollers 42, 43 which are pivotally supported on a pair of hinge seats 38a, 40a aligned to each other. Cylindrical pedals 44, 46 of a synthetic matter are mounted on the rod portions engageable by the feet of user 35.

[0012] Station 10 is provided with a second gymnastics device 48 which comprises a pair of pulleys 50, 51 which are journaled to vertical pins 52, 53 welded to the wall of the tub in front of seat 32. Pulleys 50, 51 are both engaged by an elastic belt 54 provided with a pair of handles 56, 58 fastened to the opposite ends of belt 54, by which the user can pull the belt.

[0013] The bottom wall of the tub has a draining hole 59 at its lowermost section with a overflow pipe 60 rising therefrom and terminating at a predetermined height, which defines the maximum water level for the tub.

[0014] In the use, as shown in Fig. 3, the tub is filled with water (not shown) to a desired level. Thereafter, user 35 immerges into the tub and sits on seat 32. Now, the user can alternatively or simultaneously carry out a first exercise, mainly for the lower limbs and for the abdomen muscles, by resting its feet on pedals 44, 46 and rollering pedal crank 36 in a manner similar to a cyclist, and a second exercise, mainly for the upper limbs, as well as for the torso muscles, the abdomen muscles and the back muscles, by pulling elastic belt 54 by handles 56, 58. Also, the user may carry out a further exercise for the arms, by kneeling down on the bottom of the tub and rollering the pedal crank by grasping the pedals with the

hands.

[0015] Due to the shape of supports 38, 40, the position of pedal crank 36 in front of seat 32 can be selected in relation to the height of user 35 and/or to the type of exercise to carry out. In fact, for equal height, when the distance between the pedal crank and the seat is larger, the legs of the user while pedaling will be more extended on the average, while the legs will be more curled with a smaller span. As well known in the fields of phisiotherapy and sport training, this allows different areas of the muscles to be exercised depending on the specific needs.

[0016] The slope of the frame can be selected among a substantially horizontal position, with the rear ends of lateral rods 26, 28 lying on the upper bosses 14a, 16a, an intermediate position, with the rear ends lying on the intermediate bosses 14b, 16b, and a maximum slope position, with the rear ends lying on the lower bosses 14c, 16c.

[0017] The above frame is light and easy to remove from the tub, so that the latter can also be used as a conventional bathtub in the home.

[0018] Another important advantage of the station for gymnastics according to the invention is the low consumption of water. In fact, due to the curled posture of the user, which is almost lying down on the seat, a low level of water will be sufficient to immerge the user almost completely.

[0019] Moreover, the gymnastics devices incorporated in the station are made of components which are easy to be disassembled, so that the maintenance and the cleaning operations will be easy to be carried out, and growing of bacteria will be prevented in recesses of the frame which, otherwise, would be reached with difficulty.

[0020] A preferred embodiment of the invention has been described, but of course many changes may be made by a person skilled in the art within the scope of the inventive concept.

Claims

1. A station for gymnastics in water, comprising

- a tub (12) suited to be filled with water and shaped to receive a user (35) partially immersed therein,
- a gymnastics device (24) comprising a frame (26, 28, 30) receivable within the tub (12) and supporting a seat (32) and a revolving pedal crank (36) that is arranged in front of the seat (32) and is mounted on respective supports (38, 40) having respective hinge seats (38a, 40a).

2. The station of claim 1, **characterized in that** each of said supports (30, 40) consists of a metal rod that is multiply bent to form at least one hinge seat (38a, 38b, 38c and 40a, 40b, 40c) for the pedal crank.

3. The station of claim 1 or 2, **characterized in that** each of said supports (38, 40) is provided with at least two hinge seats (38a, 38b, 38c e 40a, 40b, 40c) which are differently spaced from the seat and are selectively engageable by the pedal crank (36).

4. The station of any of claims 1 to 3, **characterized in that** said pedal crank (36) is provided with hinge pins (36a, 36b) each having a roller (42) mounted thereon which is journaled to a respective hinge seat (38a, 40a).

5. The station of any of claims 1 to 4, **characterized in that** said pedal crank (36) consists of a metal rod which is multiply bent at right angles and has diametrically opposite portions parallel to the axis of rotation and engageable by the feet of a user (35).

6. The station of any of claims 1 to 5, **characterized in that** said frame comprises two lateral mounting rods (26, 28) joined by a transverse rod (30) and suited to lie on the bottom of the tub (12) with their ends, each of said mounting rods having a respective one of said supports (38, 40) connected thereto.

7. The station of claim 6, **characterized in that** said lateral rods (26, 28) are downwardly arched.

8. The station of any of claims 1 to 7, **characterized in that** said tub (12) has two side walls having a semicircular profile (14, 16) and joined along their round edges by a bent bottom wall (18).

9. The station of any of claims 1 to 8, **characterized in that** said tub (12) has a plurality of bulges (14a, 14b, 14c and 16a, 16b, 16c) projecting inwardly at different heights, on which the frame (26, 28, 30) can be selectively laid at a desired position.

10. The station of any of claims 1 to 9, **characterized in that** it also comprises a second gymnastics device (48) comprising at least one retaining member (52, 53) arranged in front of the seat (32) at a stationary position with respect to the tub (12), and engaegable by an elastic belt (54) provided with a pair of handles (56, 58) fastened to its ends, by which the belt (54) can be pulled by a user (35) sitting on seat (32).

11. The station of claim 10, **characterized in that** it comprises two of said retaining members (52, 53) supported at equal heights and both engaged by said elastic belt (54).

12. The station of claim 10 or 11, **characterized in that** each of said retaining members comprises a vertical pin (52, 53) welded to the wall of the tub with a pulley (50, 51) journaled thereto and engaged by said elastic belt (54).

13. The station of any of claims 1 to 12, **characterized in that** said tub (12) has a draining hole (59) at its lowermost section, with a overflow pipe (60) rising therefrom and terminating at a predetermined height defining the maximum water level for the tub.

14. The station of any of claims 1-13, **characterized in that** said seat (32) consists of a perforated metal plate that is bent to form a seat base (32a) with a seat back (32b).

15. A gymnastics device adapted to cooperate with a tub (12) suited to be filled with water and shaped to receive a user (35) partially immersed therein, **characterized in that** it comprises a frame (26, 28, 30) receivable within the tub (12) and supporting a seat (32) and a revolving pedal crank (36) that is arranged in front of the seat (32) and is mounted on respective supports (38, 40) having respective hinge seats (38a, 40a).

16. The station of claim 15, **characterized in that** each of said supports (30, 40) consists of a metal rod that is multiply bent to form at least one hinge seat (38a, 38b, 38c and 40a, 40b, 40c) for the pedal crank.

17. The station of claim 15 or 16, **characterized in that** each of said supports (38, 40) is provided with at least two hinge seats (38a, 38b, 38c e 40a, 40b, 40c) which are differently spaced from the seat and are selectively engageable by the pedal crank (36).

18. The station of any of claims 15 to 17, **characterized in that** said pedal crank (36) is provided with hinge pins (36a, 36b) each having a roller (42) mounted thereon which is journaled to a respective hinge seat (38a, 40a).

19. The station of any of claims 15 to 18, **characterized in that** said pedal crank (36) consists of a metal rod which is multiply bent at right angles and has diametrically opposite portions parallel to the axis of rotation and engageable by the feet of a user (35).

20. The station of any of claims 15 to 19, **characterized in that** said frame comprises two lateral mounting rods (26, 28) joined by a transverse rod (30) and suited to lie on the bottom of the tub (12) with their ends, each of said mounting rods having a respective one of said supports (38, 40) connected thereto.

21. The station of claim 20, **characterized in that** said lateral rods (26, 28) are downwardly arched.

Amended claims in accordance with Rule 86(2) EPC.

1. A gymnastic device adapted to be immersed in a tub filled with water, comprising a frame (26, 28, 30) supporting a seat (32) and a revolving pedal crank (36) which is arranged in front of the seat (32) and is mounted on respective supports (38, 40), **characterized in that** said supports each consist of a metal rod that is multiply bent to form at least two hinge seats (38a, 38b, 38c and 40a, 40b, 40c) which are differently spaced from the seat and are selectively engageable by the pedal crank (36).

2. The device of claim 1, **characterized in that** said pedal crank (36) is provided with hinge pins (36a, 36b) each having a roller (42) mounted thereon which is journaled to a respective hinge seat (38a, 40a).

3. The device of claim 1 or 2, **characterized in that** said pedal crank (36) consists of a metal rod which is multiply bent at right angles and has diametrically opposite portions parallel to the axis of rotation and engageable by the feet of a user (35).

4. The device of any of claims 1 to 3, **characterized in that** said frame comprises two lateral mounting rods (26, 28) joined by a transverse rod (30), each of said mounting rods having a respective one of said supports (38, 40) connected thereto.

5. The device of claim 4, **characterized in that** said lateral rods (26, 28) are downwardly arched.

6. The station of any of claims 1 to 5, **characterized in that** said seat (32) consists of a perforated metal plate that is bent to form a seat base (32a) with a seat back (32b).

7. The device of any of claims 1 to 6, **characterized in that** it further comprises a tub (12) fillable with water and having a bottom wall (18) adapted to support said device.

8. The device of any of claims 7, **characterized in that** it also comprises at least one retaining member (52, 53) arranged in front of the seat (32) at a stationary position with respect to the tub (12), and engaegable by an elastic belt (54) provided with a pair of handles (56, 58) fastened to its ends, by which the belt (54) can be pulled by a user (35) sitting on seat (32).

9. The device of claim 8, **characterized in that** it comprises two of said retaining members (52, 53) supported at equal heights and both engaged by said elastic belt (54).

10. The device of claim 9, **characterized in that** each of said retaining members comprises a vertical pin (52, 53) welded to the wall of the tub with a pulley

(50, 51) journaled thereto and engaged by said elastic belt (54).

11. The device of any of claims 7 to 10, **characterized in that** said tub (12) has two side walls having a semicircular profile (14, 16) and joined along their round edges by said bottom wall (18), said bottom wall having a correspondingly bent profile.

12. The device of any of claims 7 to 11, **characterized in that** said tub (12) has a plurality of bulges (14a, 14b, 14c and 16a, 16b, 16c) projecting inwardly at different heights, on which the frame (26, 28, 30) can be selectively laid at a desired position.

13. The device of any of claims 7 to 12, **characterized in that** said tub (12) has a draining hole (59) at its lowermost section, with a overflow pipe (60) rising therefrom and terminating at a predetermined height defining the maximum water level for the tub.

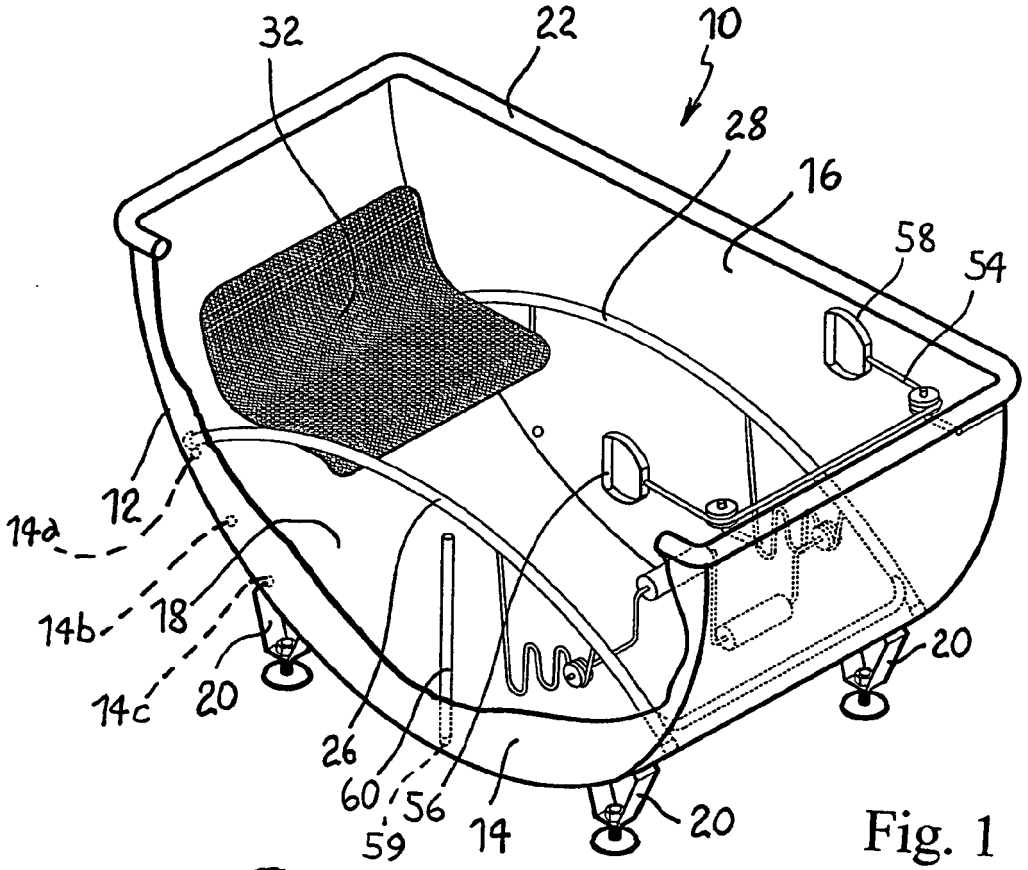
32
22
10
28
16
58
54
12
14a
18
14b
14c
20
20
26
60
56
59
14
20

Fig. 1

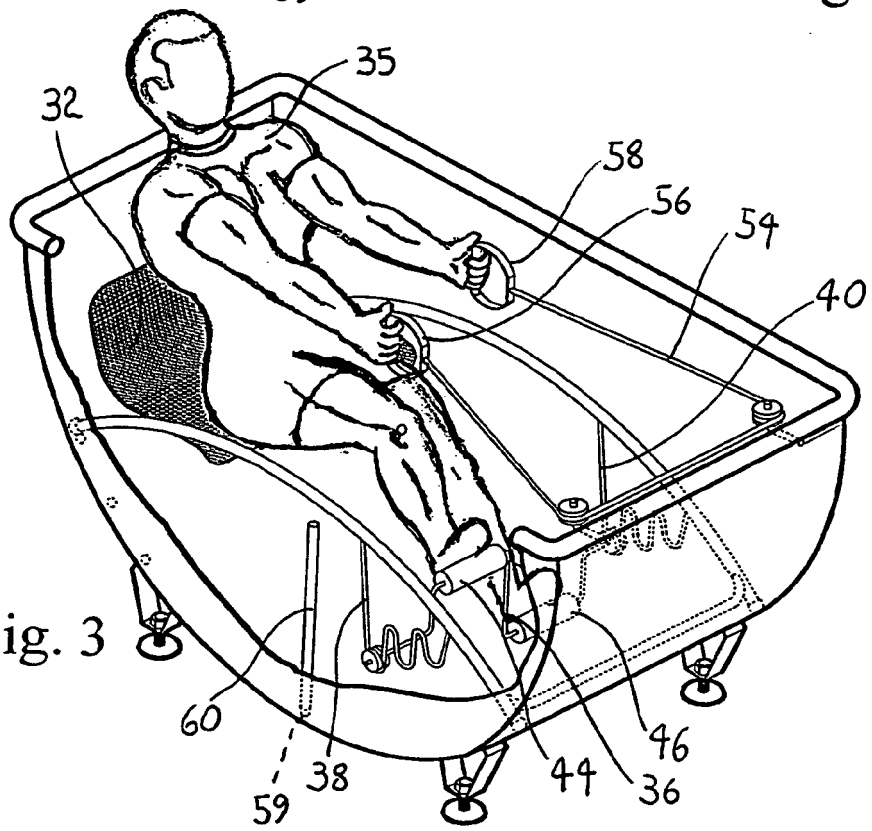
35
32
58
56
54
40
60
59
38
44
46
36

Fig. 3

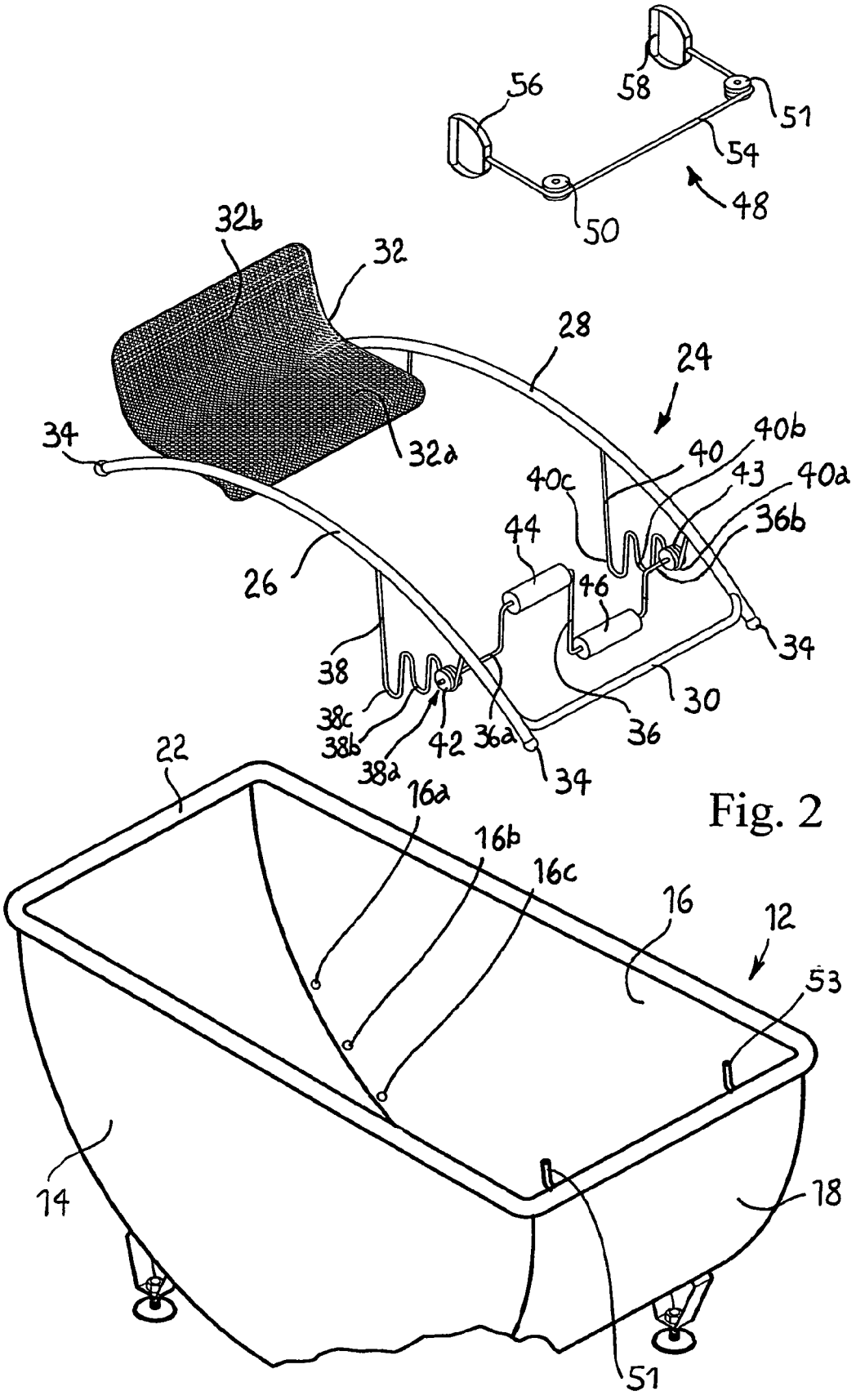
56
58
51
54
48
50
32b
32
28
24
34
32a
40b
40
40c
43
40a
36b
44
26
46
34
38
30
38c
38b
42
36a
36
38a
34
22
16a
16b
16c
16
12
53
14
18
51

Fig. 2

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 42 5289

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 020 205 A (SOGEIS S.R.L) 19 July 2000 (2000-07-19) * the whole document * -----	1,2,4-9, 13,15, 16,18-21	A61H33/00 A63B22/08
X	US 2005/075222 A1 (ADLEY ROBERT J) 7 April 2005 (2005-04-07) * figures 1-5 * * paragraph [0023] - paragraph [0030] * -----	15,19-21	
X	US 6 001 071 A (BUTLER ET AL) 14 December 1999 (1999-12-14) * the whole document * -----	1,8, 13-15	
A		10	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

A61H
A63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	21 October 2005	Millward, R

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 05 42 5289

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.

21-10-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1020205 A	19-07-2000	IT MN990003 A1	18-07-2000
US 2005075222 A1	07-04-2005	NONE	
US 6001071 A	14-12-1999	US 6306108 B1	23-10-2001

EPO FORM P0459

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