



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
08.07.2009 Bulletin 2009/28

(51) Int Cl.:
A63B 22/14 (2006.01) A63B 21/02 (2006.01)

(21) Application number: **08100157.0**

(22) Date of filing: **07.01.2008**

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

(72) Inventor: **Wang, Shao-Hua**
Banciao City 220, Taipei (TW)

(74) Representative: **Lippert, Stachow & Partner**
Patentanwälte
Postfach 30 02 08
51412 Bergisch Gladbach (DE)

(71) Applicant: **Wang, Shao-Hua**
Banciao City 220, Taipei (TW)

(54) **Hip training apparatus**

(57) A "hip training apparatus" comprises a chassis and a pair of pivotable treadles. At the breech portion of the deck cover on said chassis, one ramp is formed at each left and right side descending from the central line outwards laterally such that one curved trough with curved track therein is configured at each ramp. Said pivotable treadle, whose front end of back side is set in the chassis, has a roller disposed at its rear end of back

side thereof. At the front rim of the chassis, a carrying handle is built on the deck cover with an aperture and two lateral symmetrical slits are configured thereon for having an elastic strap passed inside so that the user can arbitrarily perform stretch and twist physical exercise with entire body in balance manner at will. Meanwhile, by means of adjusting wing nut acting on the elastic belt, the torsional tension of two pivotable treadles is arbitrarily altered.

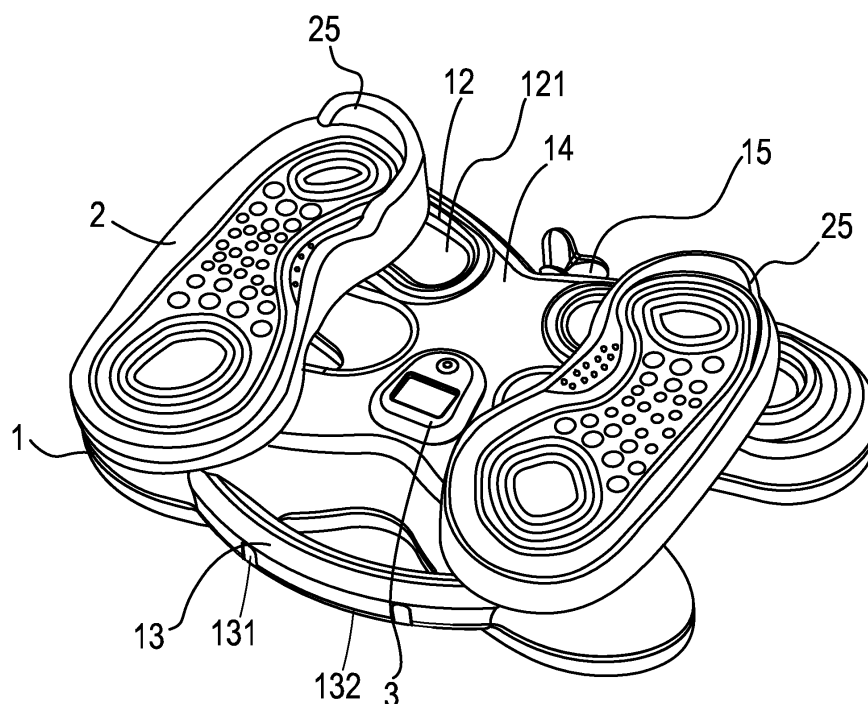


FIG. 1

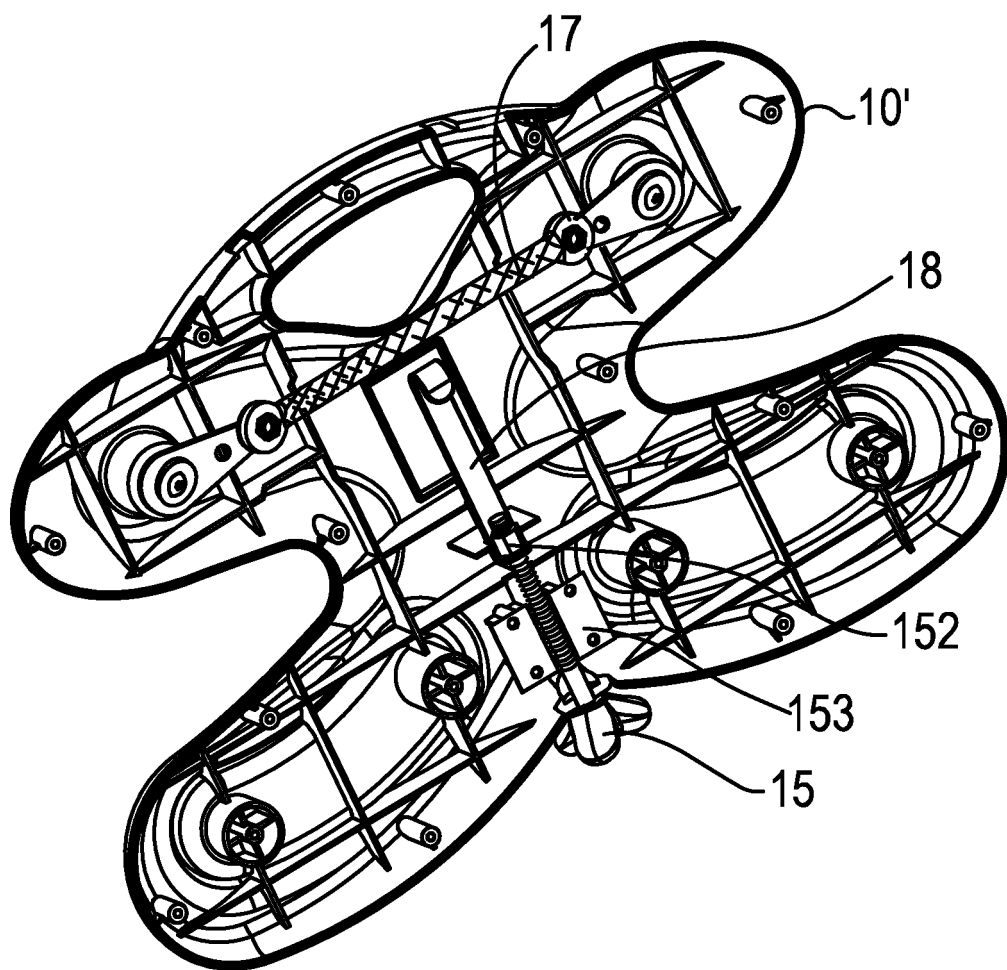


FIG . 5

Description

Background of the Invention

Technical Field

[0001] The present invention is to provide a "hip training apparatus", particularly for one that employs contracting exercise of legs for activating the hip movement so as to achieve the hip training effect.

Prior Arts

[0002] To have a physical figure with a pair of elastic beautiful legs in slender manner together with sex-appealing hips in elevated and well-rounded contour is always coveted by most of women friends. However, for those white-collar people of stationary jobs, who are confined by the office desk or computer table, may get fat on the hips and legs because assimilate too much animal-based fat cumulated in lower extremities other than lack of physical exercises to become distressed look in clumsy fatness due to accumulation of too much flesh on the hips and legs. The best way to improve such distressed look is physical exercise. For people living in the current jungle-like city, who are hindered by the limited time and space, the best way to do physical exercise is do it at home.

[0003] Currently, the physical training apparatus pinpointed on hips are always too bulky in structure and difficult to collect. For prior art of WO/2002/087705, neither the exterior appearance has esthetical sensibility with complicated structure nor the stretch of entire body is capable with physical balance. That proves the conventional athletic apparatus aforesaid are not good contrivances with many existing drawbacks, which become the critical issues to be urgently improved and solved. In view of such facts and derivative issues mentioned above, the applicant of the present invention is eager to solve them by painstaking study and research as well as development for many years. Eventually, the contrivance of the present invention is successfully created.

Summary of the Invention

[0004] The purpose of the present invention is to provide a "hip training apparatus" so as to contract the hips by means of leg movement, which comprises a chassis and a pair of pivotable treadle, which is interlocked with an elastic belt adjusting mechanism in the chassis. Said pivotable treadle, whose front end of back side is set in the chassis, has a roller disposed at its rear end of back side thereof. Thereby, each pivotable treadle can do pivotal movement in ascending inwards back and forth manner in each corresponding prefabricated curved track of the curved trough on the deck cover. Besides, at the heel holding position of the rear end around each said pivotable treadle, an arched heel aligning ledge is erected for

enabling the user to perform inwards pressing exercise by two feet other than prevention from falling down. Moreover, the adjusting wing nut on the chassis is served to adjust the torsional tension of two pivotable treadles. By means of such elastic belt adjusting mechanism, the torsional tension exerting on two pivotable treadles is arbitrarily altered at user's will in gradient manner accordingly in accordance with various requirements of different users.

[0005] The primary object of the present invention is to provide a "hip training apparatus" having a spring cushion disposed between the sole of the pivotable treadle and the roller to offer buffer function so that the athletic injury to the exerciser can be avoided.

[0006] Another object of the present invention is to provide a "hip training apparatus" having plural nipple studs and arched heel aligning ledge disposed so that the user of different size and shape in human sole can stably stand thereon for properly performing exercise to achieve the hip training effect and purpose, which is superior to the corresponding prior art of WO/2002/087705.

[0007] The other object of the present invention is to provide a "hip training apparatus" having a stretchable elastic strap supplied so that the user can arbitrarily perform stretch and twist physical exercise with entire body in balance manner at will.

Brief Description of the Invention

[0008]

FIG. 1 is the perspective view of external shape for the present invention.

FIG. 2 is the exploded illustrative view of primary parts for the present invention.

FIG. 3 is the cross section view of curved trough for the present invention.

FIG. 4 is the exploded view showing the internal structure of the deck cover for the present invention.

FIG. 5 is the combinational view showing the internal structure of the soleplate for the present invention.

FIG. 6 is the schematic view showing the adjusting mechanism of the elastic belt for the present invention.

FIG. 7 is the exploded view showing the back structure of the pivotable treadle for the present invention.

FIG. 8 is the illustrative view showing the operational status of the elastic strap for the present invention.

FIG. 9 is the illustrative view showing the operational status of the other elastic strap for the present inven-

tion.

FIG. 10 is the illustrative view showing the structure of the aperture on the handle for the present invention.

FIG. 11 is the cross section view showing the structure of the slit on the handle for the present invention.

Detailed Description of the Preferred Embodiments

[0009] Please refer to the **FIGS. 1** through **7**, which are the exploded and combinational illustrative views showing the structures of the "hip training apparatus" for the present invention.

[0010] The "hip training apparatus" comprises a chassis 1 and a pair of pivotable treadles 2, wherein, said chassis 1 includes a deck cover 10 and a soleplate 10'. At the both front sides of the deck cover 10, two symmetrical perforated holes 11 are configured for holding each of two pivotable treadles 2 therein; at the breech portion of the deck cover 10, one ramp 14 is symmetrically formed at each left and right side descending from the central line outwards laterally such that one curved trough 12 with curved track 121 therein is configured at each ramp 14.

[0011] For the purpose of enabling the user to carry the "hip training apparatus" on if necessary, at the front rim of the chassis 1, a carrying handle 13 is built on the deck cover 10 such that an aperture 131 with two lateral symmetrical slits 132 are configured thereon for having an elastic strap 4 passed inside the aperture 131 with two ends staying outside of the slits 132 for user to grasp; at the rear rim of the deck cover 10 for the chassis 1, an adjusting wing nut 15 is built on the deck cover 10.

[0012] Said pair of pivotable treadles 2, which are symmetrically pivot juxtaposed on the chassis 1, have plural nipple studs 21 formed on the top surface so as to correspond to the plantar reflective acupuncture points for both of physiological massaging to the plantar tissue and supporting the anti-slipping friction during inwards pressing exercise by two feet of the user. At the front end and rear end of each back side of the pair of pivotable treadles 2 are a pivot axle 22 and a roller 23 respectively, which is securely fixed on the bottom thereof by a fitting frame 231 and a spring cushion 232. At the heel holding position of the rear end around each said pivotable treadle 2, an arched heel aligning ledge 25 is erected for enabling the user to perform inwards pressing exercise by two feet. Because the size of human sole is different from person to person, only heel holding position instead of toe holding position, the heel aligning ledge 25 is formed thereon to avoiding the confinement of the toe holding position, which is different from person to person due to different sole size.

[0013] During assembly, each pivot axle 22 of the pivotable treadle 2 is firstly set in each corresponding perforated holes 11 for deck cover 10 of the chassis 1 so

that each roller 23, which is disposed on the pivotable treadle 2 with a spring cushion 232, is just lodged in each corresponding curved trough 12 of the deck cover 10; Then, each locking bore 242, which is to set on the joint lever slat 24 at the sole of the deck cover 10, is securely fitted and locked on each corresponding pivot peg 221 on the pivot axle 22 at the bottom of the pivotable treadle 2 by each locking screw 241 so that each pivotable treadle 2 can do pivotal movement in ascending inwards back and forth manner with each pivot axle 22 as center in each corresponding prefabricated curved track 121 of the curved trough 12 on the deck cover 10.

[0014] Please refer to the **FIGS. 5** and **6**, the both ends of the elastic belt 17 is secured on the joint lever slats 24. By suitably turning the adjusting wing nut 15, which drives the nut 152 via threaded rod 151 interconnecting the front bored angle piece 181 of the J-shape hook slat 18 in and out via associated threaded rod 151, the rear hook end 182 of the J-shape hook slat 18 will accordingly pull and release the middle section of the elastic belt 17 transversely for turning the joint lever slats 24 connected so that torsional tension exerting on two pivotable treadles 2 is altered in gradient manner accordingly; wherein, the nut 152 on the threaded rod 151 is used as tension adjuster and a holding plate 153 is disposed beneath the threaded rod 151 for preventing it from bounce due to exceeding pulling force.

[0015] Please refer to **FIGS. 8** and **9**, which are the operational views for the "hip training apparatus" of the present invention. During operation, each foot of the exerciser stands on each corresponding pivotable treadle 2 of the chassis 1 with heel abut with the heel aligning ledge 25 over the roller 23 and performs inwards pressing exercise by two feet simultaneously so that each pivotable treadle 2 follows the foot movement doing pivotal movement in ascending inwards back and forth manner in the curved trough 12 on the deck cover 10 with each pivot axle 22 as center. During non-operation status, both rear ends of the pivotable treadles 2 are borne the torque to laterally outmost position because the pivot axle 22 at the bottom front end of the pivotable treadle 2 is pulled by the elastic belt 17. Therefore, the greater is the tension of the elastic belt 17, the more exerting effort is required by the exerciser to draw the two pivotable treadles 2 together so as to enhance the hip training. Moreover, to only turn the adjusting wing nut 15 on the chassis 1 in proper degree, the torsional tension of the pivotable treadles 2 can be suitably adjusted in gradient manner via pulling force of the J-shape hook slat 18, which being driven by the connected nut 152 with threaded rod 151, acting on the elastic belt 17 with two pivotable joint lever slats 24. When the elastic belt 17 is pulled tightly, each end of both joint lever slats 24 is pulled towards the adjusting wing nut 15 so that the pivot peg 221 on the pivot axle 22 at the bottom of the pivotable treadle 2 is borne the torque from the connected locking bore 242 of the joint lever slat 24. Thereby, both rear ends of the pivotable treadles 2 follow the torque being tensely twisted towards

laterally; contrarily, when the elastic belt 17 is released loosely, the pivotable treadles 2 become more movable due to less of the torsional tension borne on the joint lever slats 24. Thus, the user can achieve the gradient adjustment in such way.

[0016] Please further refer to the **FIGS. 10** and **11**, which show the structures of the aperture 131 and slit 132 on the handle 13. The stretchable elastic strap 4 is put in two apertures 131 via the associated slit 132 thereof. Because of the slant-cut shape in the slit 132, the elastic strap 4 is difficult to get off once it has been put in the carrying handle 13 so that the user can arbitrarily perform stretch and twist physical exercise with entire body in balance manner at will.

5

10

15

1, wherein, said adjusting wing nut drives the nut via threaded rod interconnecting the front bored angle piece of the J-shape hook slat in and out via associated threaded rod, the rear hook end of the J-shape hook slat accordingly pulls and releases the middle section of the elastic belt transversely for turning the joint lever slats connected so that the pivot peg on the pivot axle at the bottom of the pivotable treadle is borne the torque from the connected locking bore of the joint lever slat and torsional tension exerting on two pivotable treadles is altered in gradient manner accordingly.

Claims

1. A "hip training apparatus" comprises: a chassis, which including a deck cover and a soleplate, at its breech portion, one ramp being symmetrically formed at each left and right side descending from the central line outwards laterally such that one curved trough with curved track therein being configured at each ramp; a pair of pivotable treadles, which being interlocked with an elastic belt adjusting mechanism in the chassis, at its rear end and front end of back side, respectively having a roller and a pivot axle, which being pivot set in the perforated holes on the chassis; a carrying handle being built at the front rim of the chassis with an aperture and two lateral symmetrical slits; an adjusting wing nut, which being disposed in the central rear portion of the chassis, connecting to a threaded rod; said threaded rod having nut screwed on its end; a J-shape hook slat having threaded bore and hook end on its front end and rear end respectively for being driven by said adjusting wing nut to hook a elastic belt; said elastic belt having both ends connected to a pair of joint lever slats; each of said joint lever slats having one end securely connected with said elastic belt and the other end having locking bore to set with pivot peg on the pivot axle of the pivotable treadle by means of the locking screw; a stretchable elastic strap to be put in two apertures via a slit with two ends staying outside of the slits; and a counter.
2. The "hip training apparatus" as recited in the claim 1, wherein, said pivotable treadle has plural nipple studs formed thereon and an arched heel aligning ledge erected at the heel holding position of the rear end around thereof.
3. The "hip training apparatus" as recited in the claim 1, wherein, said slit on the carrying handle is slant-cut shape.
4. The "hip training apparatus" as recited in the claim

20

25

30

35

40

45

50

55

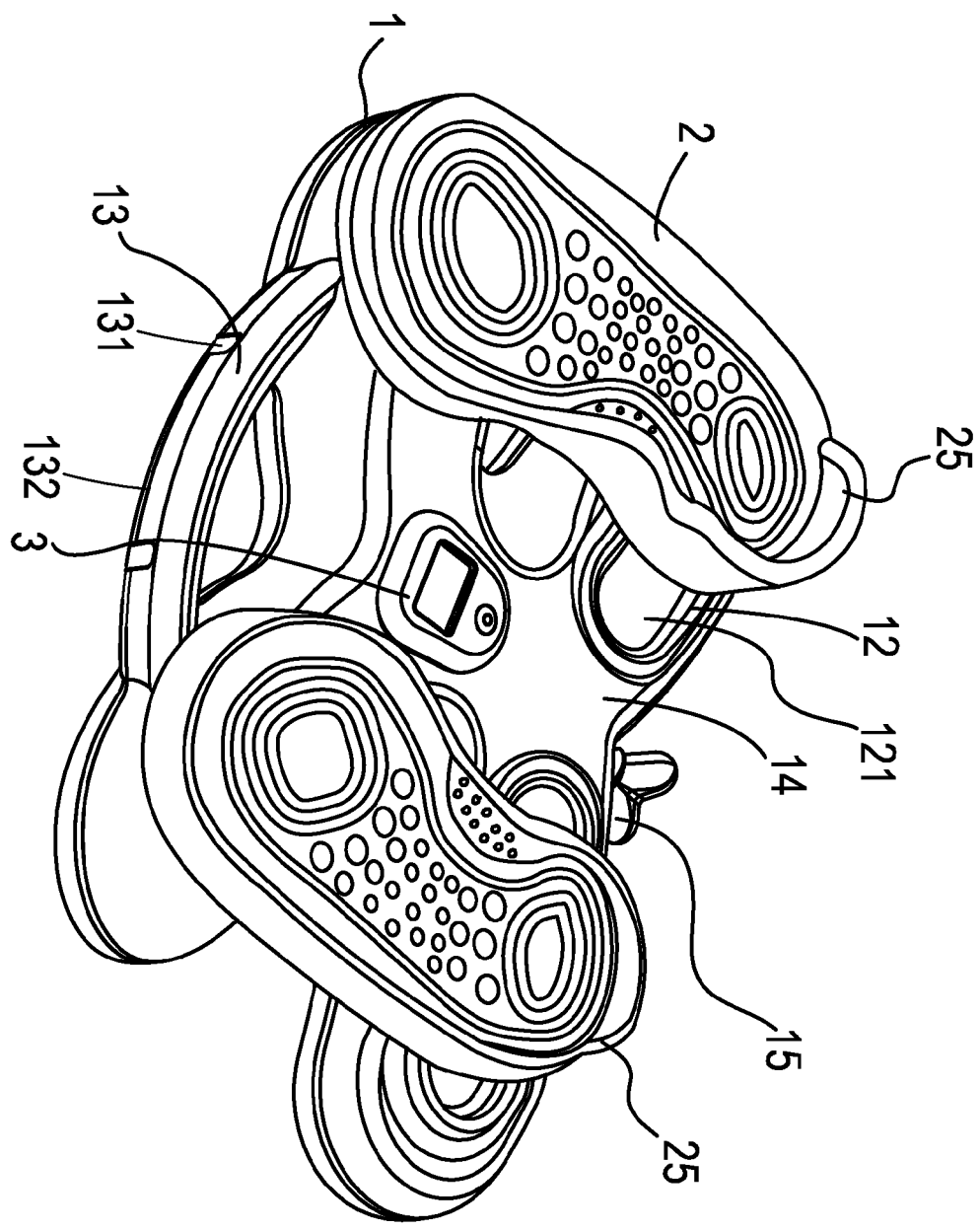


FIG. 1

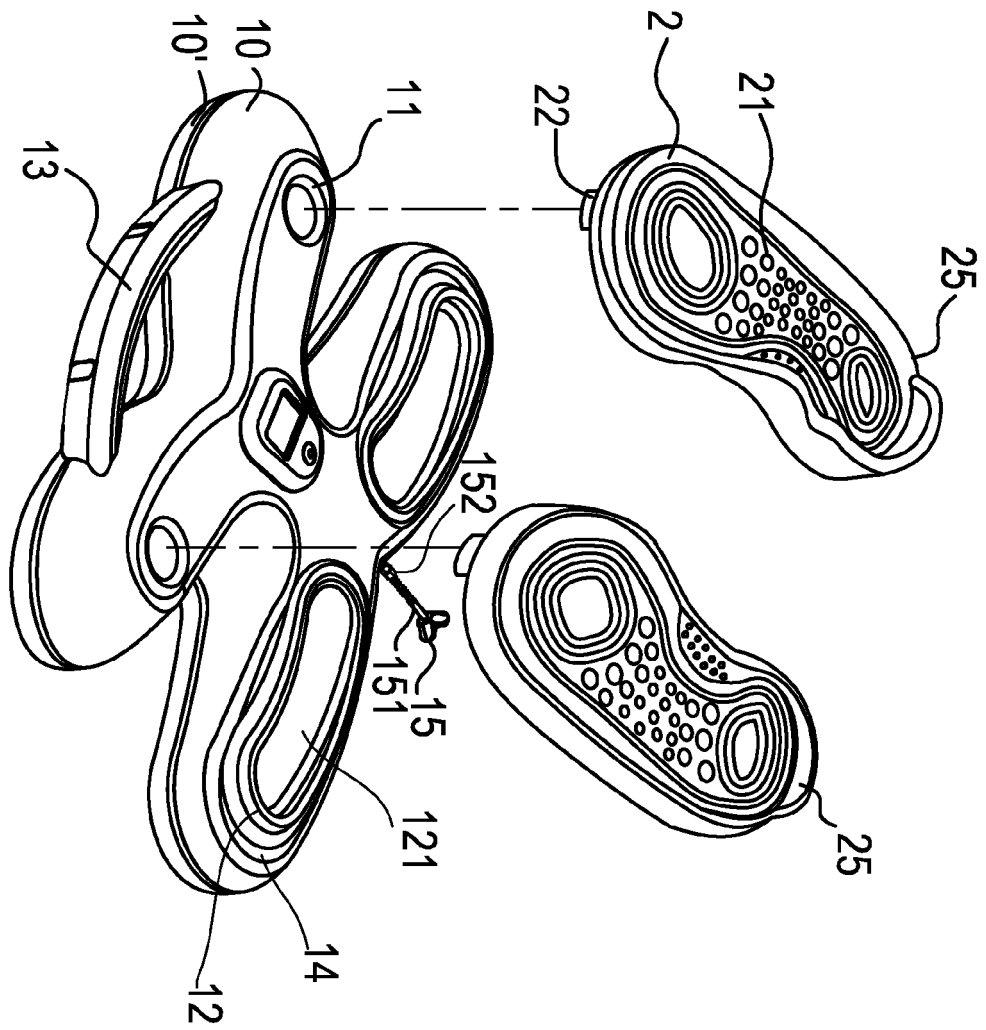


FIG. 2

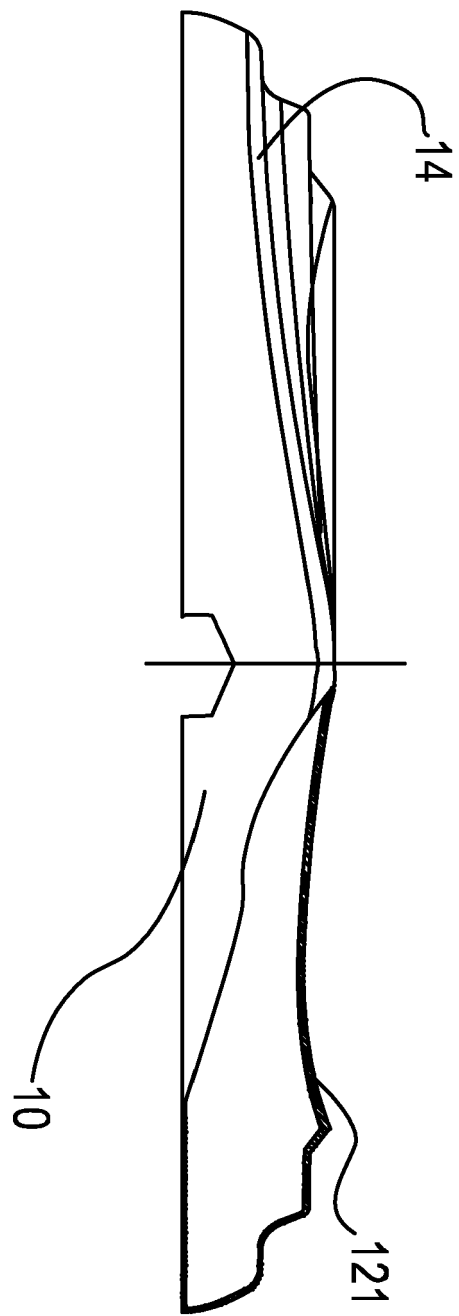


FIG. 3

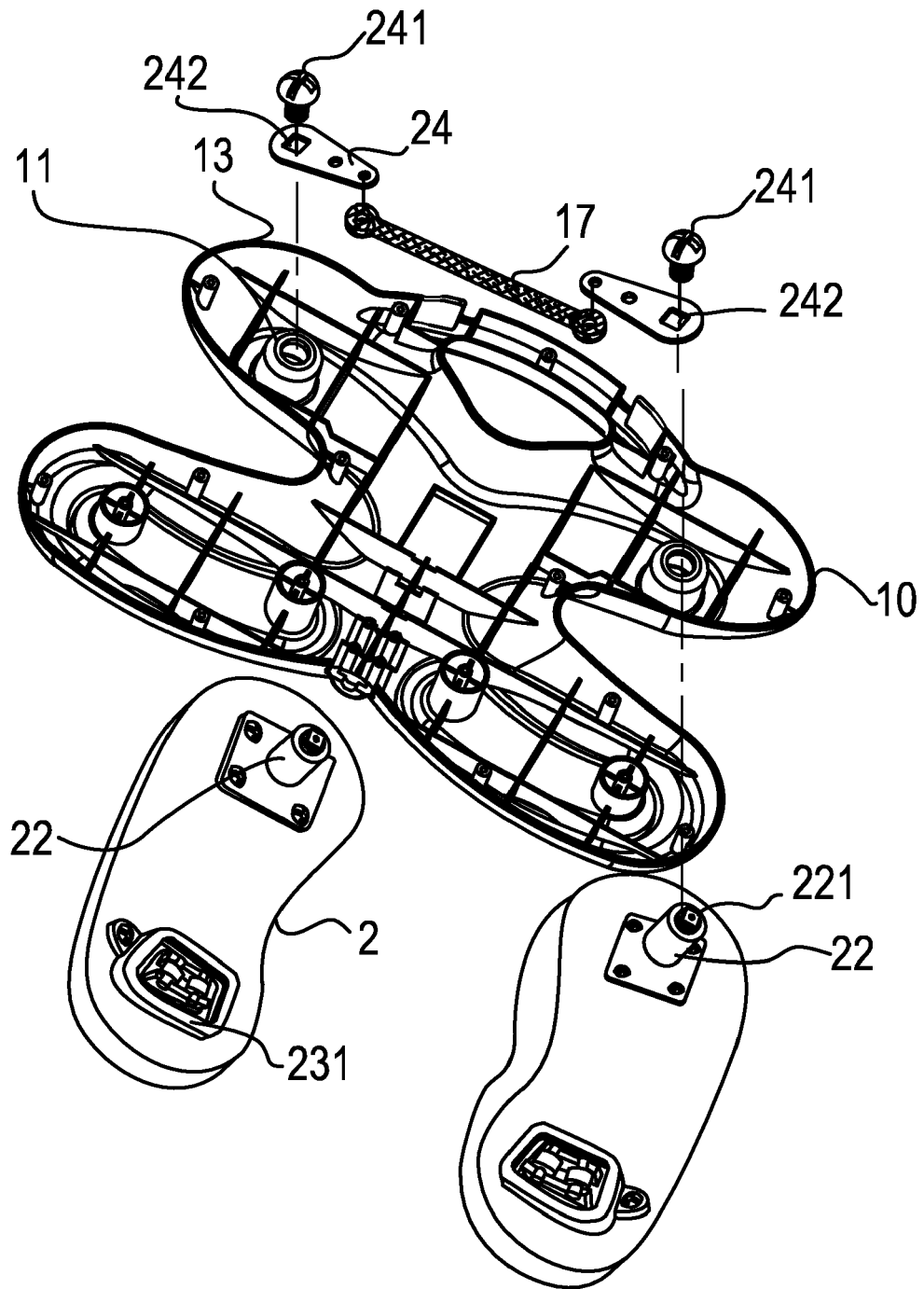


FIG. 4

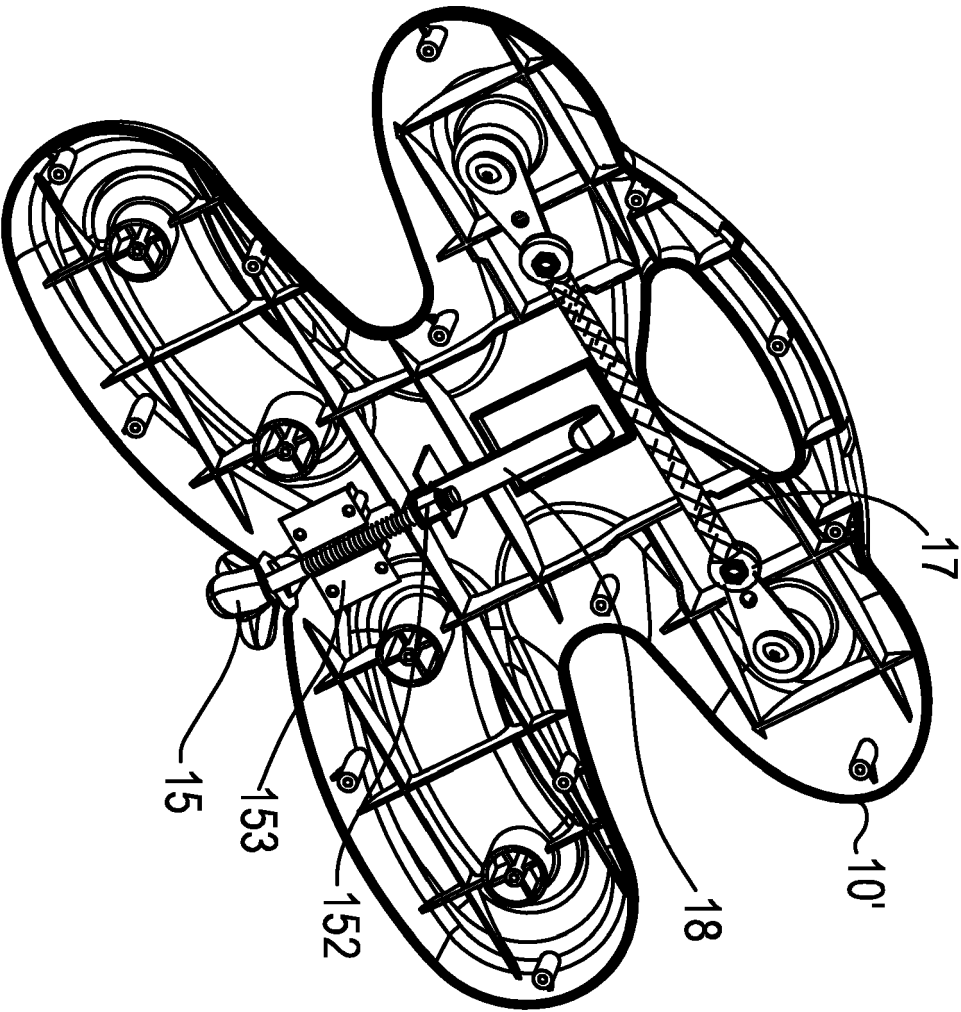


FIG. 5

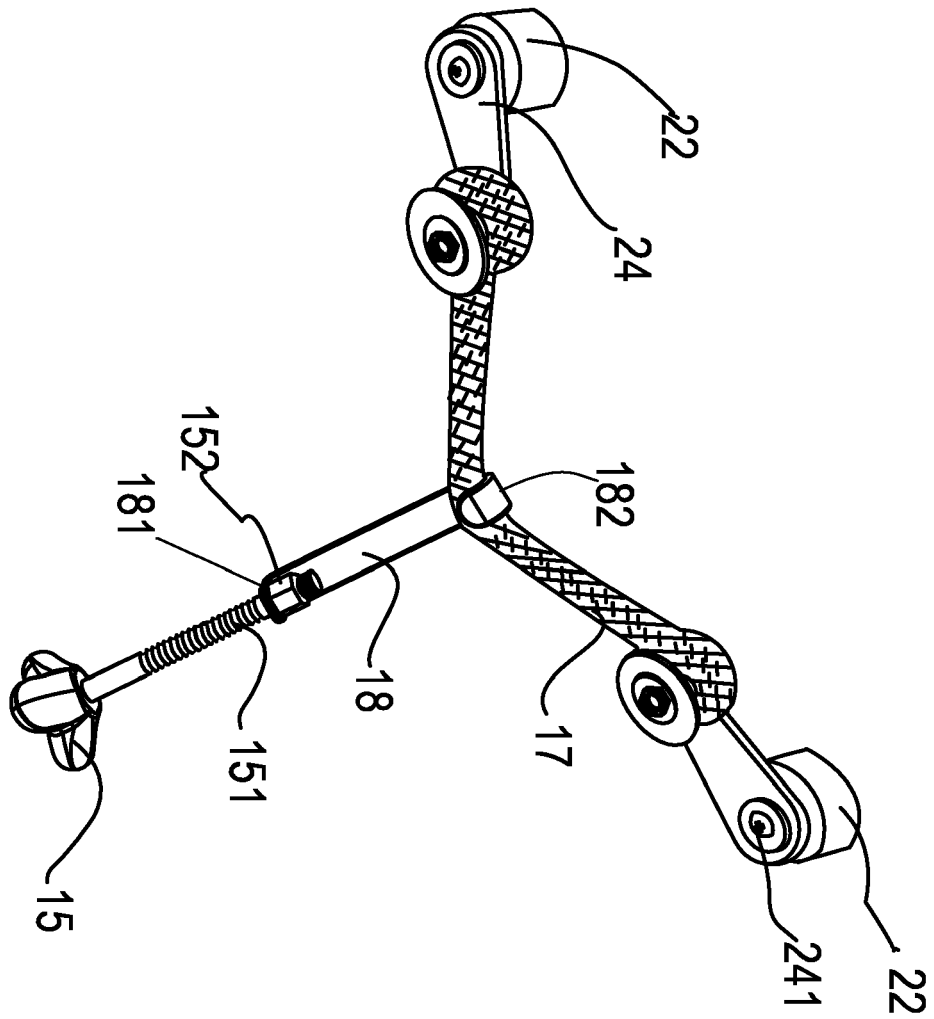


FIG. 6

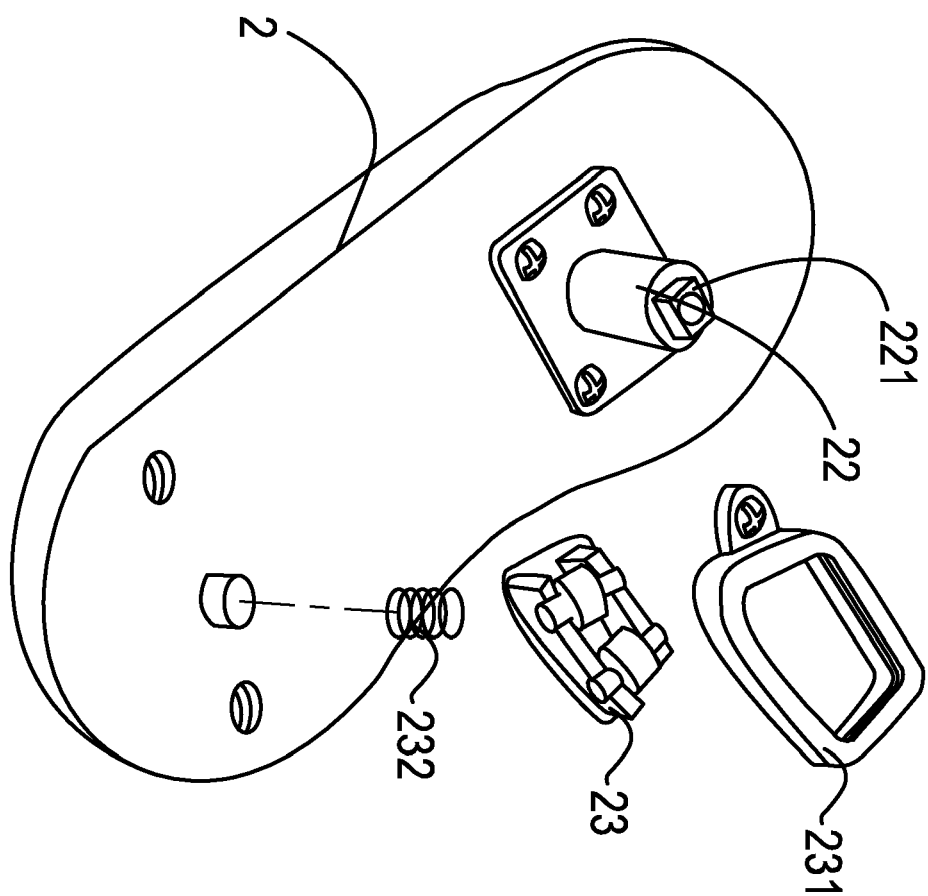


FIG. 7

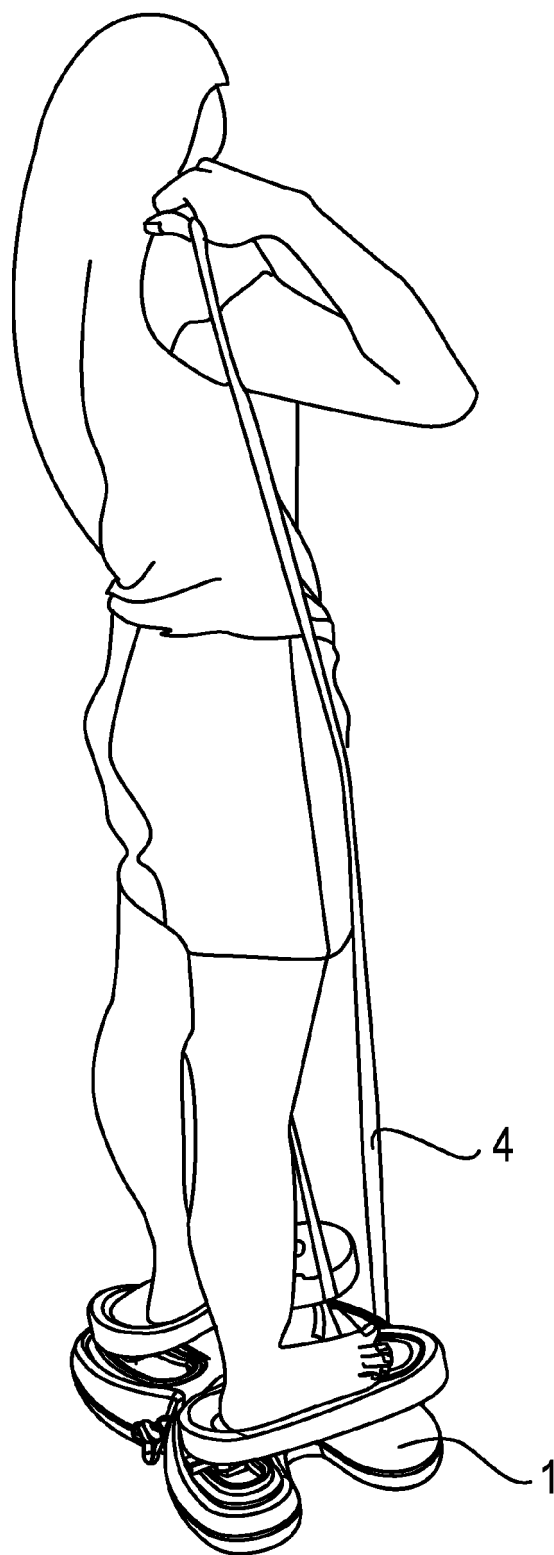


FIG. 8

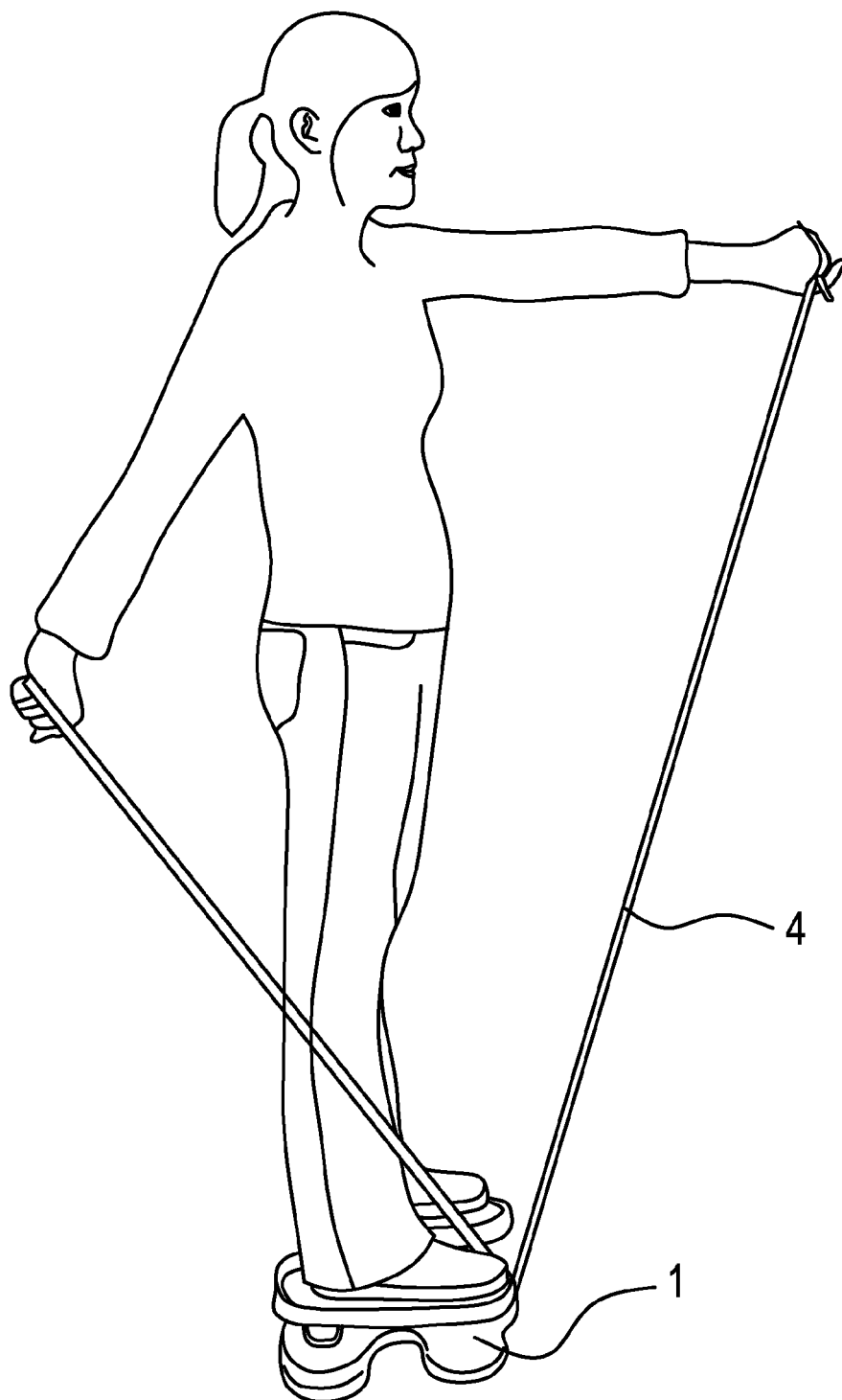


FIG. 9

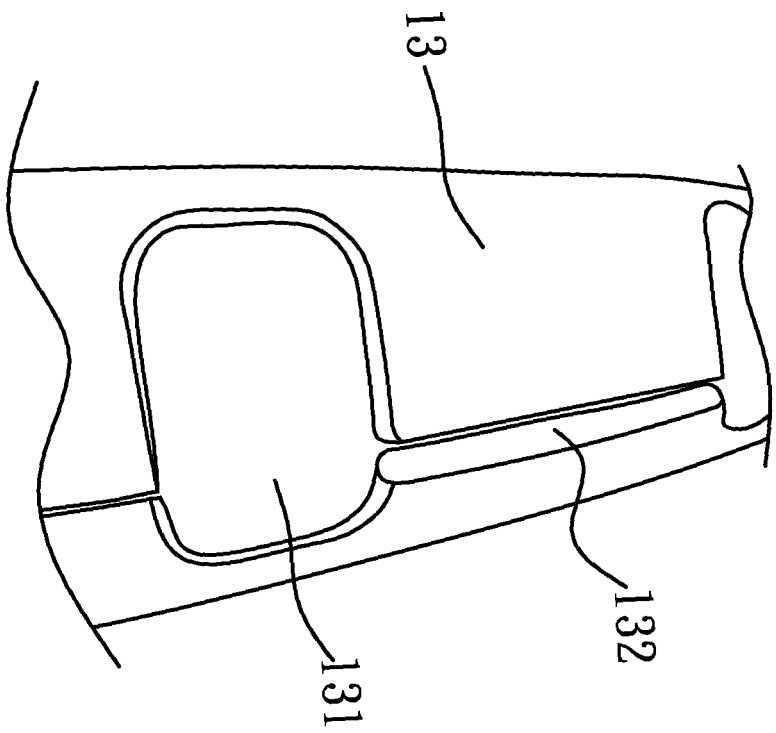


FIG. 10

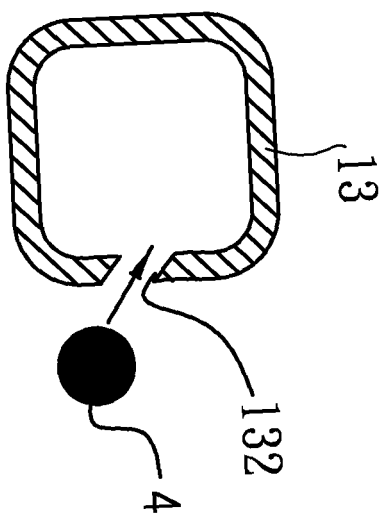


FIG. 11



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 08 10 0157

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	WO 02/087705 A (PARK NAM-YOUNG [KR]; JUNG MIN-CHAE [KR]) 7 November 2002 (2002-11-07) * page 4, lines 11-22; figures *	1-4	INV. A63B22/14 A63B21/02
A	US 2006/073942 A1 (YANG CHUNG-CHIN [TW]) 6 April 2006 (2006-04-06) * paragraphs [0022] - [0030]; figures *	1-4	
A	FR 2 875 706 A (CHEN LONG MACHINERY CO LTD [TW]) 31 March 2006 (2006-03-31) * page 6, lines 16-30 - page 7, lines 1-23; figures *	1-4	
A	FR 2 826 583 A (LAT SHU CHTUNG [TW]) 3 January 2003 (2003-01-03) * figures *	1-4	
			TECHNICAL FIELDS SEARCHED (IPC)
			A63B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 6 June 2008	Examiner Teissier, Sara
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			

2
EPC FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 10 0157

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.

06-06-2008

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02087705	A	07-11-2002	CN 1505539 A	16-06-2004
			KR 20020083753 A	04-11-2002
			US 2004132582 A1	08-07-2004

US 2006073942	A1	06-04-2006	NONE	

FR 2875706	A	31-03-2006	TW 271593 Y	01-08-2005

FR 2826583	A	03-01-2003	DE 20110237 U1	23-08-2001
			GB 2375718 A	27-11-2002
			US 2002155926 A1	24-10-2002

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

- WO 2002087705 A [0003] [0006]