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(54) **Belt exercising and massaging device**

(57) A belt exercising and massaging device includes a cushion (10) and a massaging belt unit (20) mounted on the cushion and including two massaging belts (21) each extending from a surface of the cushion (10) and each movable relative to the cushion. Thus, the massaging belt unit (20) is operated to drive the massaging belts (21) to move and swing rightward and leftward so as to provide a massaging effect to a user. In addition, the massaging belts (21) surround the user's body in a planar manner so that the force applied by the massaging belts is distributed on the user's body smoothly and evenly, thereby providing a comfortable sensation to the user, and thereby preventing the user's body from being hurt.

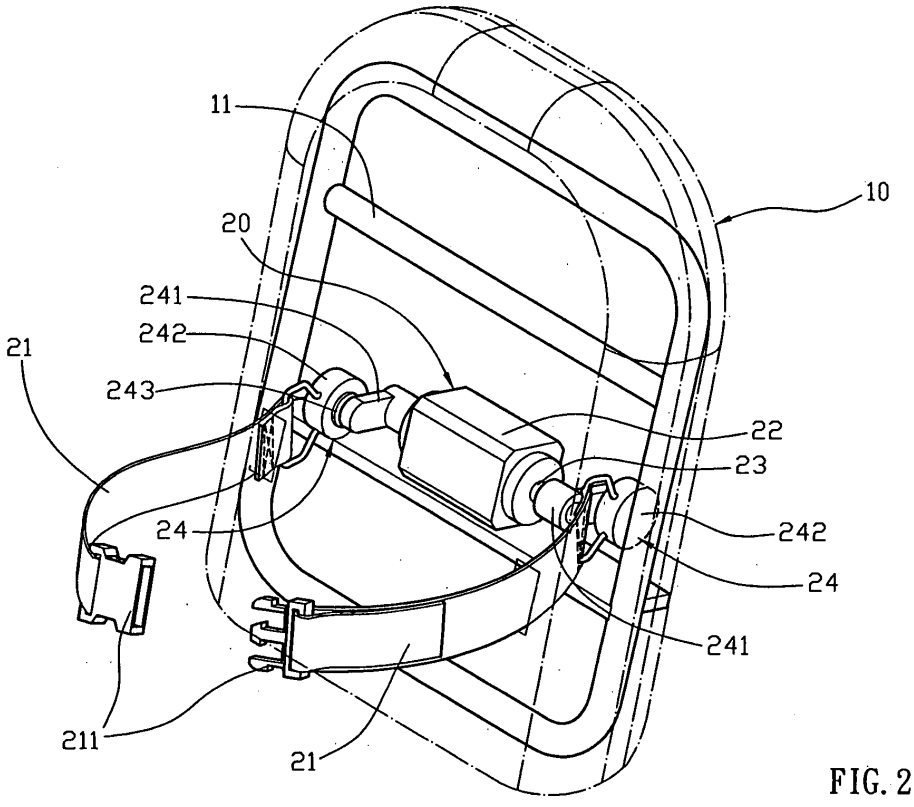

FIG. 2

EP 1 972 316 A1

Description

[0001] The present invention relates to an exercising and massaging device and, more particularly, to a belt exercising and massaging device.

[0002] A conventional massaging chair is used to massage a user's back to release the user's back muscles so as to provide a comfortable sensation to the user. However, the massaging chair cannot be used to massage other portions of the user's body, thereby limiting the versatility of the massaging chair.

[0003] A conventional belt exercising and massaging device comprises a belt mounted on a user's waist, and at least one vibrator mounted on the belt to provide a vibration to the belt. Thus, the belt is driven by the vibrator to provide a vibration to the user's waist so as to exercise the user's waist. However, the vibration force applied by the vibrator is not distributed on the user's waist evenly and smoothly, so that the user easily feels uncomfortable, and the user's waist is easily hurt.

[0004] The primary objective of the present invention is to provide a belt exercising and massaging device, wherein the massaging belts surround the user's body in a planar manner so that the force applied by the massaging belts is distributed on the user's body smoothly and evenly without producing an excessive vibration and a stress concentration, thereby providing a comfortable sensation to the user, and thereby preventing the user's body from being hurt.

[0005] In accordance with the present invention, there is provided a belt exercising and massaging device, comprising a cushion, and a massaging belt unit mounted on the cushion and including two massaging belts each extending from a surface of the cushion and each movable relative to the cushion, as claimed in claim 1.

[0006] Preferred embodiments can be taken from the subclaims.

[0007] Further benefits and advantages of the present invention will become apparent after reading of the following detailed description of preferred embodiments.

[0008] The invention is further illustrated with reference to the accompanying drawings of the preferred embodiments which are, however, not limiting the invention.

[0009] In the drawings

Fig. 1 is a perspective view of a belt exercising and massaging device in accordance with the preferred embodiment of the present invention;

Fig. 2 is a partially cut-away perspective view of the belt exercising and massaging device as shown in Fig. 1;

Fig. 3 is a top operational view of the belt exercising and massaging device as shown in Fig. 2;

Fig. 4 is a perspective view showing usage of the belt exercising and massaging device as shown in Fig. 1;

Fig. 5 is another perspective view showing usage of the belt exercising and massaging device as shown in Fig. 1;

Fig. 6 is a perspective view of a belt exercising and massaging device in accordance with another preferred embodiment of the present invention;

Fig. 7 is a partially cut-away perspective view of the belt exercising and massaging device as shown in Fig. 6.;

Fig. 8 is a locally enlarged view of the belt exercising and massaging device as shown in Fig. 7;

Fig. 9 is a perspective view of a belt exercising and massaging device in accordance with another preferred embodiment of the present invention;

Fig. 10 is a partially cut-away perspective view of the belt exercising and massaging device as shown in Fig. 9;

Fig. 11 is a perspective view showing usage of the belt exercising and massaging device as shown in Fig. 9;

Fig. 12 is a perspective view showing usage of the belt exercising and massaging device as shown in Figs. 1 and 9;

Fig. 13 is a perspective view of a belt exercising and massaging device in accordance with another preferred embodiment of the present invention;

Fig. 14 is a partially exploded perspective view of the belt exercising and massaging device as shown in Fig. 13; and

Fig. 15 is a top operational view of the belt exercising and massaging device as shown in Fig. 13.

[0010] Referring to the drawings and initially to Figs. 1-5, a belt exercising and massaging device in accordance with one preferred embodiment of the present invention comprises a cushion 10 and a massaging belt unit 20 mounted on the cushion 10 and including two massaging belts 21 each extending from a surface of the cushion 10 and each movable relative to the cushion 10.

[0011] The cushion 10 is provided with a mounting seat 11 for mounting the 5 massaging belt unit 20.

[0012] The massaging belt unit 20 further includes a motor 22 mounted on the mounting seat 11 of the cushion 10, two opposite rotation shafts 23 each rotated by the motor 22, and two opposite eccentric mechanisms 24 each mounted between a respective rotation shaft 23

and a respective massaging belt 21 to move the respective massaging belt 21 reciprocally by rotation of the respective rotation shaft 23. The motor 22 of the massaging belt unit 20 is a dual-directional motor to rotate the two rotation shafts 23 which are located at two opposite ends of the motor 22. Each of the eccentric mechanisms 24 of the massaging belt unit 20 includes an eccentric member 241 secured on the respective rotation shaft 23 to rotate with the respective rotation shaft 23 reciprocally, and a rotation wheel 242 rotatably mounted on the eccentric member 241 by a bearing 243 to move with the eccentric member 241. The eccentric members 241 of the eccentric mechanisms 24 are directed toward two opposite directions as shown in Fig. 3. The rotation wheel 242 of each of the eccentric mechanisms 24 is rotatable about the eccentric member 241 simultaneously when the rotation wheel 242 is movable reciprocally with the eccentric member 241.

[0013] The massaging belts 21 of the massaging belt unit 20 are movable relative to the cushion 10 in two different directions. Each of the massaging belts 21 of the massaging belt unit 20 has a first end secured to the rotation wheel 242 of a respective eccentric mechanism 24 to move with the rotation wheel 242 and a second end provided with an adjustment bonding section 211. The adjustment bonding sections 211 of the massaging belts 21 are connected with each other to connect the massaging belts 21. In the preferred embodiment of the present invention, the adjustment bonding sections 211 of the massaging belts 21 include a male snap co-operating with a female snap.

[0014] In operation, referring to Fig. 3 with reference to Figs. 1 and 2, when the motor 22 is operated, the two opposite rotation shafts 23 are rotated by the motor 22 to rotate the eccentric member 241 of each of the eccentric mechanisms 24 eccentrically, so that the rotation wheel 242 of each of the eccentric mechanisms 24 is moved with the eccentric member 241 reciprocally and rotated about the eccentric member 241 to move the respective massaging belt 21 forward and backward. At this time, the eccentric members 241 of the eccentric mechanisms 24 are directed toward two opposite directions, and the massaging belts 21 are connected by the adjustment bonding sections 211, so that the massaging belts 21 are driven by the eccentric members 241 of the eccentric mechanisms 24 to move and swing rightward and leftward so as to provide a massaging effect to a user.

[0015] As shown in Figs. 2 and 4, the cushion 10 is mounted on a chair 1, and the massaging belts 21 are connected to surround a user's waist. Thus, the massaging belts 21 are driven by the eccentric members 241 of the eccentric mechanisms 24 to move and swing rightward and leftward so as to provide a massaging effect to the user's waist.

[0016] As shown in Figs. 2 and 5, the cushion 10 is mounted on a chair 1, and the massaging belts 21 are connected to rest on a user's back. Thus, the massaging belts 21 are driven by the eccentric members 241 of the eccentric mechanisms 24 to move and swing rightward and leftward so as to provide a massaging effect to the user's back.

[0017] Referring to Figs. 6-8, the adjustment boning section 211 A of each of the massaging belts 21 is a bonding strap.

As shown in Figs. 1-8, the cushion 10 functions as a backrest cushion.

[0018] Referring to Figs. 9 and 10, the massaging belt unit 20 further includes two fixing belts 212 located between the massaging belts 21 and each connected with a respective massaging belt 21. Each of the fixing belts 212 has a first end secured to the cushion 10 and a second end provided with an adjustment bonding portion 213 bonded onto the adjustment bonding section 211 A of the respective massaging belt 21 to connect each of the fixing belts 212 with the respective massaging belt 21.

[0019] As shown in Figs. 9 and 10, the cushion 10 functions as a seat cushion.

[0020] As shown in Figs. 10 and 11, the cushion 10 is mounted on a chair 1, and each of the fixing belts 212 is connected with the respective massaging belt 21 to surround a user's leg. Thus, the massaging belts 21 are driven by the eccentric members 241 of the eccentric mechanisms 24 to move and swing rightward and leftward so as to provide a massaging effect to the user's legs.

[0021] As shown in Fig. 12, two cushions 10 are mounted on a bed 2, the massaging belts 21 are connected to surround a user's waist, and each of the fixing belts 212 is connected with the respective massaging belt 21 to surround the user's leg.

[0022] Referring to Figs. 13-15, the massaging belt unit 200 further includes a motor 220 mounted on the mounting seat 110 of the cushion 100, a movable shaft 230 movably mounted on the mounting seat 110 of the cushion 100 and connected to the massaging belts 210 to move the massaging belts 210 reciprocally, and an eccentric mechanism 240 rotated by the motor 220 and connected to the movable shaft 230 to move the movable shaft 230 reciprocally relative to the mounting seat 110 of the cushion 100.

[0023] The mounting seat 110 of the cushion 100 is formed with at least one slideway 111 in which the movable shaft 230 is slidable rightward and leftward. The movable shaft 230 of the massaging belt unit 200 is formed with a guide slot 2301, and the eccentric mechanism 240 is rotatably mounted on the motor 220 eccentrically and rotatable and movable in the guide slot 2301 of the movable shaft 230.

[0024] Each of the massaging belts 210 of the massaging belt unit 200 has a first end secured to one of two opposite ends of the movable shaft 230 to move with the movable shaft 230 and a second end provided with an adjustment bonding section 2110. The adjustment bonding sections 2110 of the massaging belts 210 are connected with each other to connect the massaging belts 210. In the preferred embodiment of the present inven-

tion, the adjustment bonding sections 2110 of the massaging belts 210 include a male snap co-operating with a female snap.

[0025] Accordingly, the massaging belt unit is operated to drive the massaging belts to move and swing rightward and leftward so as to provide a massaging and exercising effect to a user. In addition, the massaging belts surround the user's body in a planar manner so that the force applied by the massaging belts is distributed on the user's body smoothly and evenly without producing an excessive vibration and a stress concentration, thereby providing a comfortable sensation to the user and thereby preventing the user's body from being hurt.

[0026] Although the invention has been explained in relation to its preferred embodiment(s) as mentioned above, it is to be understood that many other possible modifications and variations can be made without departing from the scope of the present invention. It is, therefore, contemplated that the appended claims will cover such modifications and variations that fall within the true scope of the invention.

Claims

1. A belt exercising and massaging device, comprising:

a cushion (10);
a massaging belt unit (20) mounted on the cushion (10) and including two massaging belts (21) each extending from a surface of the cushion (10) and each movable relative to the cushion (10).

2. The belt exercising and massaging device in accordance with claim 1, wherein the cushion (10) is provided with a mounting seat (11) for mounting the massaging belt unit (20).

3. The belt exercising and massaging device in accordance with claim 2, wherein the massaging belt unit (20) further includes a motor (22) mounted on the mounting seat (11) of the cushion (10), two opposite rotation shafts (23) each rotated by the motor (22), and two opposite eccentric mechanisms (24) each mounted between a respective rotation shaft (23) and a respective massaging belt (21) to move the respective massaging belt reciprocally by rotation of the respective rotation shaft.

4. The belt exercising and massaging device in accordance with claim 3, wherein each of the eccentric mechanisms (24) of the massaging belt unit (20) includes an eccentric member (241) secured on the respective rotation shaft (23) to rotate with the respective rotation shaft (23) reciprocally, and a rotation wheel (242) rotatably mounted on the eccentric member (241) to move with the eccentric member.

5. The belt exercising and massaging device in accordance with claim 4, wherein the rotation wheel (242) of each of the eccentric mechanisms (24) is rotatably mounted on the eccentric member (241) by a bearing (243).

6. The belt exercising and massaging device in accordance with claim 4, wherein each of the massaging belts (21) of the massaging belt unit (20) has a first end secured to the rotation wheel (242) of a respective eccentric mechanism (24) to move with the rotation wheel and a second end provided with an adjustment bonding section (211), and the adjustment bonding sections of the massaging belts are connected with each other to connect the massaging belts (21).

7. The belt exercising and massaging device in accordance with claim 6, wherein the massaging belt unit (20) further includes two fixing belts (212) located between the massaging belts (21) and each connected with a respective massaging belt, and each of the fixing belts (212) has a first end secured to the cushion (10) and a second end provided with an adjustment bonding portion (213) bonded onto the adjustment bonding section (211A) of the respective massaging belt (21) to connect each of the fixing belts (212) with the respective massaging belt (21).

8. The belt exercising and massaging device in accordance with claim 2, wherein the massaging belt unit (200) further includes a motor (220) mounted on the mounting seat (110) of the cushion (100), a movable shaft (230) movably mounted on the mounting seat (110) of the cushion (100) and connected to the massaging belts (210) to move the massaging belts reciprocally, and an eccentric mechanism (240) rotated by the motor (220) and connected to the movable shaft (230) to move the movable shaft reciprocally relative to the mounting seat (110) of the cushion (100).

9. The belt exercising and massaging device in accordance with claim 8, wherein the mounting seat (110) of the cushion (100) is formed with at least one slideway (111) in which the movable shaft (230) is slidable rightward and leftward, the movable shaft of the massaging belt unit (200) is formed with a guide slot (2301), and the eccentric mechanism (240) is rotatable and movable in the guide slot (2301) of the movable shaft (230) and is rotatably mounted on the motor (220) eccentrically.

10. The belt exercising and massaging device in accordance with claim 8, wherein each of the massaging belts (210) of the massaging belt unit (200) has a first end secured to one of two opposite ends of the movable shaft (230) to move with the movable shaft

and a second end provided with an adjustment bonding section (2110), and the adjustment bonding sections (2110) of the massaging belts (210) are connected with each other to connect the massaging belts (210).

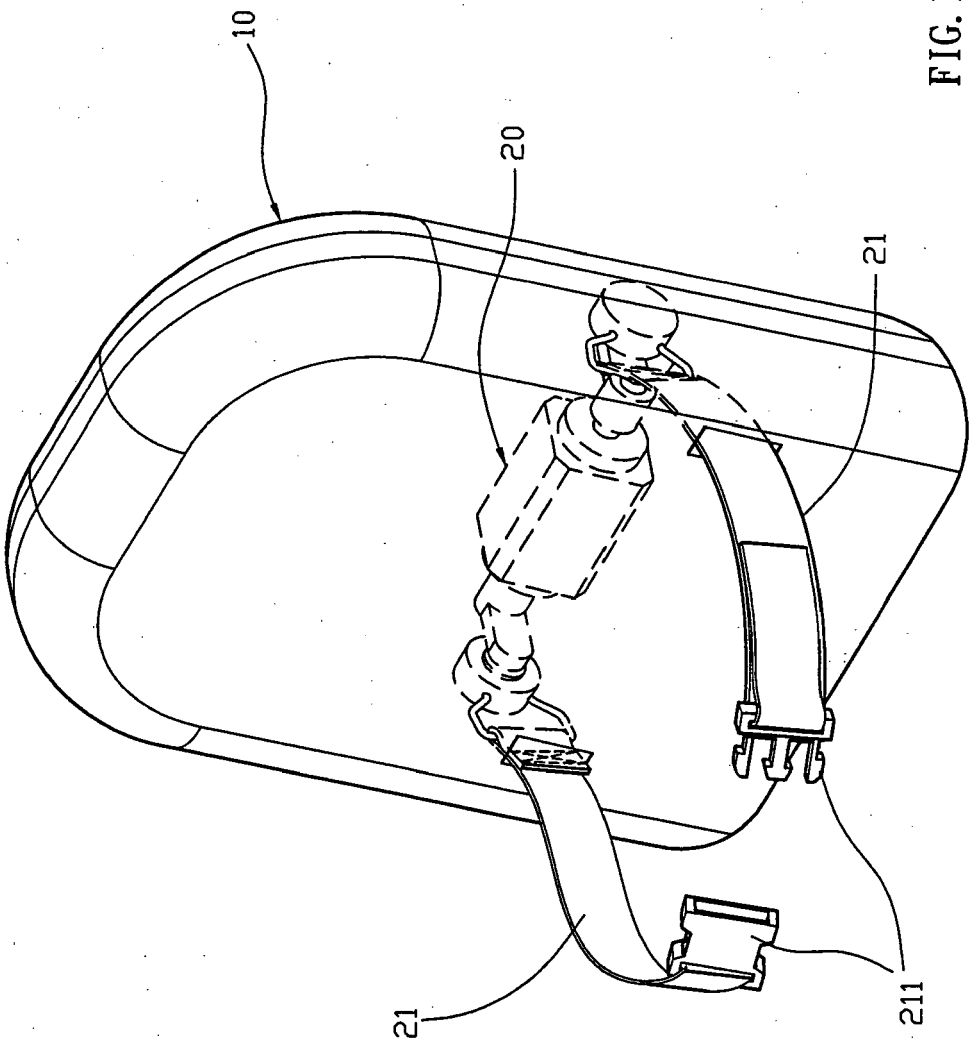

FIG. 1

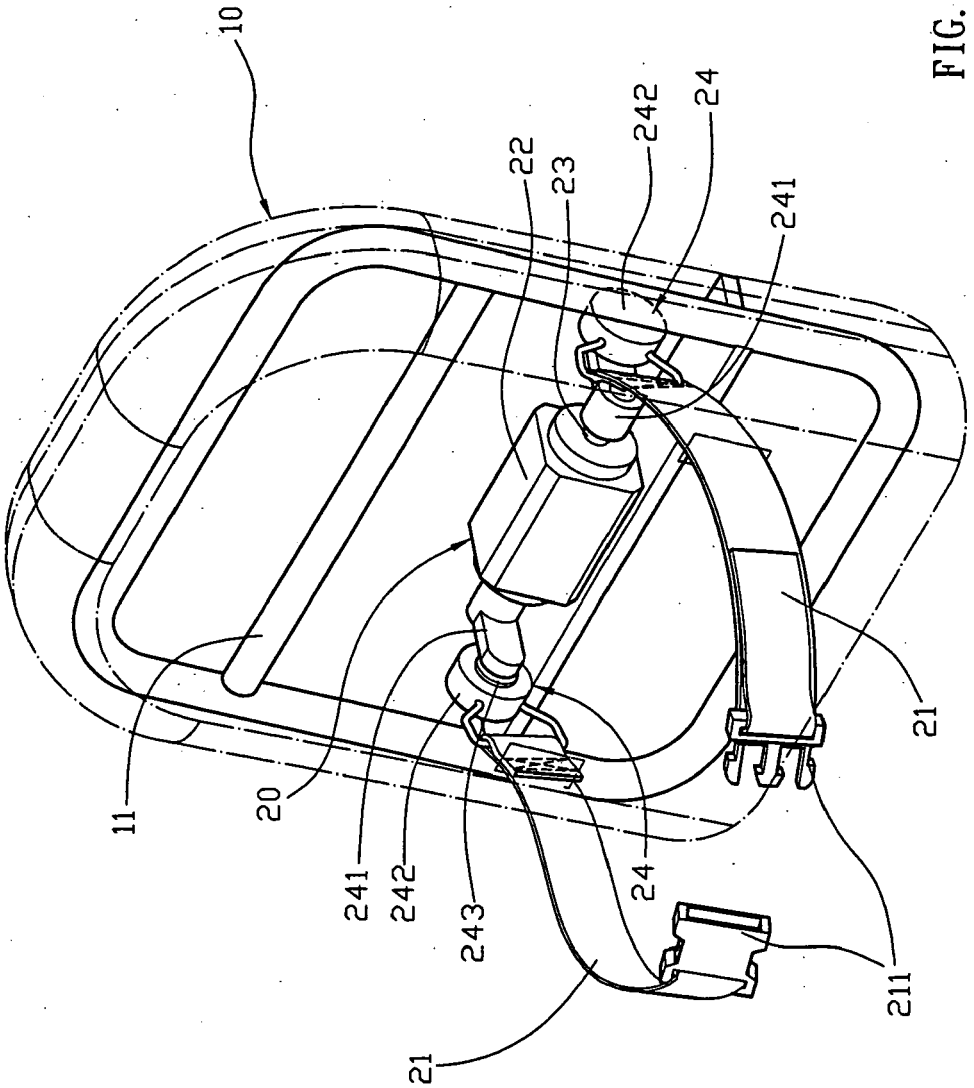

FIG. 2

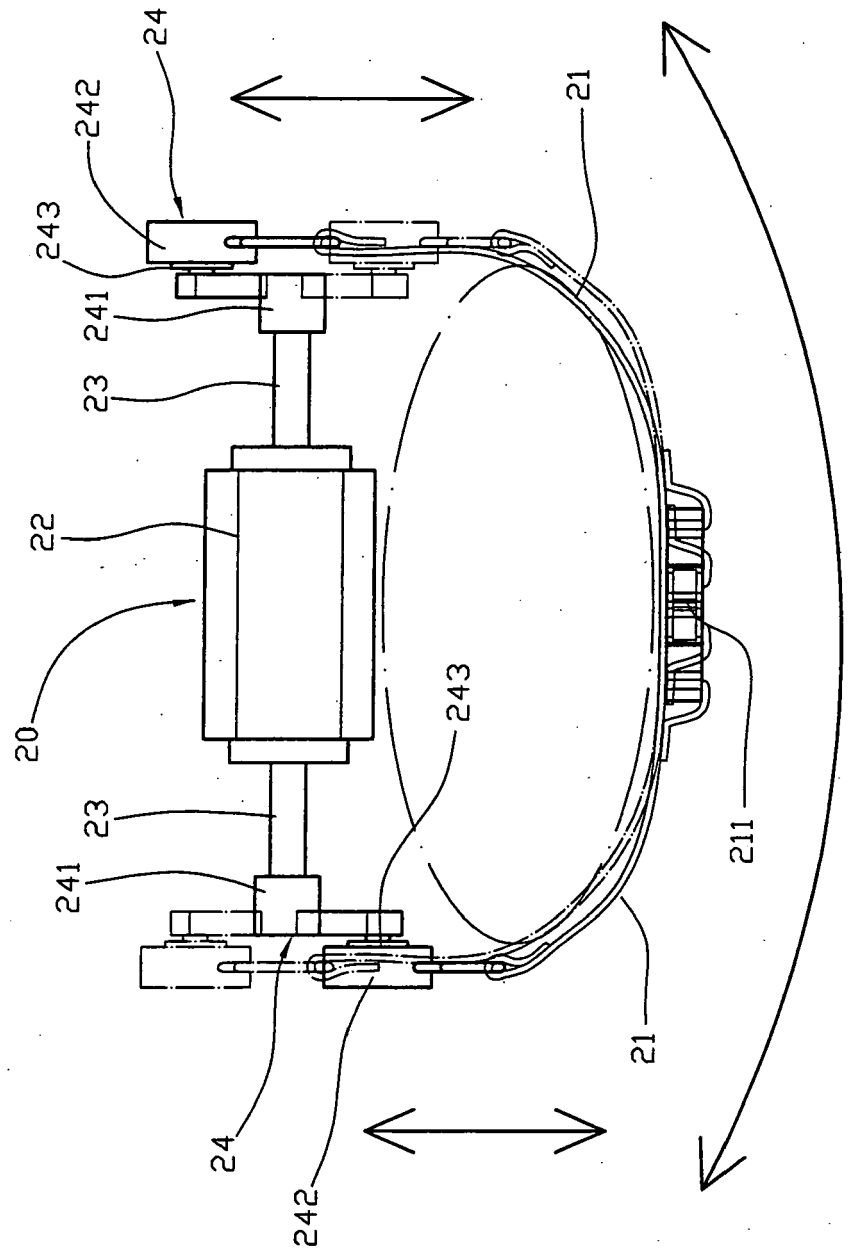

FIG. 3

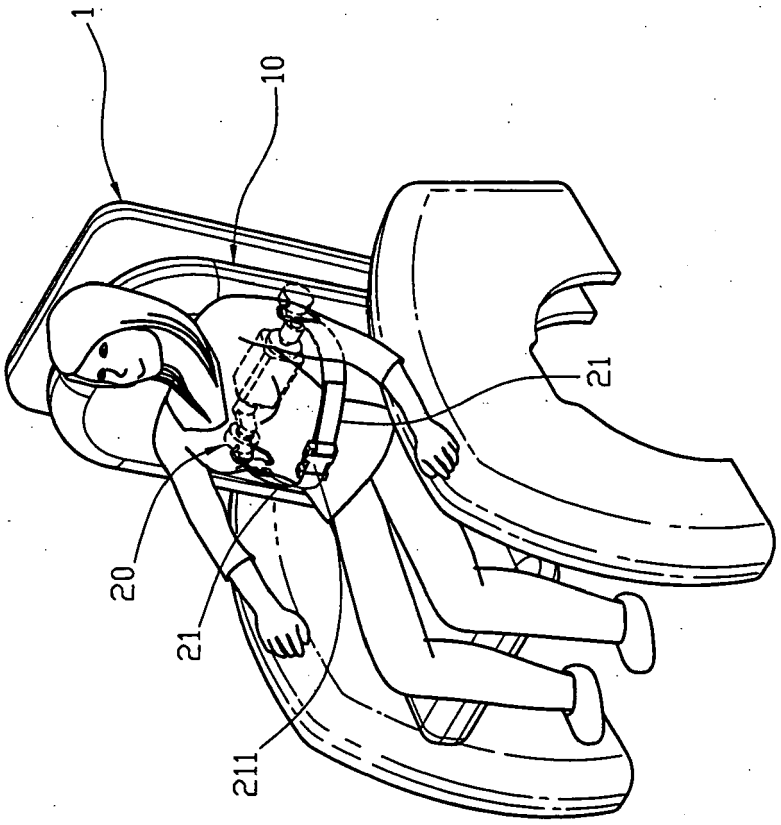

FIG. 4

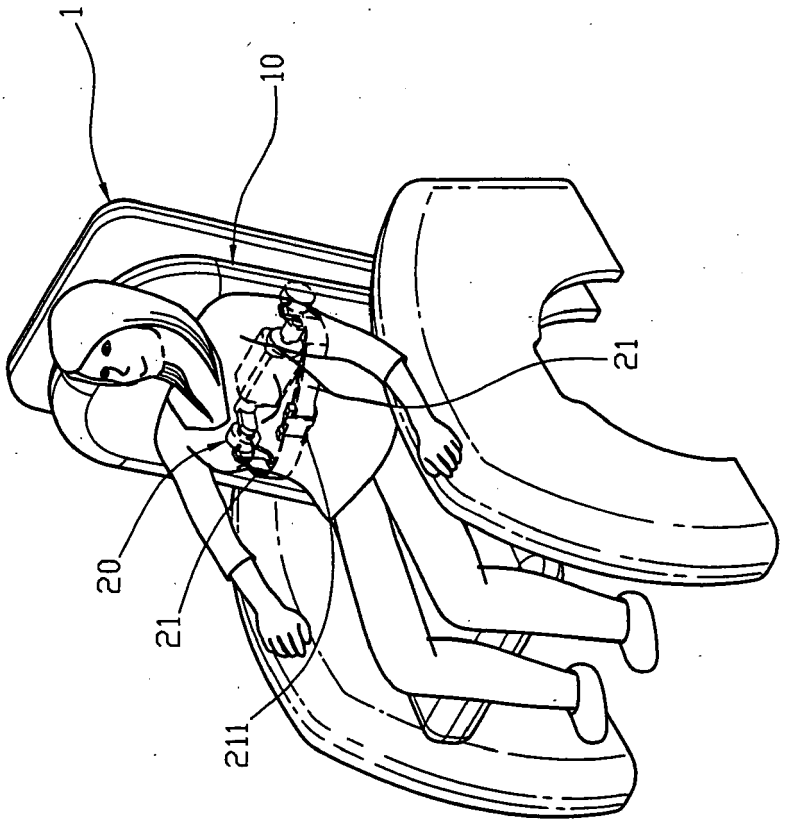

FIG. 5

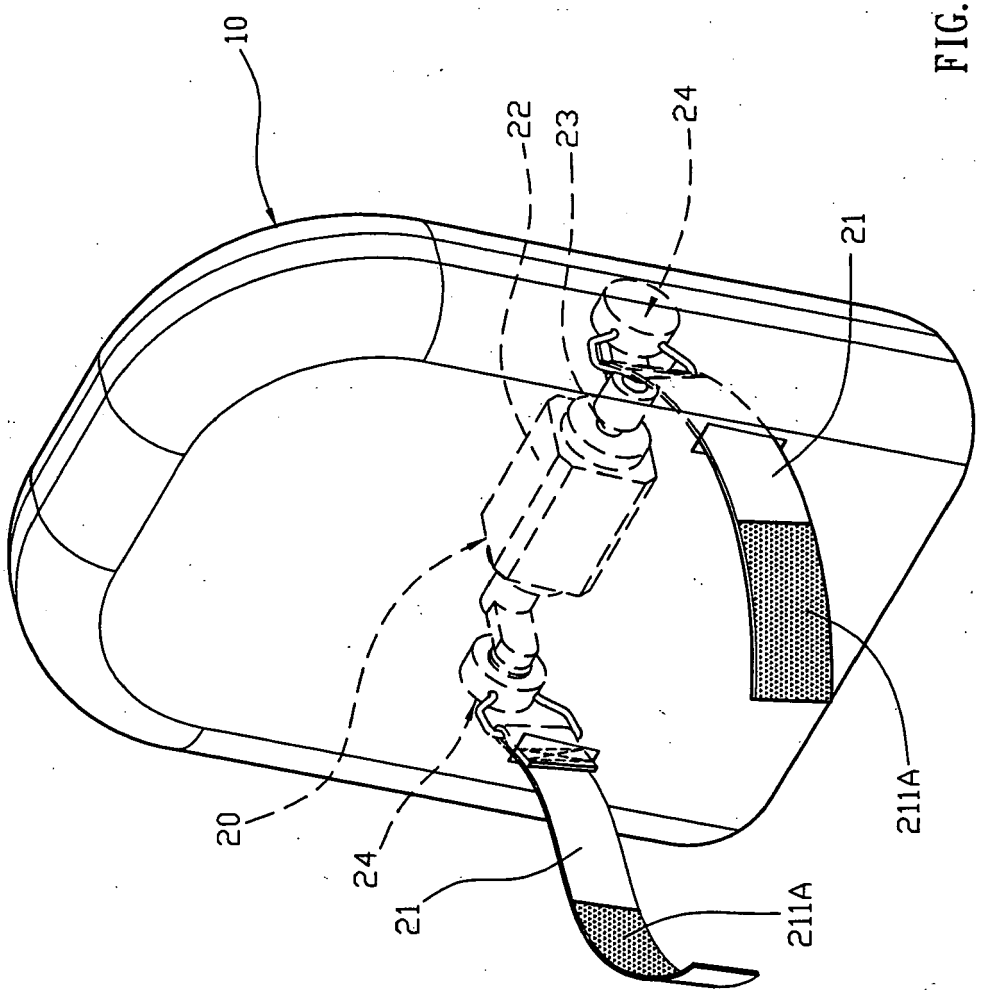

FIG. 6

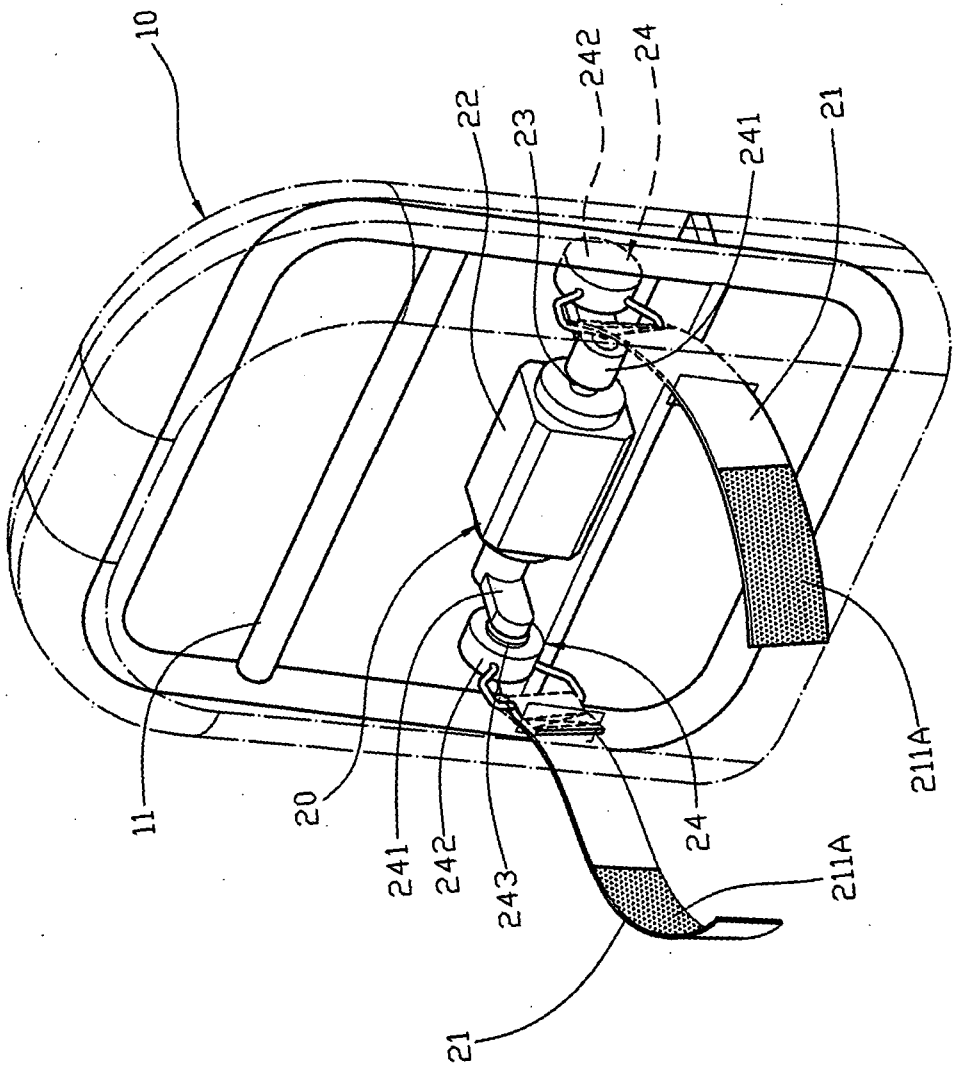

FIG. 7

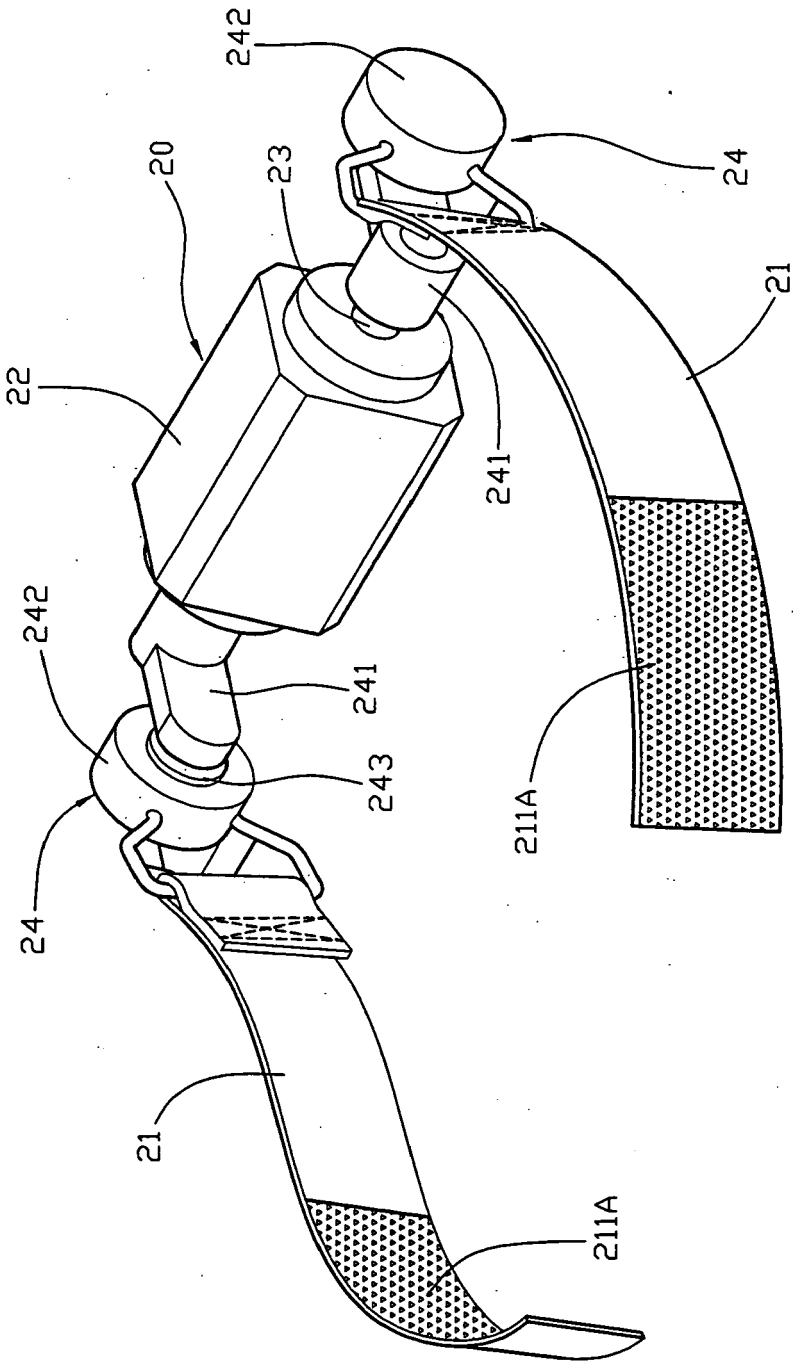

FIG. 8

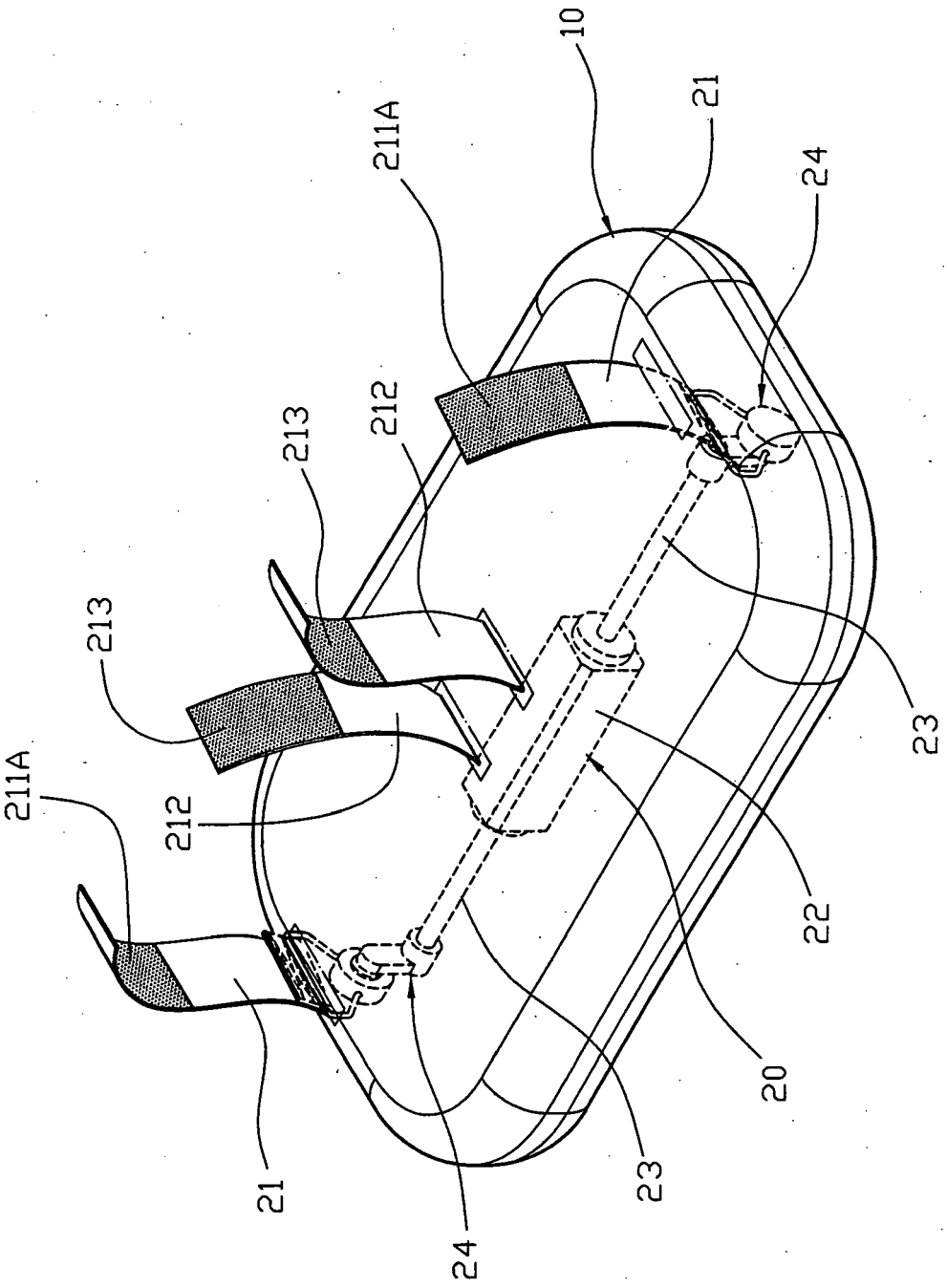

FIG. 9

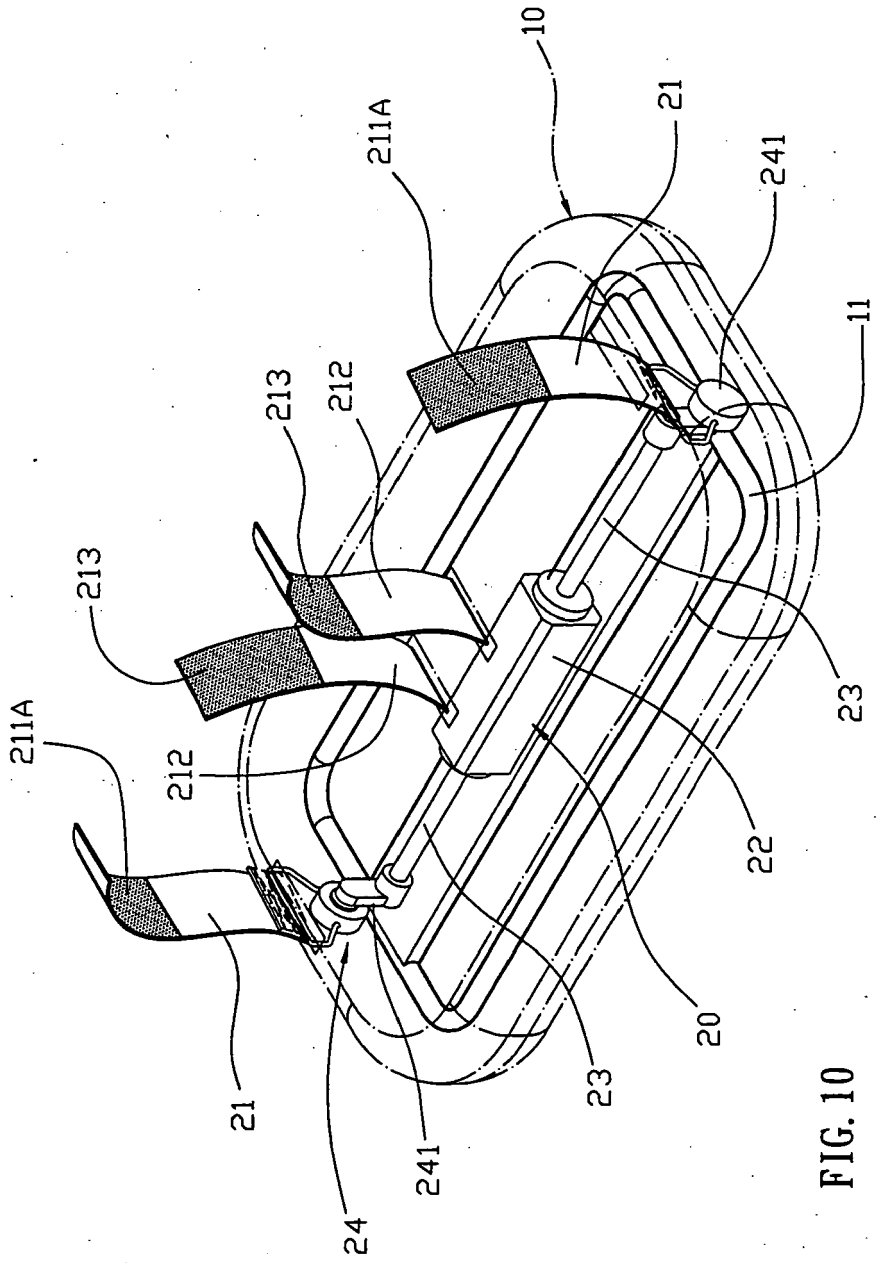

FIG. 10

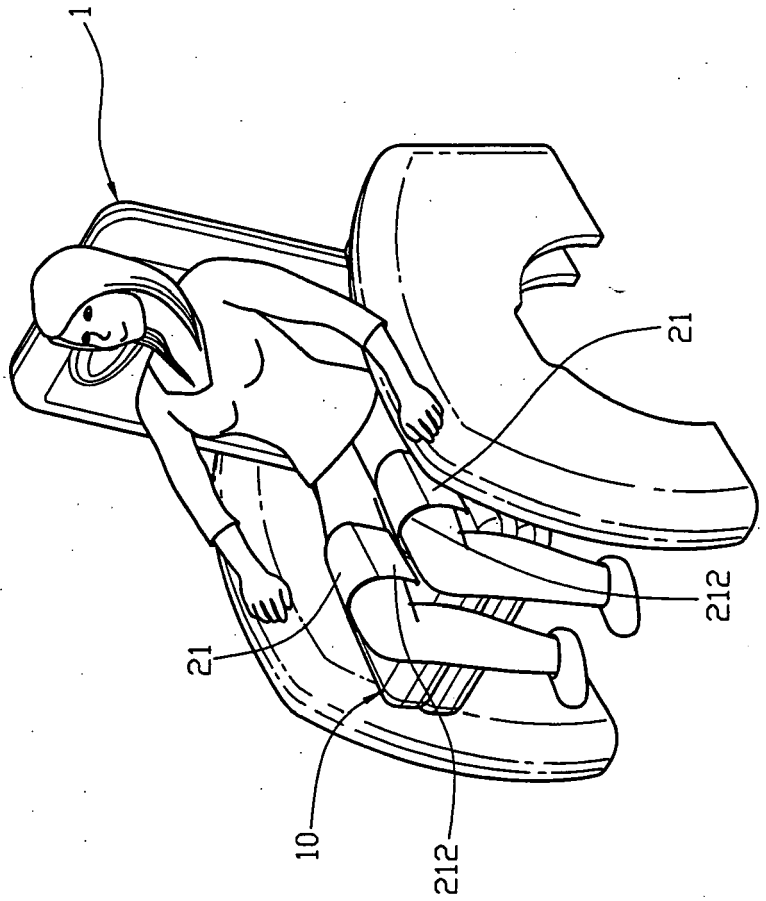

FIG. 11

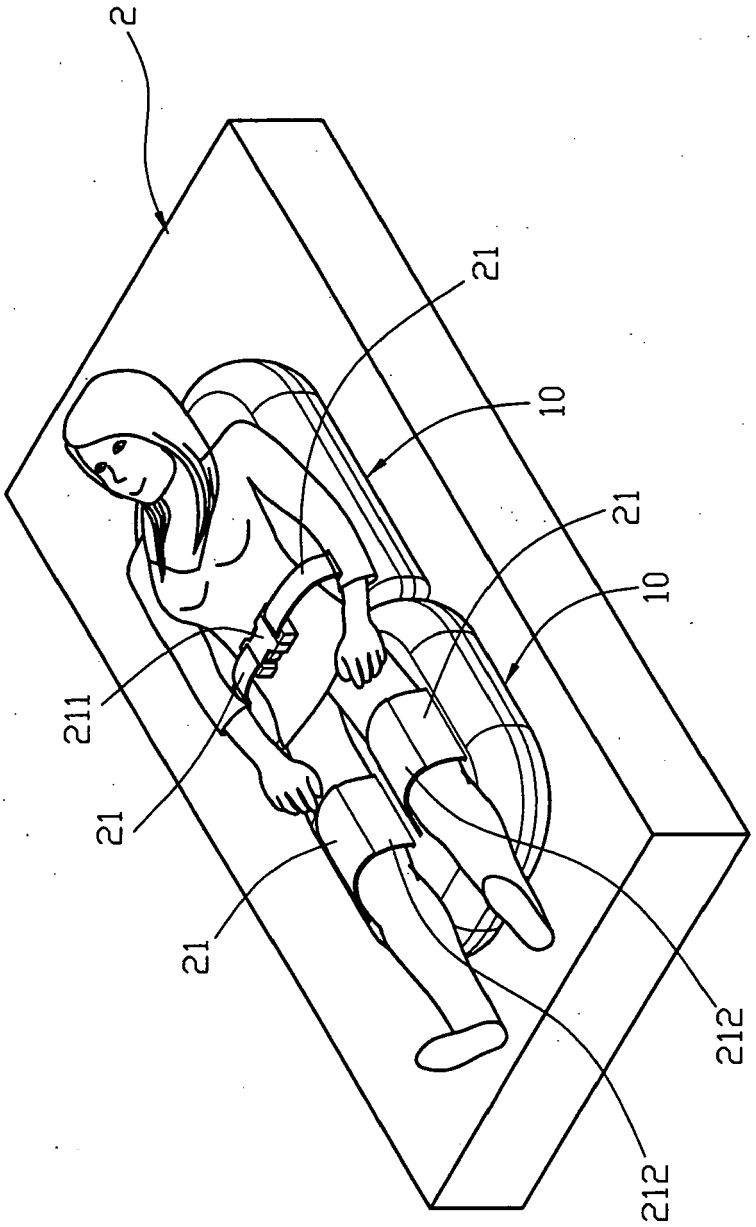

FIG. 12

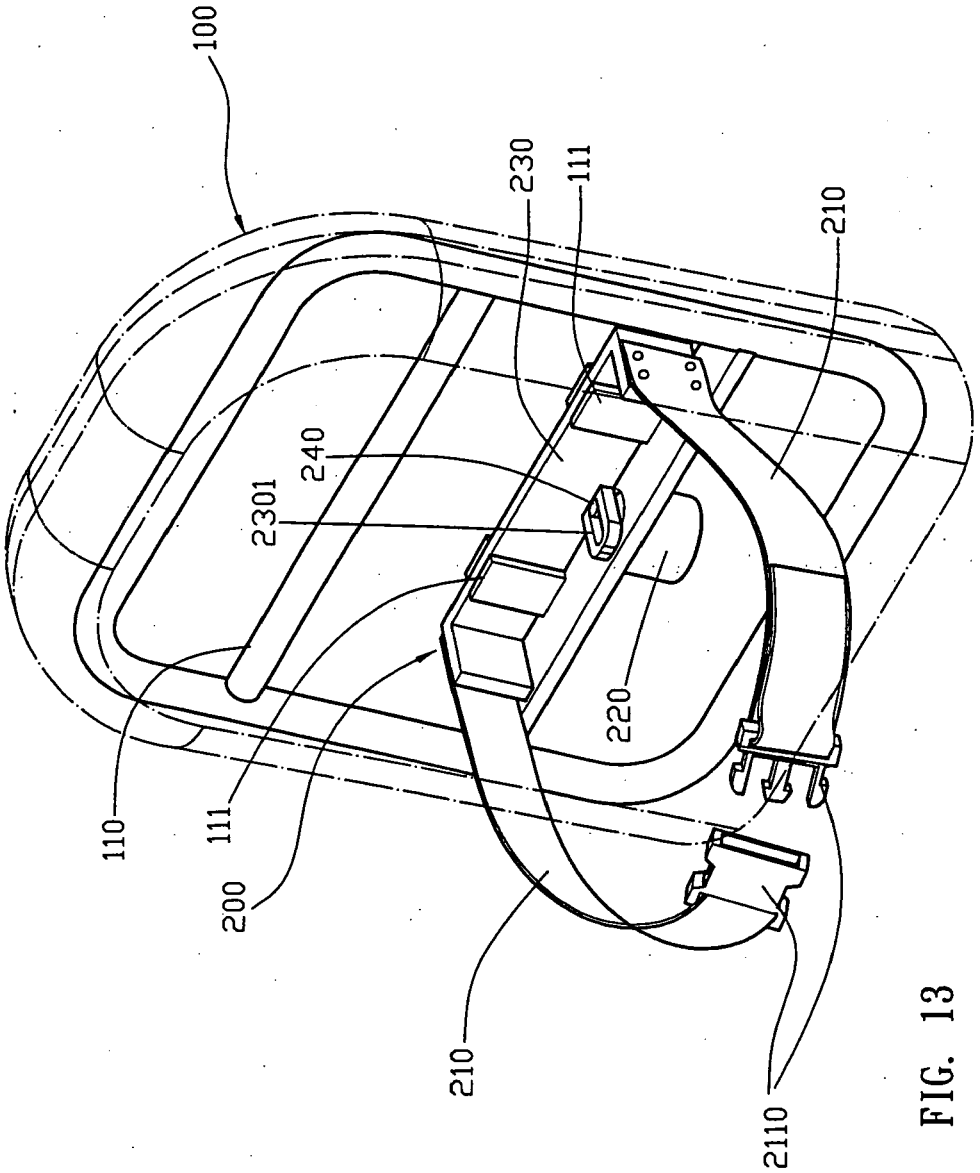

FIG. 13

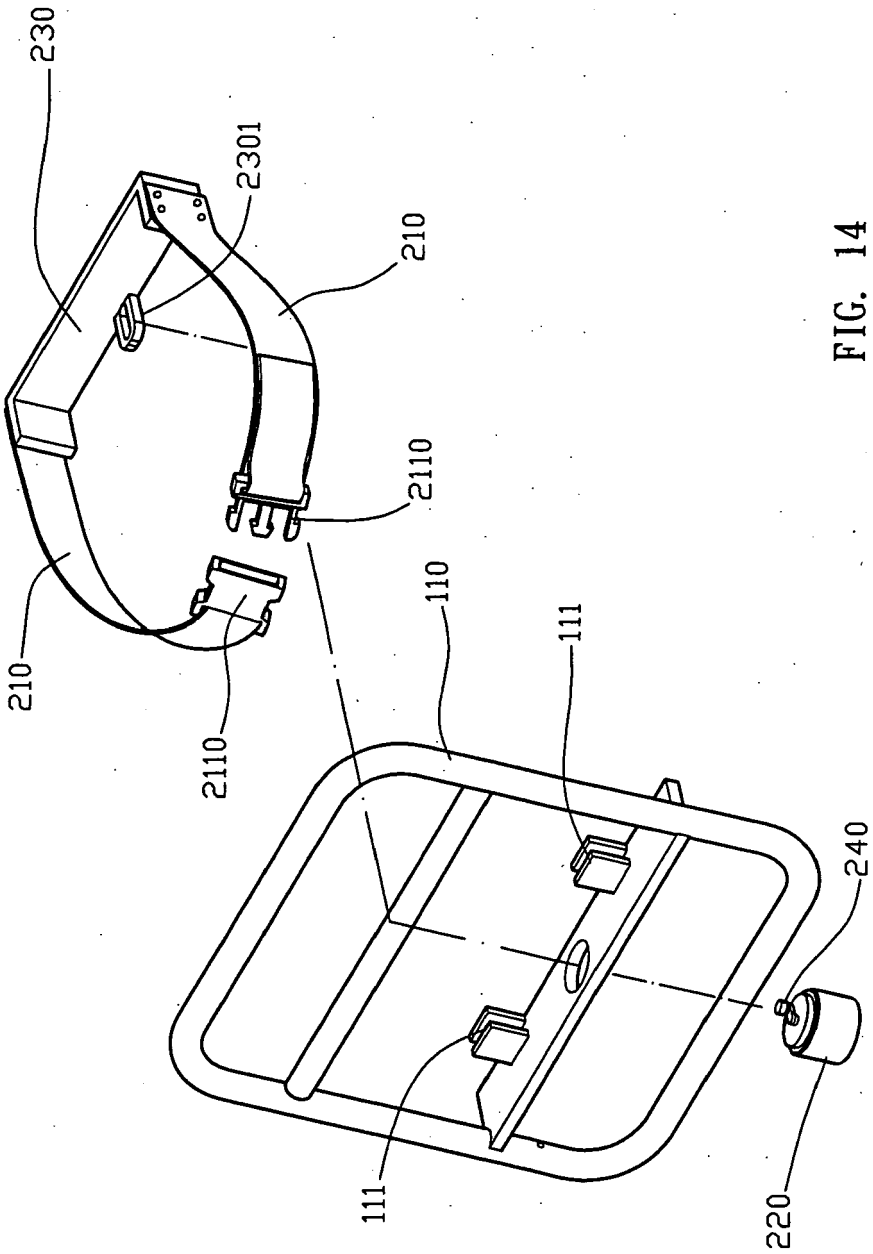

FIG. 14

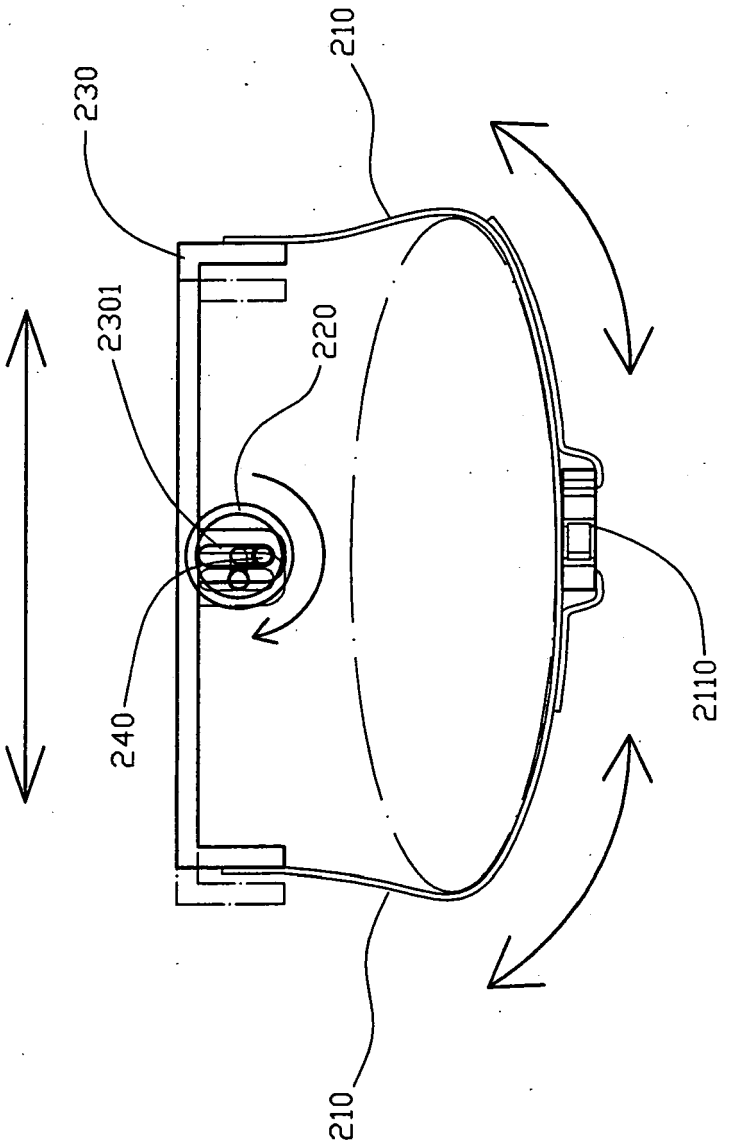

FIG. 15

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EUROPEAN SEARCH REPORT

Application Number
EP 07 00 5881

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	US 2006/009720 A1 (CHUNG HUNG-CHUN [TW]) 12 January 2006 (2006-01-12) * figures 1-3 *	1-6,8	INV. A61H1/00 A61H11/02 A61H23/02
X	WO 01/28487 A (YANG MOONCHILL [KR]) 26 April 2001 (2001-04-26) * figures 2,3,5,6 *	1-6,8	
X	US 1 878 925 A (WHITNEY KARL H) 20 September 1932 (1932-09-20) * page 2, lines 34-106; figures 3-6,8 *	1,2,8-10	
X	US 3 381 538 A (RUNDE KENNETH R) 7 May 1968 (1968-05-07) * column 2, line 13 - column 3, line 10; figures 1,6-8 *	1-8	
X	WO 01/32124 A (A D M ADVANCED DIALYSIS METHOD [IL]; ZICHERMAN YEHUDA [IL]) 10 May 2001 (2001-05-10) * page 6, line 18 - page 7, line 14; figures 6-9 *	1-6,8	TECHNICAL FIELDS SEARCHED (IPC) A61H
A	DE 22 07 925 A1 (PAHL KARL HEINZ DR ING) 23 August 1973 (1973-08-23) * figures 3,4 *	8,9	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	17 July 2007	Fischer, Elmar

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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17-07-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006009720 A1	12-01-2006	NONE	
WO 0128487 A	26-04-2001	JP 2003511210 T	25-03-2003
		KR 20020033597 A	07-05-2002
US 1878925 A	20-09-1932	NONE	
US 3381538 A	07-05-1968	NONE	
WO 0132124 A	10-05-2001	AU 1172201 A	14-05-2001
		CA 2390154 A1	10-05-2001
		CN 1387425 A	25-12-2002
		EP 1229884 A1	14-08-2002
		JP 2003512891 T	08-04-2003
DE 2207925 A1	23-08-1973	US 3844277 A	29-10-1974

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