



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
24.03.2004 Bulletin 2004/13

(51) Int Cl.7: **A61H 37/00, A61H 15/00**

(21) Application number: **02021021.7**

(22) Date of filing: **20.09.2002**

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

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(54) **Massaging device**

(57) A massaging device includes a framework provided with a transmitting unit for driving a movable member of massaging wheels. Two rails are positioned at the opposite sides of the movable member, respectively having a gearing chain at the bottom for meshing with the gears of the movable member so as to let the movable member move up and down in a constant direction. The massaging wheels are respectively provided with a

guide rod having its opposite ends fitted in the rail grooves of the rails, so that the guide rod may move rising and falling, conforming to the shape of the rail groove and make the massaging wheels move swaying and carry on massaging. When the wheel bases of the massaging wheels move to the upper end or lower end, the massaging wheels will carry on massaging through a user's neck, back and waist.

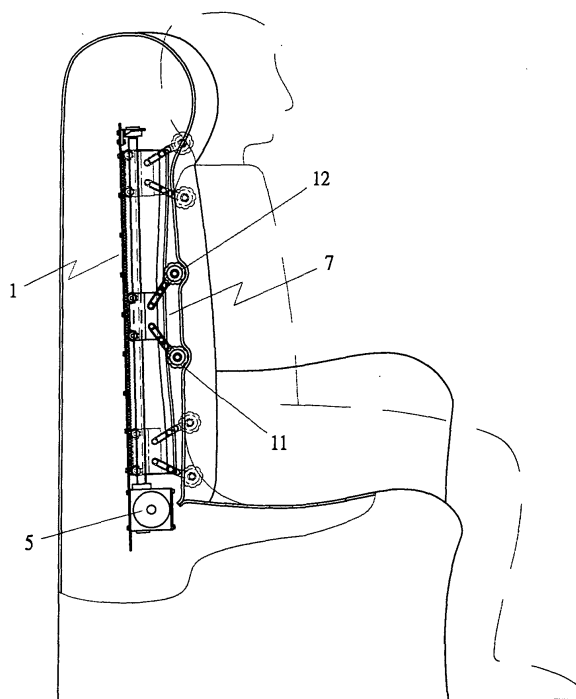


FIG 14

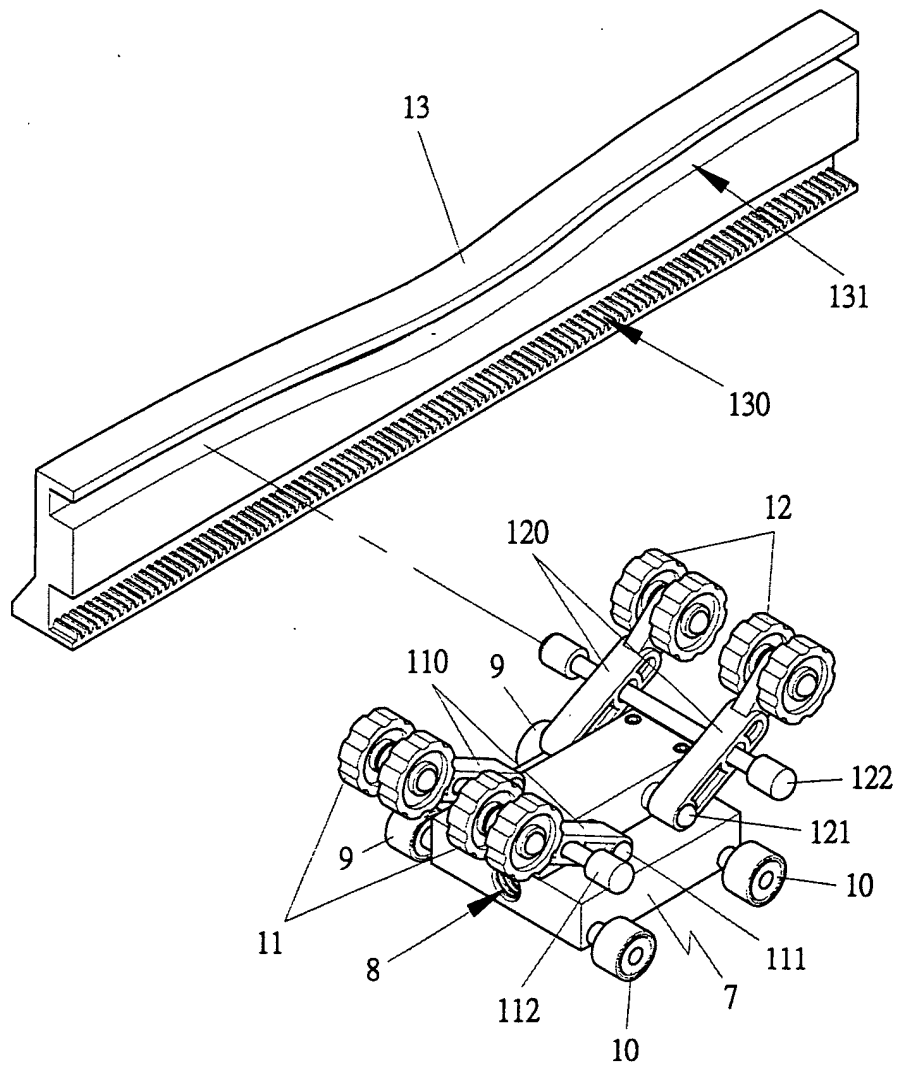


FIG 2

Description**BACKGROUND OF THE INVENTION**

[0001] This invention relates to a massaging device, particularly to one designed according to ergonomics of human back, able to carry on massaging on a user's neck and waist.

[0002] A conventional massaging device such as a massaging bed, a massaging chair or a foot-sole massager, as shown in Fig. 1, includes a framework (A), a helical rod (A0) provided abutting the framework (A) for a movable member (B0) of massaging wheels (B) to be fitted thereon, a motor (C) driving the helical rod (A0) to rotate and make the movable member (B0) move up and down together with the massaging wheels (A0).

[0003] The massaging wheels (B) of a conventional massaging device are actuated to move up and down and carry on massaging on a user's back by means of a wheel rod (B1) fitted on an eccentric shaft (B2). The eccentric shaft (B2) is driven by a power unit (D) to rotate and make the massaging wheel (B) to move back and forth, and then a swing rod (B3) pushes the wheel rod (B1) to actuate massaging wheel (B) to move bias left and right.

[0004] However, the massaging wheel (B) is actuated to move from upper end to the lower end of the framework (A) along a straight route. Therefore, when a user sits on such a conventional massaging chair for massaging, his/her neck and waist can hardly lean against the backrest closely to be massaged.

SUMMARY OF THE INVENTION

[0005] The objective of the invention is to offer a massaging device designed in accordance with ergonomics of human back, able to carry on massaging through a user's back from the neck to the waist and make the user greatly comfortable.

[0006] The features of the invention are described below.

1. The massaging device is provided with a movable member and two rails respectively positioned at the opposite sides of the movable member. A guide rod of massaging wheels has its opposite ends respectively received in the rail grooves of the rails to move up and down, conforming to curve-shaped rail groove of the rail, therefore, the massaging wheels can carry on massaging on a user's back according to ergonomics of human back and make the user greatly comfortable.
2. The rail is curve-shaped and there forms a proper combination angle between the rail and the massaging wheel to prevent the massaging wheel from turning on one side and becoming disordered.
3. The massaging wheels are able to carry on massaging on a user's neck and waist well when they

move to the upper and the lower end of the rail.

BRIEF DESCRIPTION OF DRAWINGS

[0007] This invention will be better understood by referring to the accompanying drawings, wherein:

Fig. 1 is a side-sectional view of a conventional massaging device:

Fig. 2 is a partial exploded perspective view of a massaging device in the present invention:

Fig. 3 is a partial perspective view of a first embodiment of the massaging wheels in the present invention:

Fig. 4 is a partial upper view of the first embodiment of the massaging device in the present invention:

Fig. 5 is an upper view of the first embodiment of the massaging device in the present invention:

Fig. 6 is a side-sectional view of the first embodiment of the massaging device in the present invention:

Fig. 7 is a side-sectional view of the first embodiment of the massaging device in operation in the present invention:

Fig. 8 is a front view of a second embodiment of the massaging device in the present invention:

Fig. 9 is a side-sectional view of the second embodiment of the massaging device in the present invention:

Fig. 10 is a front view of a third embodiment of the massaging device in the present invention:

Fig. 11 is a side-sectional view of a fourth embodiment of the massaging device in the present invention:

Fig. 12 is a side-sectional view of a fifth embodiment of the massaging device in the present invention:

Fig. 13 is a side-sectional view of a sixth embodiment of the massaging device in the present invention: and

Fig. 14 is a side-sectional view of the massaging device carrying on massaging in the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0008] A first preferred embodiment of a massaging device in the present invention, as shown in Figs. 2-7, includes a framework 1, a helical rod 2, a motor 5, a movable member 7, and two rails 13, 14 as main components combined together.

[0009] The framework 1 is provided with a power unit having the helical rod 2. The helical rod 2 has its upper and lower ends respectively provided with a bearing seat 3, 4 respectively meshing with the gears 6 of the spindle of the motor 5. The helical rod 2 is driven by the motor 5 to rotate and actuate the movable member 7 to move up and down when the motor 5 rotates clockwise

and counterclockwise.

[0010] Another preferred embodiment of the power unit in this invention, as shown in Fig. 10, is provided with a motor (2A) for driving a chain (2B) or a belt to actuate the movable member 7 to move up and down.

[0011] The movable member 7 is formed with an inner threaded hole 8 for threadably receiving the helical rod 2 therein. Thus, driven by the motor 5 to rotate, the helical rod 2 will actuate the movable member 7 to move up and down. The movable member 7 has its opposite sides respectively provided with plural gears 9, 10 meshing with the gearing chains under the rails 13, 14. The movable member 7 is provided thereon with two sets of massaging wheels 11, 12 respectively fitted with a wheel base 110, 120. The wheel bases 110, 120 respectively has one end fitted axially with the corresponding support shaft 111, 121 of the movable member 7 so as to enable the massaging wheels 11, 12 to sway up and down. Besides, the wheel bases 110, 120 of the massaging wheels 11, 12 respectively have a guide rod 112, 122 fitted therebetween.

[0012] The rails 13 and 14 are respectively fixed above the framework 1 and positioned at the opposite sides of the movable member 7. The rails 13 and 14 are respectively formed with a rail groove 130, 140 respectively engaged with the gears 9 of the movable member 7 to limit the movable member 7 to move up and down along a constant track and produce a comparatively large wrenching force to avoid the movable member 7 becoming motionless when a user lean thereon, as shown in Figs. 4, 5, 6 and 7.

[0013] In addition, each rail groove 130, 140 of the rails 13, 14 has a comparatively low center portion and two increasingly rising ends, respectively fitted therein with a guide rod 112, 122 of the massaging wheels 11, 12. The guide rods 112, 122 is respectively fitted in the rail grooves 130, 140 to permit the massaging wheels 11, 12 to sway back and forth within an angle between 30 to 60 degrees. Thus, even if the massaging wheels 11, 12 are pressed by a relatively large force of a human body, they are impossible to turn on one side and become disordered, and when the movable member 7 is actuated to move up and down, the massaging wheels 11, 12 will sway back and forth conforming to the shape of the rail grooves 130, 140, which are designed according to ergonomics of human back.

[0014] When a user sits in a massaging chair for massaging, most parts of his/her back will rest against the backrest closely with different contacting forces, therefore the massaging wheels 11, 12 have to produce different massaging forces to match with them. For this reason, the rails 13 and 14 with curve-shaped rail grooves 130, 140 are provided in this invention, so that the massaging wheels 11, 12 can move along the rail grooves 130, 140 to carry on massaging at different positions of a user's back with different massaging forces.

[0015] A second preferred embodiment of a massaging device in the present invention, as shown in Figs. 8

and 9, -is to have a set of rubbing-seizing wheels 21 additionally provided on the movable member 20, which is provided thereon with the same massaging wheels 11, 12 as described in the first preferred embodiment.

Thus, under the same structure and effect, any components of a conventional massaging device may be applicable to this invention for complementing each other.

[0016] A fourth preferred embodiment of a massaging device in the present invention, as shown in Fig. 11, is to employ the same rail 13 as described in the first preferred embodiment and the same movable member 20 as described in the second embodiment. The movable member 20 is provided thereon with a set of rubbing-seizing wheels 21 and two sets of massaging wheels 11, 12. The massaging wheel 11 has its guide rod 110 fitted on the rail 13, while the massaging wheel 12 has its support shaft 123 axially fitted in the shaft hole 24 of the movable member 20.

[0017] Further, the movable member 20 is fixed with a prop block 22 at an upper side for holding the wheel base 120 of the massaging wheel 12, with a spring 124 positioned between the wheel base 120 and the movable member 20 for drawing them inward so as to normally maintain the massaging wheel 12 at a definite angle. Then, a resisting block 23 is fixed at an upper side between the two rails 13 14. Thus, when the movable member 20 is actuated to move upward to the end of the rail 13, the wheel base 120 of the massaging wheel 12 will resist against the resisting block 23 and make the massaging wheel 12 swaying bias to a comparatively great extent and carrying on massaging on a user's neck. And when the movable member 20 moves downward to the end of the rail 13, the massaging wheel 11 following the shape of the rail 13 will sway bias and carry on massaging on a user's waist.

[0018] A fifth preferred embodiment of a massaging device in the present invention, as shown in Fig. 12, is provided with straight rails 13A and the same movable member 20 employed in the second preferred embodiment. The movable member 20 is provided with a set of rubbing-seizing wheels 21 and two sets of massaging wheels 11, 12. The massaging wheels 11, 12 have their support shafts 113, 123 respectively fitted axially in the shaft holes 24A, 24 of the movable member 20. Then, the movable member 20 is fixed with a prop block 22A, 22 on opposite upper sides for holding the wheel base 110, 120 of the massaging wheel 11, 12 thereon, with a spring 114, 124 respectively fitted between the wheel base 110, 120 and the movable member 20 for drawing them inward so as to maintain the massaging wheel 11, 12 at a definite angle. Furthermore, two resisting blocks 23, 23A are respectively secured at the upper and the lower end between the two rails 13A. Thus, when the movable member 20 moves along the rail to reach the upper end or the lower end of the rail 13A, the wheel base 110, 120 of the massaging wheel 11, 12 will push against the resisting block 23A, 23 and make the massaging wheel 11, 12 swaying bias to a relatively great

extent and carrying on massaging respectively on a user's neck and waist.

[0019] A sixth preferred embodiment of a massaging device in the present invention, as shown in Fig. 13, is provided with two straight rails 13A and a movable member 20. The movable member 20 is only provided with a set of rubbing-seizing wheels 21, while the massaging wheels 11, 12 respectively have their support shafts 113, 123 fitted axially with the shaft hole 13B of the rail 13A. The rail 13A is further secured with a prop block 22, 22A at its opposite ends for holding thereon the wheel base 110, 112 of the massaging wheel 11, 12, with a spring 114, 124 respectively fitted between the wheel base 110, 120 and the prop block 22, 22A for drawing them inward to keep the massaging wheel 11, 12 at a definite angle.

[0020] Thus, when the movable member 20 moves along the rail 13A to reach the upper or the lower end and push against the wheel base 110, 120 of the massaging wheel 11, 12, the massaging wheels 11, 12 will sway bias greatly and carry on massaging on a user's neck and waist.

[0021] While the preferred embodiment of the invention has been described above, it will be recognized and understood that various modifications may be made therein and the appended claims are intended to cover all such modifications that may fall within the spirit and scope of the invention.

Claims

1. A massaging device comprising a framework, said framework provided with a power unit, the motor of said power unit rotating clockwise or counterclockwise to actuate a movable member to move up and down:

Said movable member having plural gears respectively provided at its opposite sides, said plural gears respectively meshing with the gearing chains provided under two rails, said movable member provided thereon with two sets of massaging wheels, each set of said massaging wheels provided with a wheel base, said wheel base having one end axially fitted on the support shaft of said movable member, said massaging wheels moving up and down together with said movable member, a guide rod fitted between said wheel bases: and

Said rails secured on said framework and located at the opposite sides of said movable member, said rails respectively provided with a gearing chain at the bottom, said gearing chain meshing with said gears of said movable member to limit said movable member to move along a constant track, said rails respectively formed with a rail groove, said rail groove formed in a

shape conforming to ergonomics of human back, said guide rods of said massaging wheels respectively fitted in said rail groove, said guide rod following the shape of said rail groove to move when said movable member is actuated to move up and down, said guide rod actuating said massaging wheels to move back and forth, said massaging wheels able to carry on massaging on a user's back through.

2. The massaging device as claimed in Claim 1, wherein said power unit is provided with a helical rod having a bearing seat at opposite ends for meshing with the gears on the spindle of said motor, which drives said helical rod to rotate.
3. The massaging device as claimed in Claim 1, wherein said power unit has said motor drive a chain or a belt to actuate said movable member to move up and down.
4. The massaging device as claimed in Claim 1, wherein said movable member is bored with an inner threaded hole for threadably receiving said helical rod therein, and thus when said helical rod is driven to rotate, said movable member can move up and down.
5. The massaging device as claimed in Claim 1, wherein said rails are respectively formed with said rail groove having a comparatively low center portion and two increasingly rising ends.
6. A massaging device comprising a framework, said framework provided with a power unit, the motor of said power unit rotating clockwise or counterclockwise to drive a movable member to move up and down: and

Said movable member provided thereon with a set of rubbing-seizing wheels and two sets of massaging wheels, one set of said massaging wheels provided with a guide rod fitted on rails, the other set of massaging wheels having its support shaft received axially in the shaft hole of said movable member, said movable member secured with a prop block on opposite upper sides, said prop block resisting the wheel base of said massaging wheel, a spring located between said wheel base and said movable member for drawing them inward, a resisting block respectively fixed at an upper and a lower portion between said two rails, said movable member actuated to move upward to reach the upper end of said rails, said wheel base of said massaging wheels pushing against said resisting block, said massaging wheels swaying bias to a great extent and carrying on massaging on a user's neck.

7. The massaging device as claimed in Claim 6,

wherein said movable member is provided with rubbing-seizing wheels and massaging wheels, and said massaging wheels have their support shafts respectively fitted in said shaft holes of said movable member.

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8. The massaging device as claimed in Claim 6, wherein said movable member is provided with rubbing-seizing wheels, and said massaging wheels have their support shaft respectively fitted in the shaft holes of said rails.

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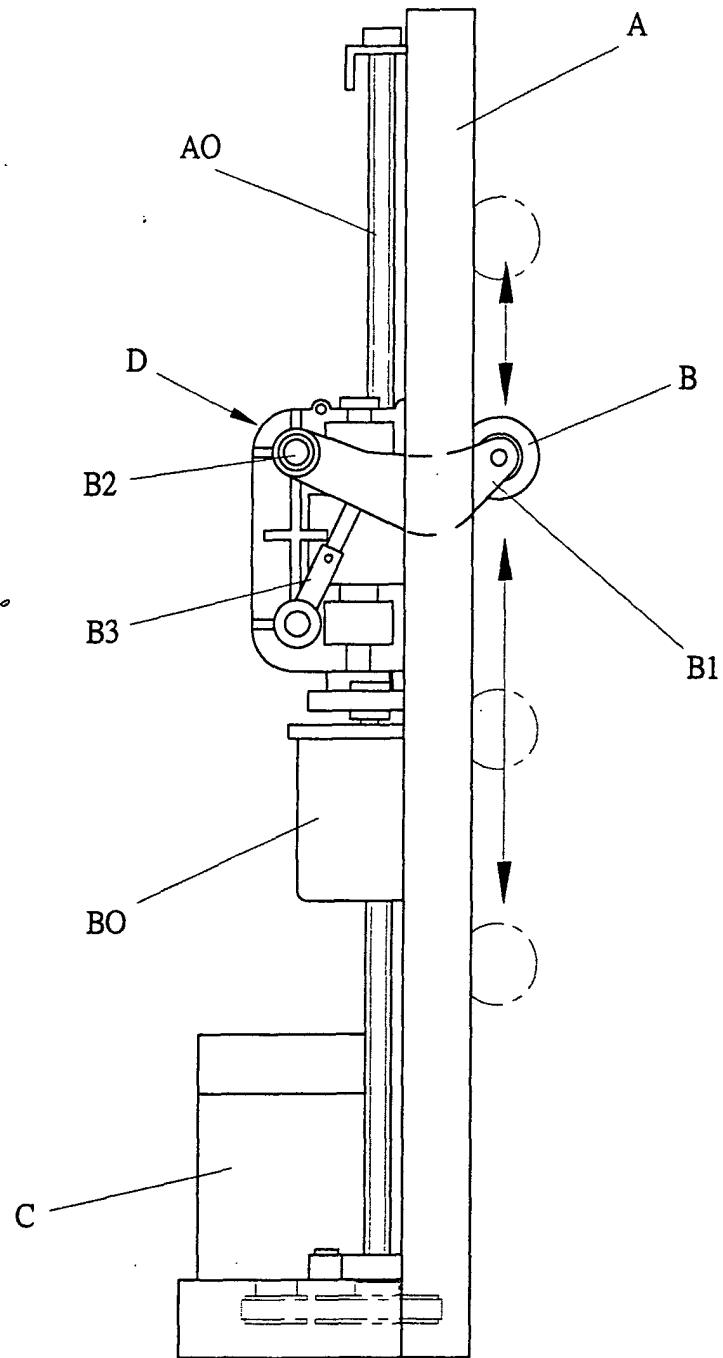


FIG 1 (PRIOR ART)

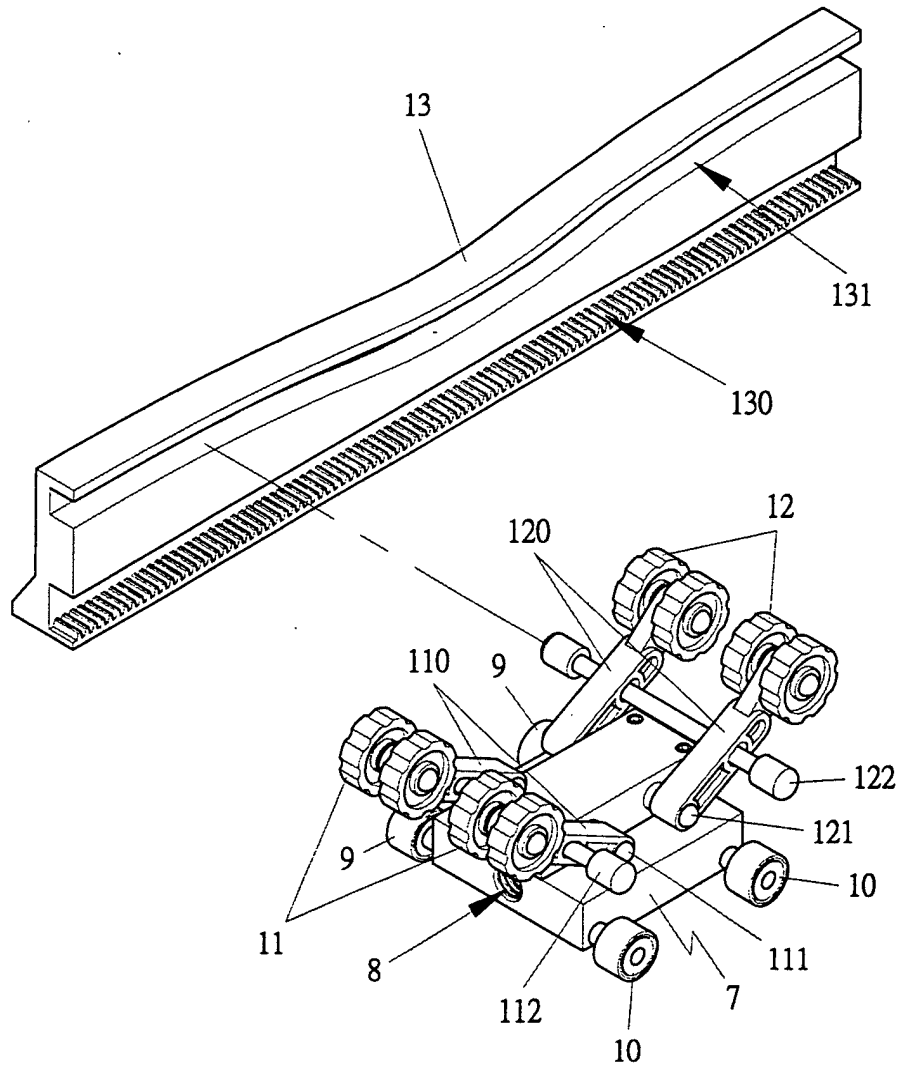


FIG 2

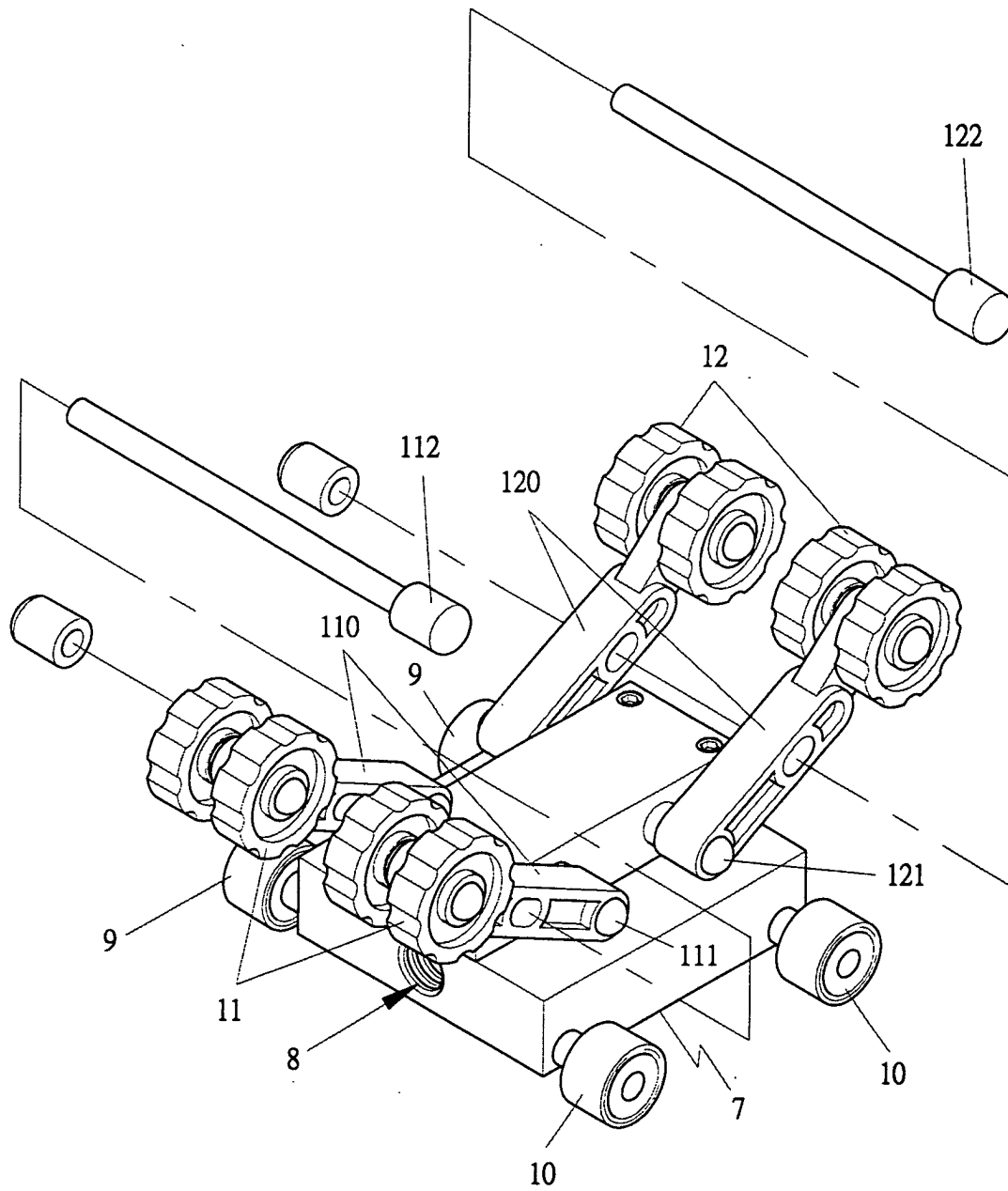


FIG 3

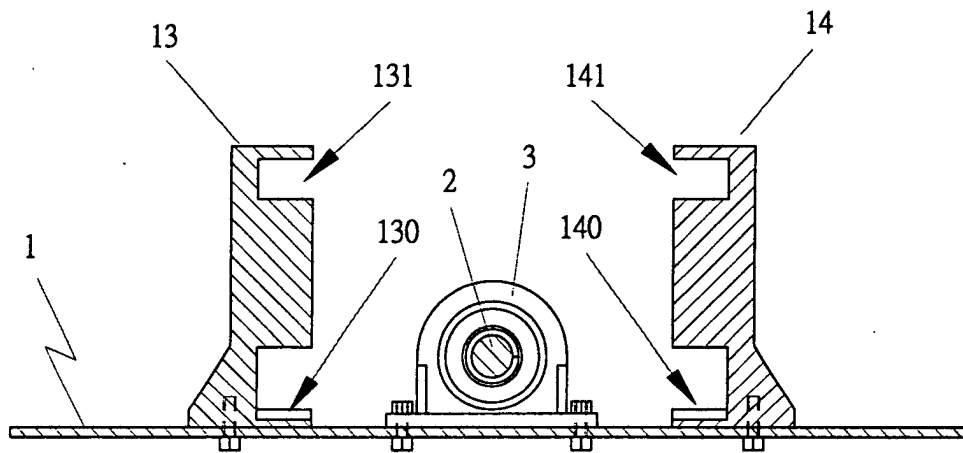


FIG 4

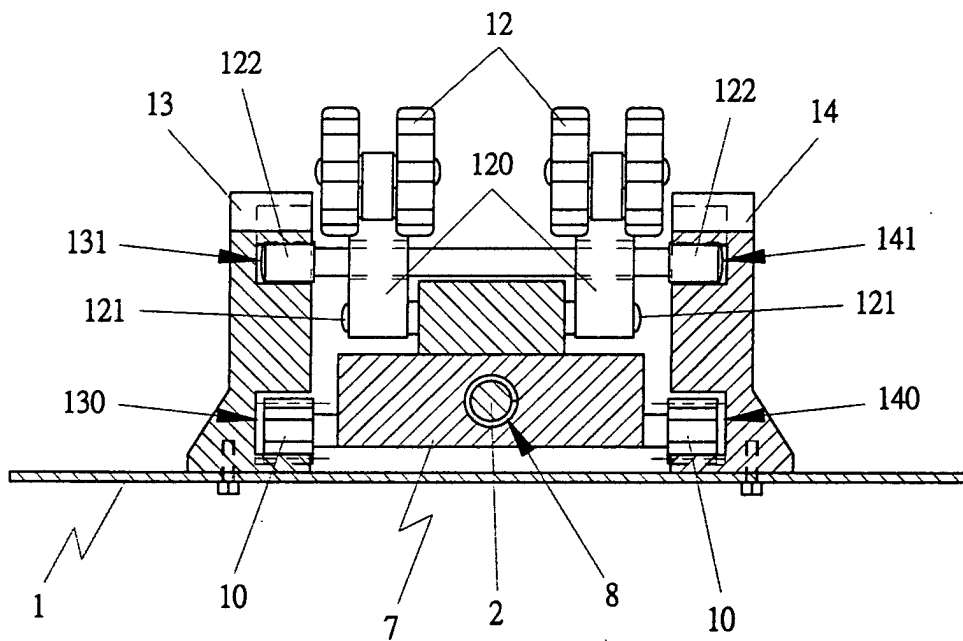


FIG 5

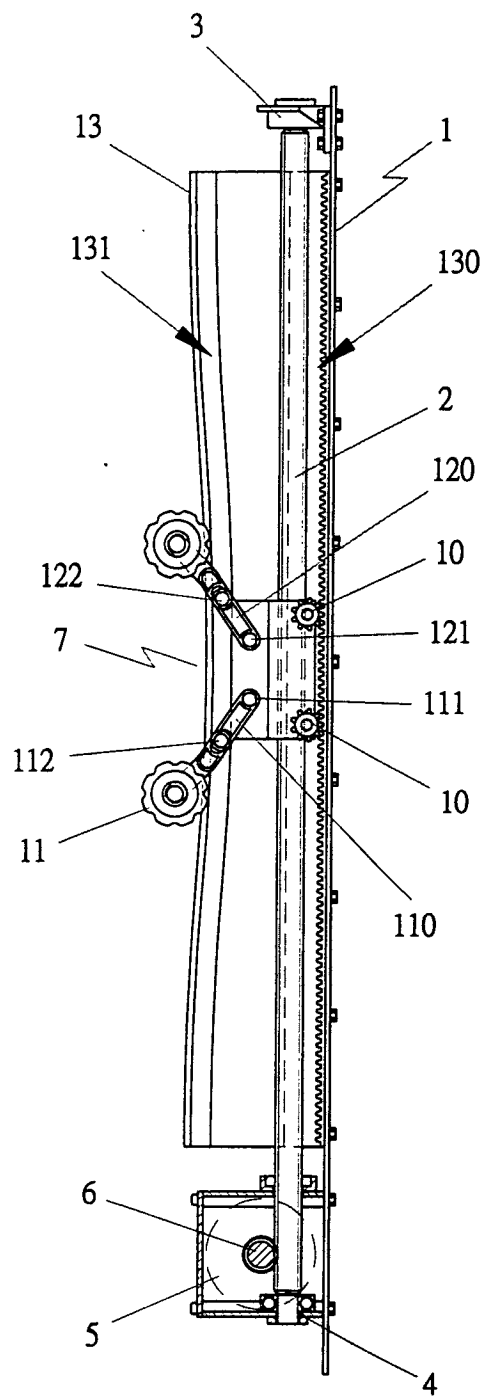


FIG 6

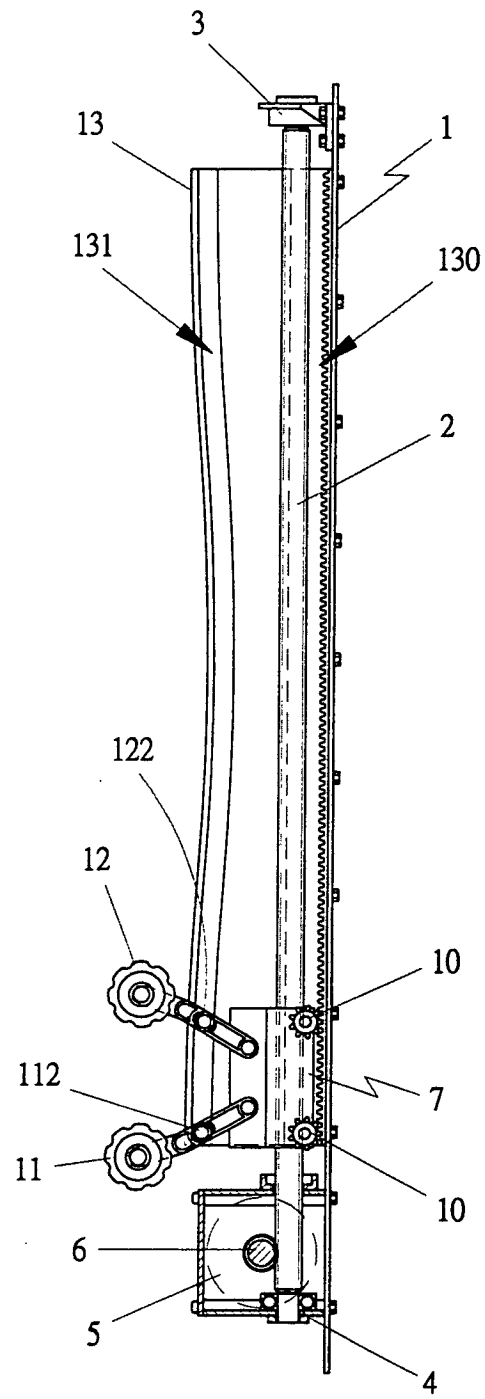


FIG 7

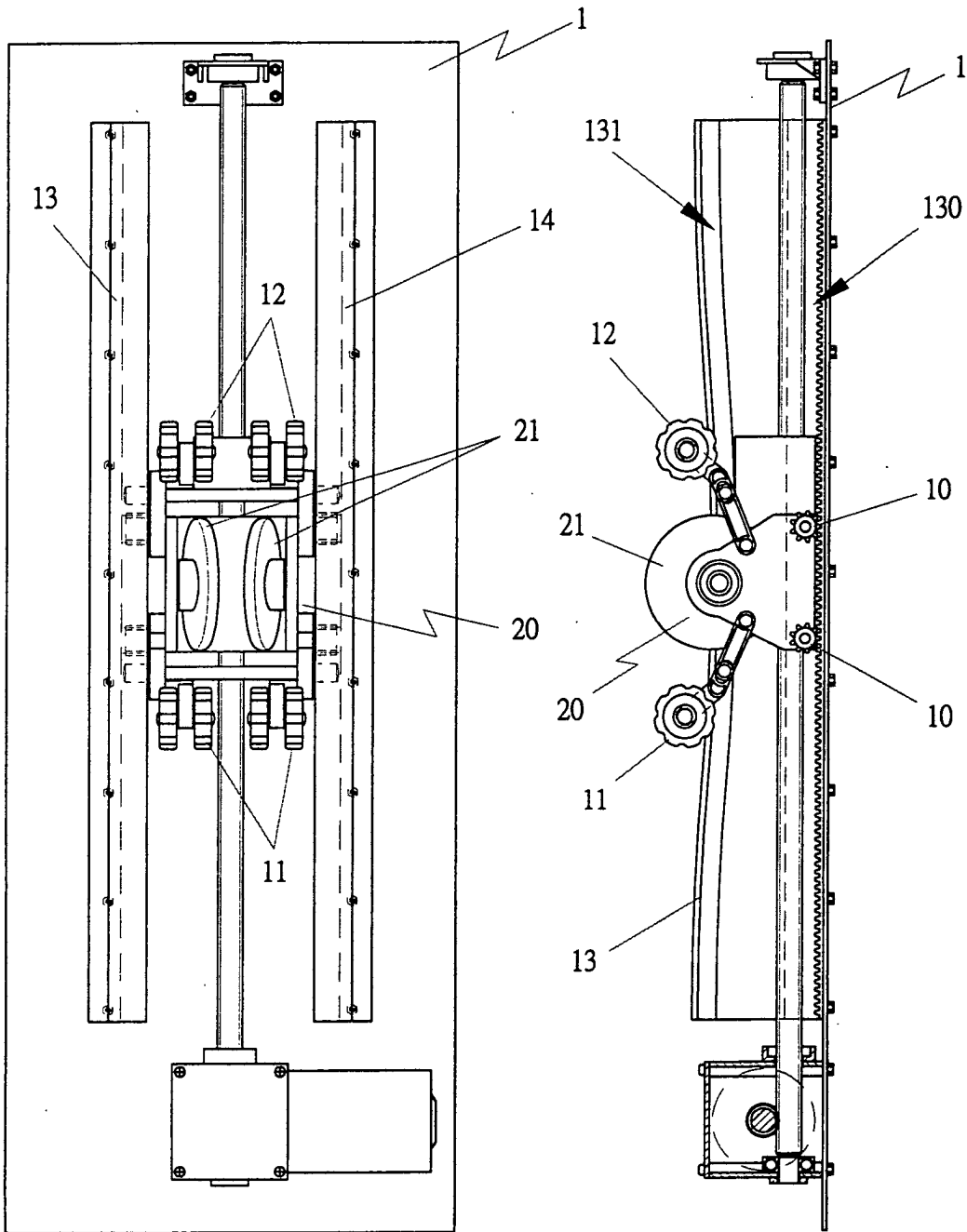


FIG 8

FIG 9

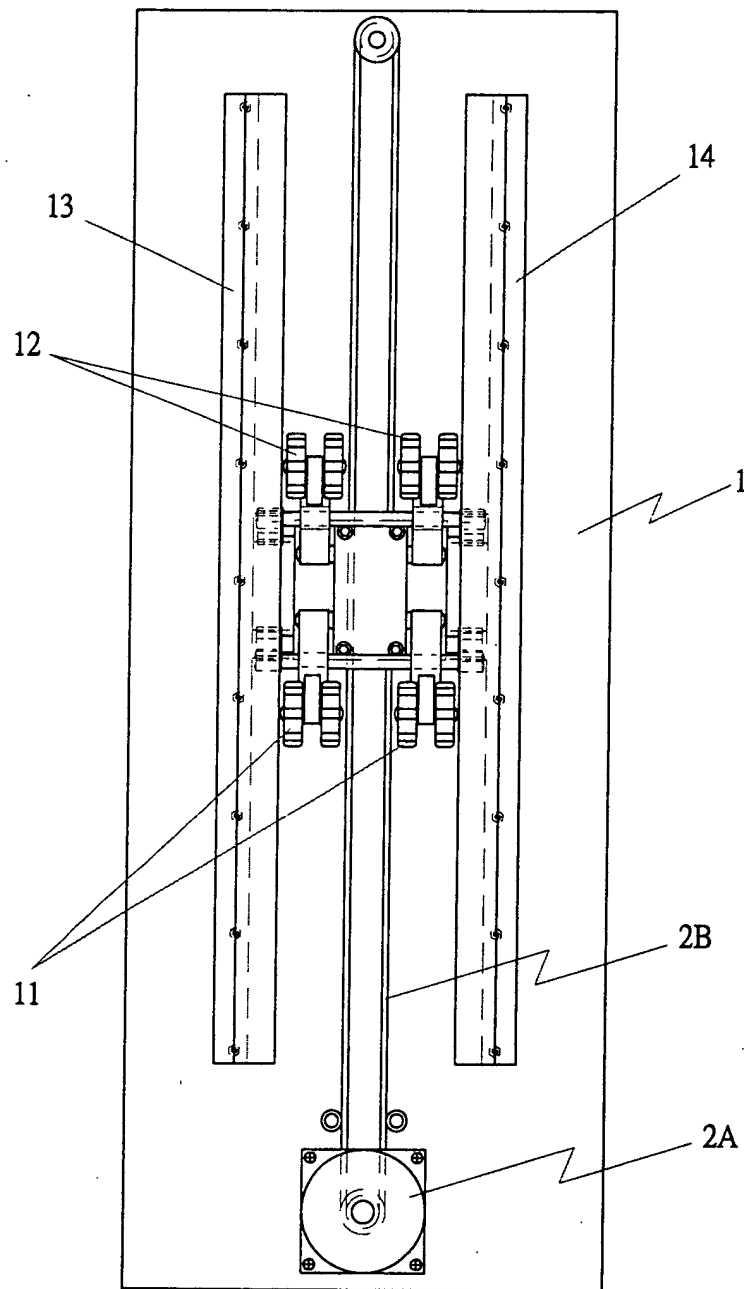


FIG 10

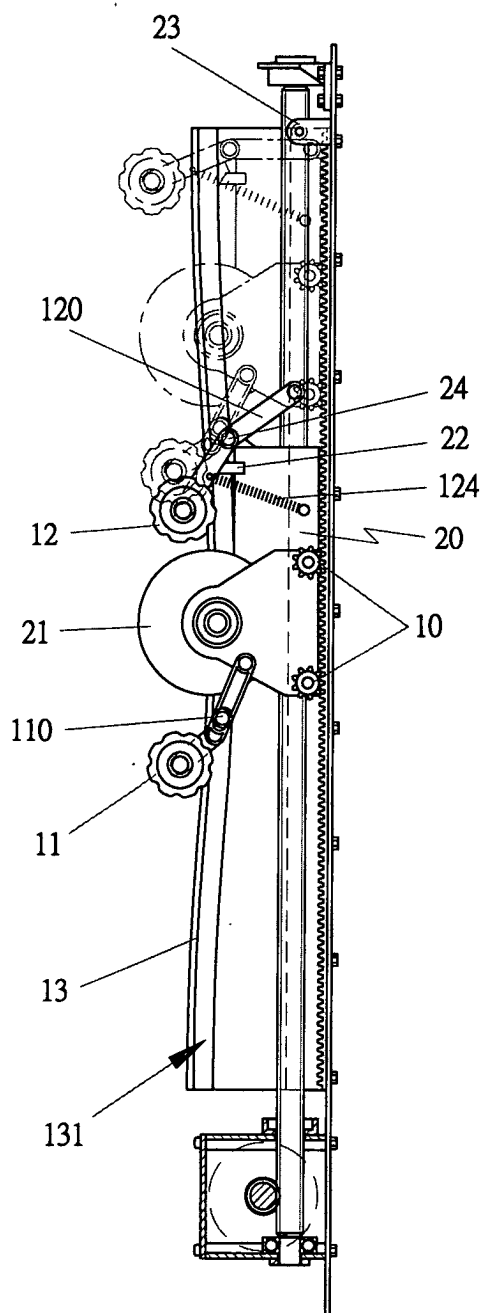


FIG 11

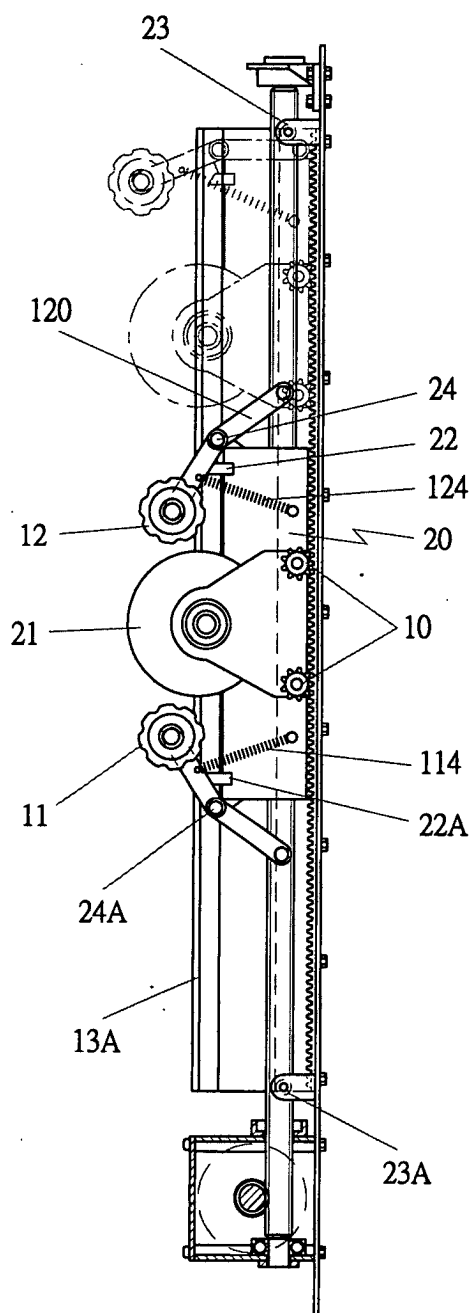


FIG 12

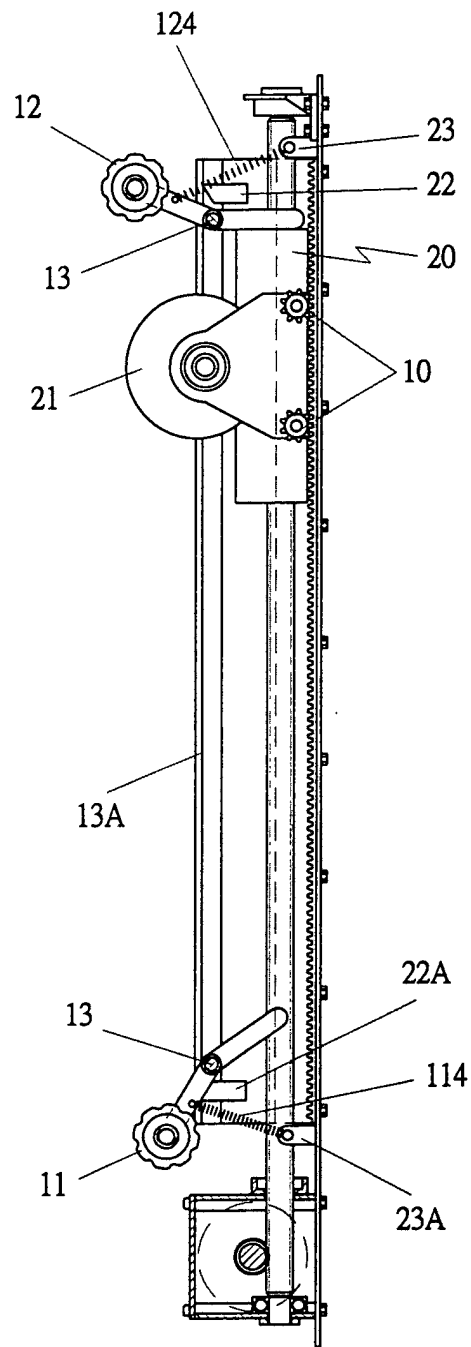


FIG 13

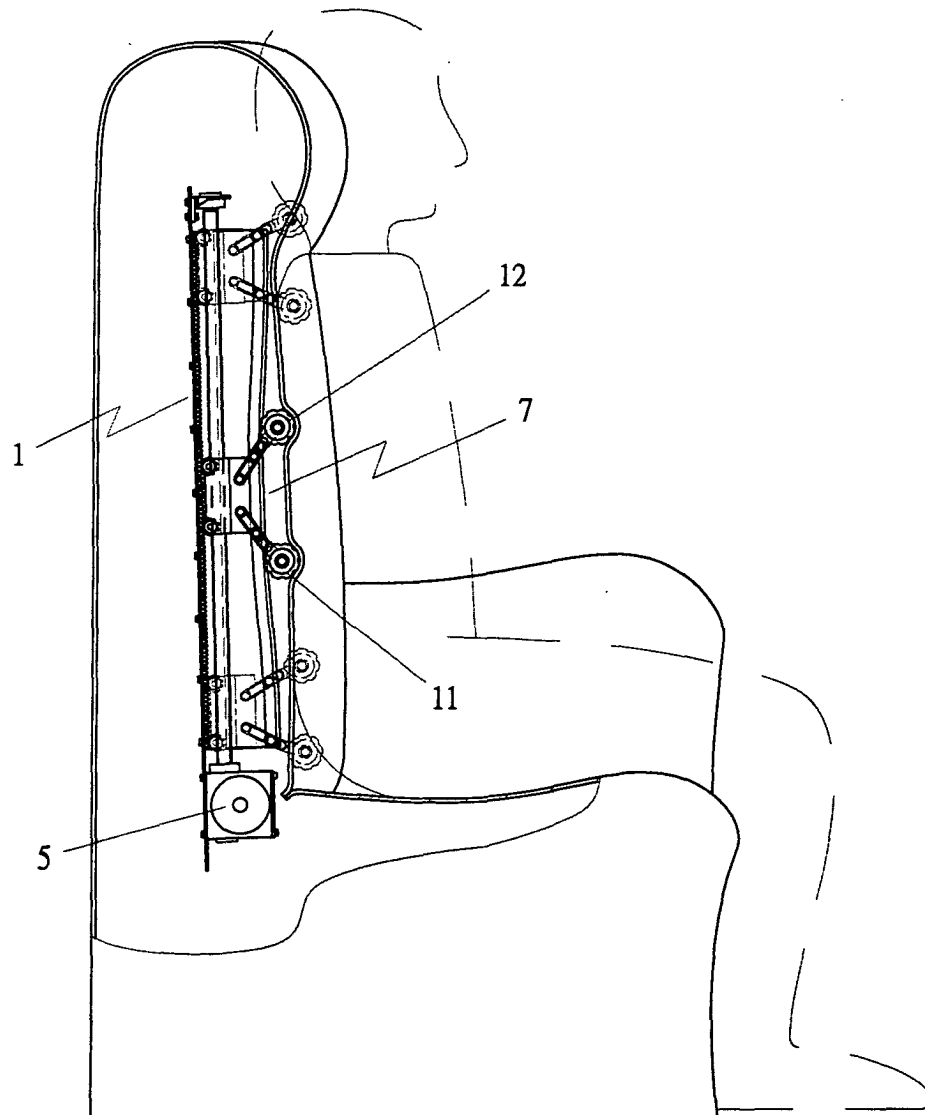


FIG 14



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EUROPEAN SEARCH REPORT

Application Number
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Place of search THE HAGUE		Date of completion of the search 27 May 2003	Examiner Millward, R
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Place of search THE HAGUE		Date of completion of the search 27 May 2003	Examiner Millward, R
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