



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
28.09.2011 Bulletin 2011/39

(51) Int Cl.:
A61H 1/00 (2006.01) A61H 37/00 (2006.01)

(21) Application number: **10157222.0**

(22) Date of filing: **22.03.2010**

(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 MK MT NL NO PL PT RO SE SI SK SM TR
Designated Extension States:
AL BA ME RS

(71) Applicant: **Weightec Electronic Technology Co., Ltd.**
Dongcheng
Dongguan City
Guangdong (CN)

(72) Inventor: **Wu, Chichun**
Guangdong Province (CN)

(74) Representative: **Jordan, Volker Otto Wilhelm**
Weickmann & Weickmann
Patentanwälte
Postfach 860 820
81635 München (DE)

Remarks:
Amended claims in accordance with Rule 137(2) EPC.

(54) **Massage device with a locking mechanism**

(57) The present invention relates to a locking mechanism (180) and a massage device of using same. In one embodiment, the locking mechanism includes a base member (181) secured to a base cover (110) of the massage device, a cushion member (182) positioned over the base member, a bolt member (183) positioned over

the cushion member, a wedge member (184) operably engaged with the bolt member, and an eccentric block (185) engaged with the wedge member and a motor (141) of the massage device. The locking mechanism is configured such that the carriage of the massage device is pre-locked against movements, and the activation of the motor unlocks the massage device.

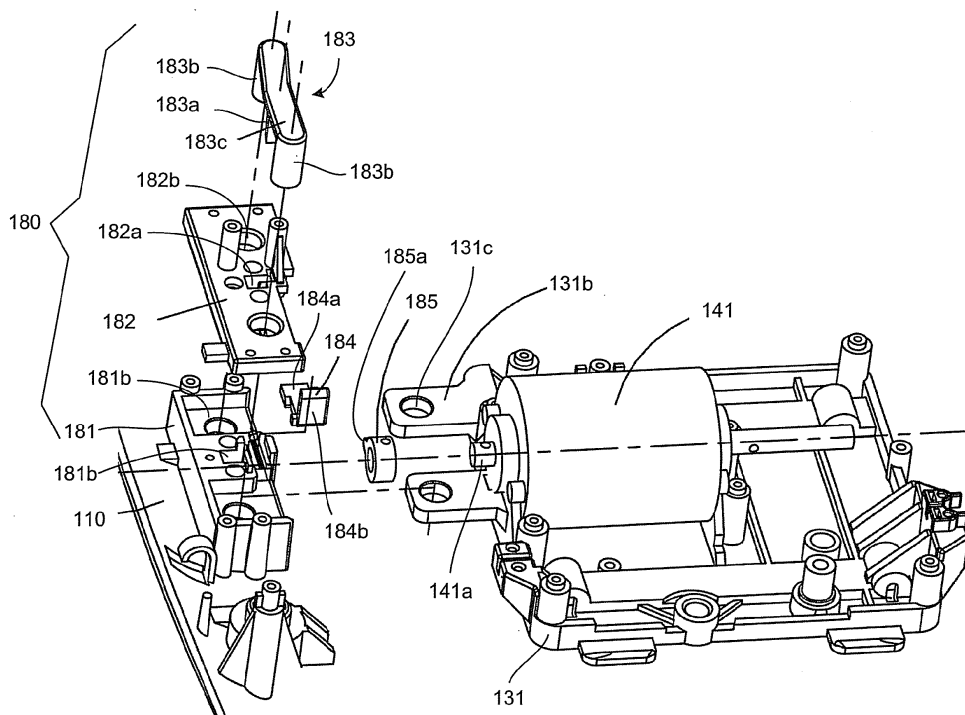


Fig. 3

Description

FIELD OF THE INVENTION

[0001] The present invention relates generally to a massage device, and more particularly to a massage device that utilizes a locking mechanism to releasably lock the massage assemblies from moving.

BACKGROUND OF THE INVENTION

[0002] Simulated massaging or kneading of parts of the body to aid circulation or relax the muscles has gained popularity, particularly, among people who are lack of exercise. The simulated massaging or kneading effects can be achieved electromagnetically and/or mechanically by means of a massage device. For the mechanical massaging or kneading, the massage device is usually designed to have a plurality of massage nodes and a driving system to drive the plurality of massage nodes to rotate so as to simulate massaging or kneading when applied to parts of interest of the body, and also move back and forth along a massage case so as to move the plurality of massage nodes to the parts of interest of the body.

[0003] Usually, means such as screws are used to secure massage assemblies including massage nodes of a massage device to its massage case so as to present movements of the massage assemblies against the massage case during transportation. For such a massage device, if users inadvertently activate the massage device without unscrewing the screws, it will damage the massage device.

[0004] Therefore, a heretofore unaddressed need exists in the art to address the aforementioned deficiencies and inadequacies.

SUMMARY OF THE INVENTION

[0005] The present invention, in one aspect, relates to a locking mechanism 180 usable for a massage device 100 having a base cover 110 and a carriage 130 movably engaged with the base cover 110 and at least one motor 141 secured in the carriage 130, where the carriage 130 comprises a chassis member 131 having at least one tab 131a protruded from one end 131b.

[0006] In one embodiment, the locking mechanism 180 includes a base member 181 defining a bore 181b and at least one step-like recess 181a for releasably locking the carriage 130. The base member 181 is secured to a base cover 110. The locking mechanism 180 also includes a cushion member 182 having a first opening 182a, and at least one second opening 182b, positioned over the base member 181 such that the first opening 182a and the at least one second opening 182b are respectively corresponding to the bore and the at least one step-like recess 181a of the base member 181. Further, the locking mechanism 180 includes a bolt member 183

having a body portion 183c, and a peg 183a and at least one cylindrical column 183b respectively protruded from the body portion 183c, positioned over the cushion member 182 such that the peg 183a and the at least one cylindrical column 183b are respectively corresponding to the first opening 182a and the at least one second opening 182b of the cushion member 182. Moreover, the locking mechanism 180 includes a wedge member 184 having a base portion 184a and a side portion 184b extending at an angle from the base portion 184a, positioned such that the base portion 184 is under the cushion member 182 and operably engaged with the bolt member 183. Additionally, the locking mechanism 180 includes an eccentric block 185 having a protrusion 185a, engaged with the at least one motor 141 such that the protrusion 185a is operably against to the side portion 184b of the wedge member 184. The locking mechanism may also include an ejector positioned under the peg 183a of the bolt member 183. The wedge member 184 is formed in an L-like shape.

[0007] The locking mechanism 180 is pre-set such that the at least one tab 131a of the chassis member 131 is received in the at least one step-like recess 181a of the base member 181; the peg 183a of the bolt member 183 is snapped, through the first opening 182a of the cushion member 182, into the bore of the base member 181; the at least one cylindrical column 183b of the bolt member 183 is snapped, through the at least one second opening 182b of the cushion member 182 and the hole 131c of the at least one tab 131a of the chassis member 131, into the at least one step-like recess 181a of the base member 181; and the base portion 184 of the wedge member 184 is positioned under the cushion member 182 and releasably engaged with the bolt member 183, thereby locking the carriage 130 from moving.

[0008] When the motor 141 is activated, the eccentric block 185 rotates around the driving shaft 141a of the motor 141, and the rotation of the eccentric block 185 causes the protrusion 185a to push the side portion 184b of the wedge member 184 to move towards a position limit point of the cushion member 182 so as to eject the bolt member 183, thereby releasing the at least one tab 131a of the chassis member 131 from the base member 181 of the locking mechanism 180.

[0009] In another aspect, the present invention relates to a massage device 100. In one embodiment, the massage device 100 has (a) a base cover 110 having a first end portion 113 and an opposite, second end portion 114, a longitudinal axis 111 and a plurality of guiding rails 112 formed parallel to the longitudinal axis 111; (b) a carriage 130 having a chassis member 131 having a plurality of grooves 134 formed in the bottom surface, and at least one tab 131b protruded from one end 131a, the at least one tab 131a defining a hole 131c therein; where when the carriage 130 is engaged with the base cover 110, the plurality of guiding rails 112 is received in the plurality of grooves 134 of the chassis member 131, respectively, and the carriage 130 is movable back and

forth along the plurality of guiding rails 112 of the base cover 110; (c) a transmission assembly having at least one motor 141 having a driving shaft 141a, secured in the carriage 130; and (d) a massage assembly having a pair of massage members 150 engaged with the transmission assembly such that when the at least one motor 141 is activated, the pair of massage members 150 provides massage and/or kneading effects to a user.

[0010] The massage device 100 further has a locking mechanism 180. The locking mechanism 180 comprises (i) a base member 181 defining a bore and at least one step-like recess 181a for releasably receiving the at least one tab 131a of the chassis member 131, the base member 181 being secured to the first end portion 113 of the a base cover 110; (ii) a cushion member 182 having a first opening 182a, and at least one second opening 182b, positioned over the base member 181 such that the first opening 182a and the at least one second opening 182b are respectively corresponding to the bore and the at least one step-like recess 181a of the base member 181; (iii) a bolt member 183 having a body portion 183c, and a peg 183a and at least one cylindrical column 183b respectively protruded from the body portion 183c, positioned over the cushion member 182 such that the peg 183a and the at least one cylindrical column 183b are respectively corresponding to the first opening 182a and the at least one second opening 182b of the cushion member 182; (vi) a wedge member 184 having a base portion 184a and a side portion 184b extending at an angle from the base portion 184a, positioned such that the base portion 184 is under the cushion member 182 and operably engaged with the bolt member 183; and (v) an eccentric block 185 having a protrusion 185a, mounted to the driving shaft 141a of the at least one motor 141 such that the protrusion 185a is operably against to the side portion 184b of the wedge member 184.

[0011] The locking mechanism 180 is pre-set such that the at least one tab 131a of the chassis member 131 is received in the at least one step-like recess 181a of the base member 181; the peg 183a of the of the bolt member 183 is snapped, through the first opening 182a of the cushion member 182, into the bore of the base member 181; the at least one cylindrical column 183b of the bolt member 183 is snapped, through the at least one second opening 182b of the cushion member 182 and the hole 131c of the at least one tab 131a of the chassis member 131, into the at least one step-like recess 181a of the base member 181; and the base portion 184 of the wedge member 184 is positioned under the cushion member 182 and releasably engaged with the bolt member 183, thereby locking the chassis member 131 from moving.

[0012] When the motor 141 is activated, the eccentric block 185 rotates around the driving shaft 141a of the motor 141, and the rotation of the eccentric block 185 causes the protrusion 185a to push the side portion 184b of the wedge member 184 to move towards a position limit point of the cushion member 182 so as to eject the bolt member 183, thereby releasing the at least one tab

131a of the chassis member 131 from the base member 181 of the locking mechanism 180.

[0013] In one embodiment, the transmission assembly includes a first transmission assembly 140 secured in the carriage 130, and a second transmission assembly 170 engaged with the first transmission assembly 140.

[0014] The first transmission assembly 140 comprises a first motor 141 having an output shaft 141a, a first worm 142 mechanically coupled with the output shaft 141a of the first motor 141, and one or more worm gears 143 mechanically coupled with the first worm 142 and the pair of massage members 150, such that when the first motor 141 is activated, it drives the first worm 142 to rotate, the rotation of the first worm 142 results in, in turn, the rotations of the one or more worm gears 143, thereby causing the pair of massage members 150 to provide the massage and/or kneading effects to the user.

[0015] The second transmission assembly 170 comprises a hoist transmission mechanism 175, a second motor 171 having an output shaft 171a, a second worm 172 mechanically coupled with the output shaft 171a of the second motor 171, one or more worm gears 173 mechanically coupled with the second worm 172 and the hoist transmission mechanism 175 such that when the second motor 171 is activated, it drives the second worm 172 to rotate, the rotation of the second worm 172 results in, in turn, the rotations of the one or more worm gears 173, thereby moving the carriage 130 along the plurality of the guiding rails of the base cover 110.

[0016] In one embodiment, each massage members 150 comprises an energy source of capable of generating at least one thermal energy and photonic energy, where the source energy comprises a lamp base, a PCB board attached to the lamp base, and heating lamps attached onto the PCB board.

[0017] These and other aspects of the present invention will become apparent from the following description of the preferred embodiment taken in conjunction with the following drawings, although variations and modifications therein may be affected without departing from the spirit and scope of the novel concepts of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The accompanying drawings illustrate one or more embodiments of the invention and, together with the written description, serve to explain the principles of the invention. Wherever possible, the same reference numbers are used throughout the drawings to refer to the same or like elements of an embodiment, and wherein:

Fig. 1 shows an exploded view of a massage device according to one embodiment of the present invention;

Fig. 2 shows a perspective view of the massage device shown in Fig. 1;

Fig. 3 shows a partially exploded view of the massage device shown in Fig. 1;

Fig. 4 shows a partially perspective view of the massage device shown in Fig. 1;

Fig. 5 shows a partially exploded view of the massage device shown in Fig. 1;

Fig. 6 shows a partially perspective view of the massage device shown in Fig. 1;

Fig. 7 shows an exploded view of a hoist transmission mechanism utilized in the massage device shown in Fig. 1; and

Fig. 8 shows a perspective view of the hoist transmission mechanism shown in Fig. 7.

DETAILED DESCRIPTION OF THE INVENTION

[0019] The present disclosure is more particularly described in the following examples that are intended as illustrative only since numerous modifications and variations therein will be apparent to those skilled in the art. Various embodiments of the disclosure are now described in detail. Referring to the drawings, like numbers indicate like components throughout the views. As used in the description herein and throughout the claims that follow, the meaning of "a", "an", and "the" includes plural reference unless the context clearly dictates otherwise. Also, as used in the description herein and throughout the claims that follow, the meaning of "in" includes "in" and "on" unless the context clearly dictates otherwise.

[0020] The terms used in this specification generally have their ordinary meanings in the art, within the context of the disclosure, and in the specific context where each term is used. Certain terms that are used to describe the disclosure are discussed below, or elsewhere in the specification, to provide additional guidance to the practitioner regarding the description of the disclosure. The use of examples anywhere in this specification, including examples of any terms discussed herein, is illustrative only, and in no way limits the scope and meaning of the disclosure or of any exemplified term. Likewise, the disclosure is not limited to various embodiments given in this specification.

[0021] As used herein, the terms "comprising," "including," "having," "containing," "involving," and the like are to be understood to be open-ended, i.e., to mean including but not limited to.

[0022] The description will be made as to the embodiments of the present invention in conjunction with the accompanying drawings in Figs. 1-8. In accordance with the purposes of this invention, as embodied and broadly described herein, this invention, in one aspect, relates to a locking mechanism to releasably lock the massage assemblies from moving.

[0023] Referring first to Figs. 1-8, a massage device 100 is shown according to one embodiment of the present invention. The massage device 100 includes a base cover 110, a carriage 130, a transmission assembly having a first transmission assembly 140 and a second trans-

mission assembly 170, a massage assembly having a pair of massage members 150, and a locking mechanism 180.

[0024] The base cover 110 has a first end portion 113, an opposite, second end portion 114, a longitudinal axis 111 and two guiding rails 112 formed parallel to the longitudinal axis 111. The two guiding rails 112 are adapted for cooperating with the carriage 130 and translating the pair of massage members 150 along the longitudinal axis 111. Other numbers of guiding rails can also be utilized to practice the present invention. The base cover 110 may also have a series of ribs 115 and supporting structures 116 for supporting and securing a top cover (cushion) to form a housing for accommodating the carriage 130, the first transmission assembly 140 and the massage assembly therein. The base cover 110 is made of a durable material, such as wood, plastic, alloy or the like.

[0025] The carriage 130 includes a chassis member 131 having an end portion 131a and at least one tab 131a protruded from the end portion 131b, where the at least one tab 131b defines a hole 131c therein, and a shield member 132. The shield member 132 is placed over the chassis member 131 to form a chamber between the chassis member 131 and the shield member 132. The chassis member 131 has two grooves 134 spaced-apart and formed on the bottom surface of the chassis member 131. The two grooves 134 are configured and sized to receive the two guiding rails 112 of the base cover 110, respectively. The cooperation of the guiding rails 112 of the base cover 110 and the grooves 134 of the chassis member 131 provides longitudinal guidance and support to the carriage 130 as it translates along the guiding rails 112. That is, when the carriage 130 is engaged with the base cover 110, the guiding rails 112 are respectively received in the grooves 134 of the chassis member 131, respectively, and the carriage 130 is longitudinally movable back and forth along the plurality of guiding rails 112 of the base cover 110. Other numbers of grooves can also be utilized to practice the present invention. The number of grooves 134 is corresponding to the number of guiding rails 112 formed in the base cover 110.

[0026] The first transmission assembly 140 is secured in the carriage 130. As shown in Fig. 5, the first transmission assembly 140 includes a first motor 141 having an output shaft 141a, a first worm 142 mechanically coupled with the output shaft 141a of the first motor 141, and one or more worm gears 143 mechanically coupled with the first worm 142 and the pair of massage members 150. The one or more worm gears 143 includes a first worm gear 143a mechanically coupled with the first worm 142, and a second worm gear 143b mechanically coupled with the first worm gear 143a. Further, the first transmission assembly 140 has massage driving brackets 151 mechanically coupled with the second worm gear 143b through a driving shaft 144 and eccentric wheels 145 and 146. The massage driving brackets 151 are operably engaged with the pair of massage members 150. As such, when the first motor 141 is activated, it drives the first

worm 142 to rotate, the rotation of the first worm 142 results in, in turn, the rotations of the one or more worm gears 143, which results in swing movements and gyro rotations of the eccentric wheels 145 and 146, thereby causing the pair of massage members 150 to provide the

[0027] The second transmission assembly 170 is engaged with the first transmission assembly 140. As shown in Fig. 7, the second transmission assembly 170 includes a hoist transmission mechanism 175, a second motor 171 having an output shaft 171a, a second worm 172 mechanically coupled with the output shaft 171a of the second motor 171, and one or more worm gears 173 mechanically coupled with the second worm 172 and the hoist transmission mechanism 175. The one or more worm gears 173 have four gears 173a-173d mechanically coupled with one another. The first gear 173a is mechanically coupled to the second worm 172, while the fourth gear 173d mechanically coupled to the hoist transmission mechanism 175 through a shaft 174. For this arrangement, when the second motor 171 is activated, it drives the second worm 172 to rotate, the rotation of the second worm 172 results in, in turn, the rotations of the one or more worm gears 173, thereby moving the carriage 130 along the plurality of the guiding rails of the base cover 110.

[0028] Each massage members 150 includes a massage bracket 155 has a first end portion 155a and a second portion 155b, a pair of massage heads 157 is mounted to the first end portion 155a and the second end portion 155b, respectively, of the massage bracket 155. Both the first and second end portions 155a and 155b are bent towards a direction that is perpendicular to the bracket body. The massage bracket 155 is attached to the massage driving bracket 151.

[0029] Each massage head 157 may have a mushroom-shape or the like. The massage head 157 may include a structure 157a and a mushroom-shape node 157b for housing the structure 157a therein. The massage head 157 may also have an energy source of capable of generating at least one thermal energy and photonic energy. For example, the source energy includes a lamp base, a PCB board attached to the lamp base, and heating lamps attached onto the PCB board.

[0030] As shown in Fig. 3, the locking mechanism 180 includes a base member 181 defining a bore and at least one step-like recess 181a for releasably receiving the at least one tab 131a of the chassis member 131. The base member 181 is secured to the first end portion 113 of the base cover 110 for releasably locking the carriage 130. The locking mechanism 180 also includes a cushion member 182 having a first opening 182a, and at least one second opening 182b, positioned over the base member 181 such that the first opening 182a and the at least one second opening 182b are respectively corresponding to the bore and the at least one step-like recess 181a of the base member 181. Further, the locking mechanism 180 includes a bolt member 183 having a body

portion 183c, and a peg 183a and at least one cylindrical column 183b respectively protruded from the body portion 183c, positioned over the cushion member 182 such that the peg 183a and the at least one cylindrical column 183b are respectively corresponding to the first opening 182a and the at least one second opening 182b of the cushion member 182. Moreover, the locking mechanism 180 includes a wedge member 184 having a base portion 184a and a side portion 184b extending at an angle from the base portion 184a, positioned such that the base portion 184 is under the cushion member 182 and operably engaged with the bolt member 183. Additionally, the locking mechanism 180 includes an eccentric block 185 having a protrusion 185a, engaged with the at least one motor 141 such that the protrusion 185a is operably against to the side portion 184b of the wedge member 184. The locking mechanism may also include an ejector positioned under the peg 183a of the bolt member 183. The wedge member 184 is formed in an L-like shape.

[0031] The locking mechanism 180 is pre-set such that the at least one tab 131a of the chassis member 131 is received in the at least one step-like recess 181a of the base member 181; the peg 183a of the of the bolt member 183 is snapped, through the first opening 182a of the cushion member 182, into the bore of the base member 181; the at least one cylindrical column 183b of the bolt member 183 is snapped, through the at least one second opening 182b of the cushion member 182 and the hole 131c of the at least one tab 131a of the chassis member 131, into the at least one step-like recess 181a of the base member 181; and the base portion 184 of the wedge member 184 is positioned under the cushion member 182 and releasably engaged with the bolt member 183, thereby locking the chassis member 131 from moving.

[0032] When the motor 141 is activated, the eccentric block 185 rotates around the driving shaft 141a of the motor 141, and the rotation of the eccentric block 185 causes the protrusion 185a to push the side portion 184b of the wedge member 184 to move towards a position limit point of the cushion member 182 so as to eject the bolt member 183, thereby releasing the at least one tab 131a of the chassis member 131 from the base member 181 of the locking mechanism 180.

[0033] Briefly, the present invention, among other things, recites a massage device that utilizes a locking mechanism to releasably lock the massage assemblies from moving.

[0034] The foregoing description of the exemplary embodiments of the invention has been presented only for the purposes of illustration and description and is not intended to be exhaustive or to limit the invention to the precise forms disclosed. Many modifications and variations are possible in light of the above teaching.

[0035] The embodiments were chosen and described in order to explain the principles of the invention and their practical application so as to activate others skilled in the art to utilize the invention and various embodiments and with various modifications as are suited to the particular

use contemplated. Alternative embodiments will become apparent to those skilled in the art to which the present invention pertains without departing from its spirit and scope. Accordingly, the scope of the present invention is defined by the appended claims rather than the foregoing description and the exemplary embodiments described therein.

[0036] The present invention relates to a locking mechanism and a massage device of using same. In one embodiment, the locking mechanism includes a base member secured to the a base cover of the massage device, a cushion member positioned over the base member, a bolt member positioned over the cushion member, a wedge member operably engaged with the bolt member, and an eccentric block engaged with the wedge member and a motor of the massage device. The locking mechanism is configured such that the carriage of the massage device is pre-locked against movements, and the activation of the motor unlocks the massage device.

Claims

1. A locking mechanism 180 usable for a massage device 100 having a base cover 110 and a carriage 130 movably engaged with the base cover 110 and at least one motor 141 secured in the carriage 130, wherein the carriage 130 comprises a chassis member 131 having at least one tab 131a protruded from one end 131b, comprising:
 - (a) a base member 181 defining a bore 181b and at least one step-like recess 181a for releasably locking the carriage 130, the base member 181 secured to the a base cover 110;
 - (b) a cushion member 182 having a first opening 182a, and at least one second opening 182b, positioned over the base member 181 such that the first opening 182a and the at least one second opening 182b are respectively corresponding to the bore and the at least one step-like recess 181a of the base member 181;
 - (c) a bolt member 183 having a body portion 183c, and a peg 183a and at least one cylindrical column 183b respectively protruded from the body portion 183c, positioned over the cushion member 182 such that the peg 183a and the at least one cylindrical column 183b are respectively corresponding to the first opening 182a and the at least one second opening 182b of the cushion member 182;
 - (d) a wedge member 184 having a base portion 184a and a side portion 184b extending at an angle from the base portion 184a, positioned such that the base portion 184 is under the cushion member 182 and operably engaged with the bolt member 183; and
 - (e) an eccentric block 185 having a protrusion 185a, engaged with the at least one motor 141 such that the protrusion 185a is operably against to the side portion 184b of the wedge member 184.
2. The locking mechanism of claim 1, being pre-set such that the at least one tab 131a of the chassis member 131 is received in the at least one step-like recess 181a of the base member 181; the peg 183a of the of the bolt member 183 is snapped, through the first opening 182a of the cushion member 182, into the bore of the base member 181; the at least one cylindrical column 183b of the bolt member 183 is snapped, through the at least one second opening 182b of the cushion member 182 and the hole 131c of the at least one tab 131a of the chassis member 131, into the at least one step-like recess 181a of the base member 181; and the base portion 184 of the wedge member 184 is positioned under the cushion member 182 and releasably engaged with the bolt member 183, thereby locking the carriage 130 from moving.
3. The locking mechanism of claim 2, wherein when the motor 141 is activated, the eccentric block 185 rotates around the driving shaft 141a of the motor 141, and the rotation of the eccentric block 185 causes the protrusion 185a to push the side portion 184b of the wedge member 184 to move towards a position limit point of the cushion member 182 so as to eject the bolt member 183, thereby releasing the at least one tab 131a of the chassis member 131 from the base member 181 of the locking mechanism 180.
4. The locking mechanism of claim 3, further comprising an ejector positioned under the peg 183a of the bolt member 183.
5. The locking mechanism of claim 1, wherein the wedge member 184 is formed in an L-like shape.
6. A massage device 100, comprising:
 - (a) a base cover 110 having a first end portion 113 and an opposite, second end portion 114, a longitudinal axis 111 and a plurality of guiding rails 112 formed parallel to the longitudinal axis 111;
 - (b) a carriage 130 having a chassis member 131 having a plurality of grooves 134 formed in the bottom surface, and at least one tab 131b protruded from one end 131a, the at least one tab 131b defining a hole 131c therein; wherein when the carriage 130 is engaged with the base cover 110, the plurality of guiding rails 112 is received in the plurality of grooves 134 of the chassis member 131, respectively, and the carriage 130 is movable back and forth along the plurality of

guiding rails 112 of the base cover 110;
 (c) a transmission assembly having at least one motor 141 having a driving shaft 141a, secured in the carriage 130;

(d) a massage assembly having a pair of massage members 150 engaged with the transmission assembly such that when the at least one motor 141 is activated, the pair of massage members 150 provides massage and/or kneading effects to a user; and

(e) a locking mechanism 180, comprising:

(i) a base member 181 defining a bore and at least one step-like recess 181a for releasably receiving the at least one tab 131a of the chassis member 131, the base member 181 being secured to the first end portion 113 of the a base cover 110;

(ii) a cushion member 182 having a first opening 182a, and at least one second opening 182b, positioned over the base member 181 such that the first opening 182a and the at least one second opening 182b are respectively corresponding to the bore and the at least one step-like recess 181a of the base member 181;

(iii) a bolt member 183 having a body portion 183c, and a peg 183a and at least one cylindrical column 183b respectively protruded from the body portion 183c, positioned over the cushion member 182 such that the peg 183a and the at least one cylindrical column 183b are respectively corresponding to the first opening 182a and the at least one second opening 182b of the cushion member 182;

(iv) a wedge member 184 having a base portion 184a and a side portion 184b extending at an angle from the base portion 184a, positioned such that the base portion 184 is under the cushion member 182 and operably engaged with the bolt member 183; and

(v) an eccentric block 185 having a protrusion 185a, mounted to the driving shaft 141 a of the at least one motor 141 such that the protrusion 185a is operably against to the side portion 184b of the wedge member 184.

7. The massage device of claim 6, wherein the locking mechanism 180 is pre-set such that the at least one tab 131a of the chassis member 131 is received in the at least one step-like recess 181a of the base member 181; the peg 183a of the of the bolt member 183 is snapped, through the first opening 182a of the cushion member 182, into the bore of the base member 181; the at least one cylindrical column

183b of the bolt member 183 is snapped, through the at least one second opening 182b of the cushion member 182 and the hole 131c of the at least one tab 131a of the chassis member 131, into the at least one step-like recess 181a of the base member 181; and the base portion 184 of the wedge member 184 is positioned under the cushion member 182 and releasably engaged with the bolt member 183, thereby locking the chassis member 131 from moving.

8. The massage device of claim 7, wherein when the motor 141 is activated, the eccentric block 185 rotates around the driving shaft 141a of the motor 141, and the rotation of the eccentric block 185 causes the protrusion 185a to push the side portion 184b of the wedge member 184 to move towards a position limit point of the cushion member 182 so as to eject the bolt member 183, thereby releasing the at least one tab 131a of the chassis member 131 from the base member 181 of the locking mechanism 180.

9. The massage device of claim 6, wherein the transmission assembly comprises a first transmission assembly 140 secured in the carriage 130, and a second transmission assembly 170 engaged with the first transmission assembly 140, wherein the first transmission assembly 140 comprises:

(a) a first motor 141 having an output shaft 141 a, a first worm 142 mechanically coupled with the output shaft 141a of the first motor 141, and one or more worm gears 143 mechanically coupled with the first worm 142 and the pair of massage members 150, such that when the first motor 141 is activated, it drives the first worm 142 to rotate, the rotation of the first worm 142 results in, in turn, the rotations of the one or more worm gears 143, thereby causing the pair of massage members 150 to provide the massage and/or kneading effects to the user; and

wherein the second transmission assembly 170 comprises a hoist transmission mechanism 175, a second motor 171 having an output shaft 171a, a second worm 172 mechanically coupled with the output shaft 171a of the second motor 171, one or more worm gears 173 mechanically coupled with the second worm 172 and the hoist transmission mechanism 175 such that when the second motor 171 is activated, it drives the second worm 172 to rotate, the rotation of the second worm 172 results in, in turn, the rotations of the one or more worm gears 173, thereby moving the carriage 130 along the plurality of the guiding rails of the base cover 110.

10. The massage device of claim 6, wherein each massage members 150 comprises an energy source of capable of generating at least one thermal energy

and photonic energy.

11. The massage device of claim 10, wherein the source energy comprises a lamp base, a PCB board attached to the lamp base, and heating lamps attached onto the PCB board.

Amended claims in accordance with Rule 137(2) EPC.

1. A massage device (100) having a base cover (110) and a carriage (130) movably engaged with the base cover (110) and at least one motor (141) secured in the carriage (130), wherein the carriage (130) comprises a chassis member (131), **characterized in that** the chassis member (131) has at least one tab (131b) protruded from one end (131), and **characterized by** a locking mechanism (180) which comprises :

(a) a base member (181) defining a bore (181b) and at least one step-like recess (181a) for releasably locking the carriage (130), the base member (181) secured to the a base cover (110);

(b) a cushion member (182) having a first opening (182a), and at least one second opening (182b), positioned over the base member (181) such that the first opening (182a) and the at least one second opening (182b) are respectively corresponding to the bore and the at least one step-like recess (181a) of the base member (181);

(c) a bolt member (183) having a body portion (183c), and a peg (183a) and at least one cylindrical column (183b) respectively protruded from the body portion (183c), positioned over the cushion member (182) such that the peg (183a) and the at least one cylindrical column (183b) are respectively corresponding to the first opening (182a) and the at least one second opening (182b) of the cushion member (182),

(d) a wedge member (184) having a base portion (184a) and a side portion (184b) extending at an angle from the base portion (184a), positioned such that the base portion (184b) is under the cushion member (182b) and operably engaged with the bolt member (183); and

(e) an eccentric block (185) having a protrusion (185a) engaged with the at least one motor (141) such that the protrusion (185a) is operably against to the side portion (184b) of the wedge member (184),

wherein the locking mechanism (180) is configured such that the carriage (130) of the massage device is pre-locked against movements, and the activation of the motor (141) unlocks the massage device.

2. The massage device of claim 2, wherein the locking mechanism (180) is pre-set such that the at least one tab (131b) of the chassis member (131) is received in the at least one step-like recess (181a) of the base member (181), the peg (183a) of the of the bolt members (183) is snapped, through the first opening (182a) of the cushion member (182), into the bore of the base member (181) ; the at least one cylindrical column (183b) of the bolt member (183) is snapped, through the at least one second opening (182) of the cushion member (182) and the hole (131c) of the at least one tab (131a) of the chassis member (131), into the at least one step-like recess (181a) of the base member (181); and the base portion (184) of the wedge member (184) is positioned under the cushion member (182) and releasably engaged with the bolt member (183), thereby locking the chassis member (131) from moving.

3. The massage device of claim 2, wherein when the motor (141) is activated, the eccentric block (185) rotates around the driving shaft (141a) of the motor (141), and the rotation of the eccentric block (185) causes the protrusion (185a) to push the side portion (184b) of the wedge member (184) to move towards a position limit point of the cushion member (182) so as to eject the bolt member (183), thereby releasing the at least one tab (131a) of the chassis member (131) from the base member (181) of the locking mechanism (180).

4. The massage device of claim 3, the locking mechanism further comprising an ejector positioned under the peg (183a) of the bolt member (183).

5. The massage device of claim 1, wherein the wedge member (184) is formed in an L-like shape.

6. The massage device (100) according to one of claims 1 to 5, wherein:

(a) the base cover (110) has a first end portion (113) and an opposite, second end portion (114), a longitudinal axis (111) and a plurality of guiding rails (112) formed parallel to the longitudinal axis (111) ;

(b) the chassis member (131) has a plurality of grooves (134) formed in the bottom surface, and the at least one tab (131b) defining a hole (131c) therein; wherein when the carriage (130) is engaged with the base cover (110), the plurality of guiding rails (112) is received in the plurality of grooves (134) of the chassis member (131), respectively, and the carriage (130) is movable back and forth along the plurality of guiding rails (112) of the base cover (10),

(c) a transmission assembly having at least one motor (141) having a driving shaft (141a), se-

cured in the carriage (130) is provided ;

(d) a massage assembly having a pair of massage members (150) engaged with the transmission assembly such that when the at least one motor (141) is activated, the pair of massage members (150) provided massage and/or kneading effects to a user is provided ; and

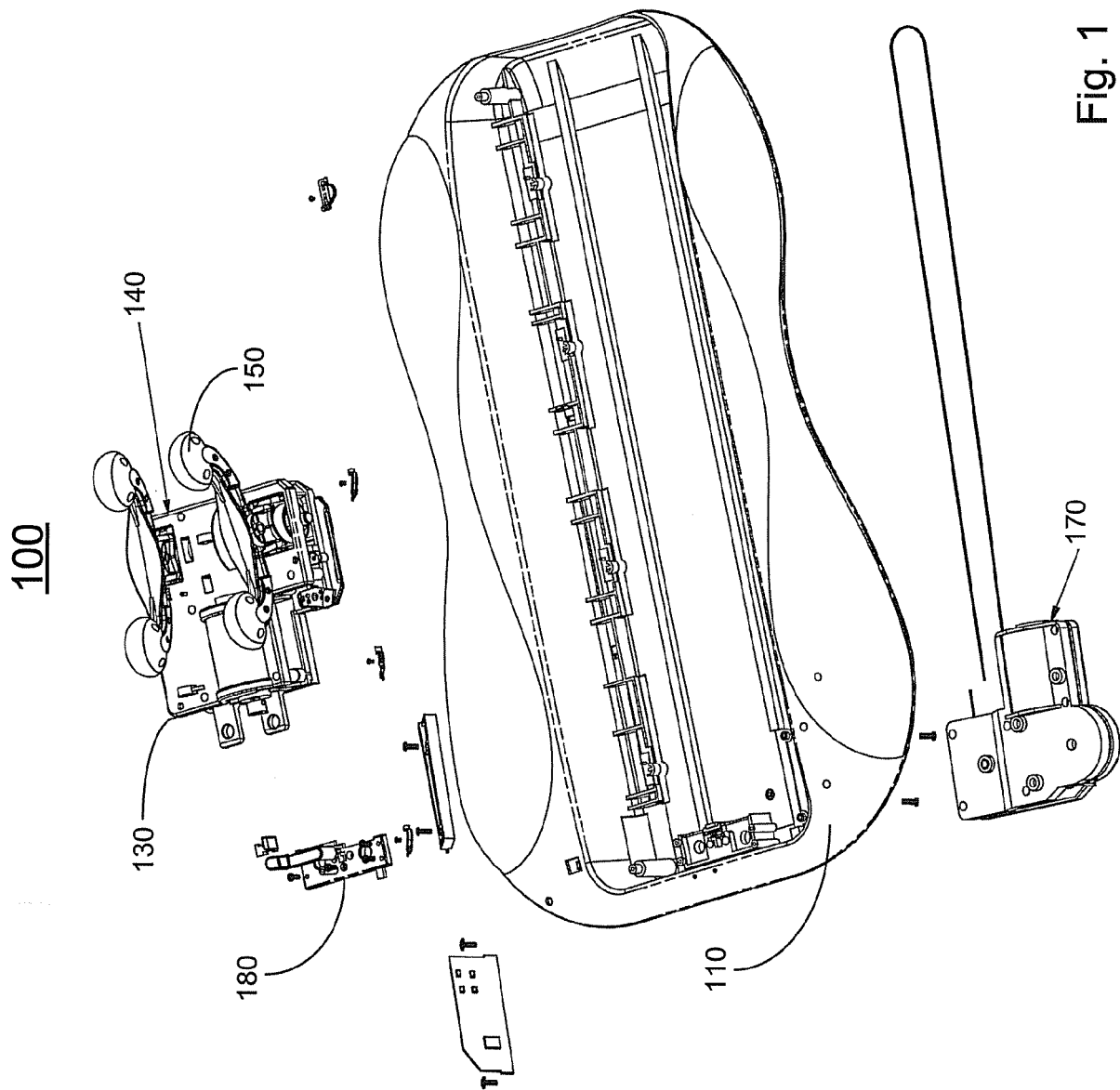
(e) the locking mechanism (180) is provided such that : the base member (181) defines the bore and the at least one step-like recess (181a) for releasably receiving the at least one tab (131b) of the chassis member (131), the base member (181) being secured to the first end portion (113) of the base cover (110); the protrusion (185a) is mounted to the driving shaft (141a) of the at least one motor (141) such that the protrusion (185a) is operably against to the side portion (184b) of the wedge member (184).

7. The massage device of claim 6, wherein the transmission assembly comprises a first transmission assembly (140) secured in the carriage (130), and a second transmission assembly (170) engaged with the first transmission assembly (140), wherein the first transmission assembly (140) comprises:

(a) a first motor (141) having an output shaft (141a), a first worm (142) mechanically coupled with the output shaft (141a) of the first motor (141), and one or more worm gears (143) mechanically coupled with the first worm (142) and the pair of massage members (150), such that when the first motor (141) is activated, it drives the first worm (142) to rotate, the rotation of the first worm (142) results in, in turn, the rotations of the one or more worm gears (143), thereby causing the pair of massage members (150) to provide the massage and/or kneading effects to the user; and wherein the second transmission assembly (170) comprises a hoist transmission mechanism (175), a second motor (171) having an output shaft (171a), a second worm (172) mechanically coupled with the output shaft (171a) of the second motor (171), one or more worm gears (173) mechanically coupled with the second worm (172) and the hoist transmission mechanism (175) such that when the second motor (171) is activated, it drives the second worm (172) to rotate, the rotation of the second worm (172) results in, in turn, the rotations of the one or more worm gears (173), thereby moving the carriage (130) along the plurality of the guiding rails of the base cover (110).

8. The massage device of claim 6, wherein each massage members (150) comprises a source of capable of generating at least one thermal energy and photonic energy.

9. The massage device of claim 8, wherein the source comprises a lamp base, a PCB board attached to the lamp base, and heating lamps attached onto the PCB board.



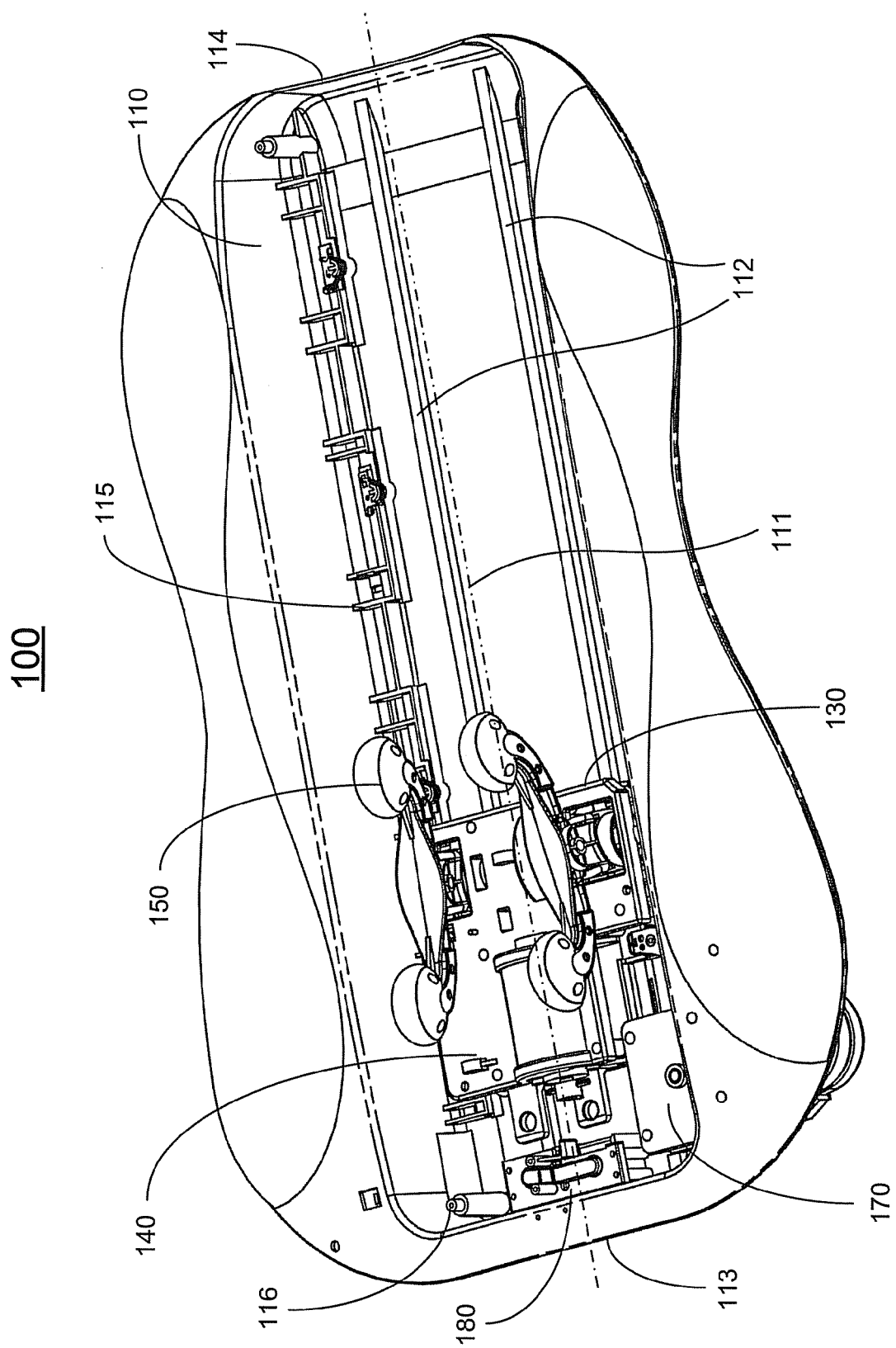


Fig. 2

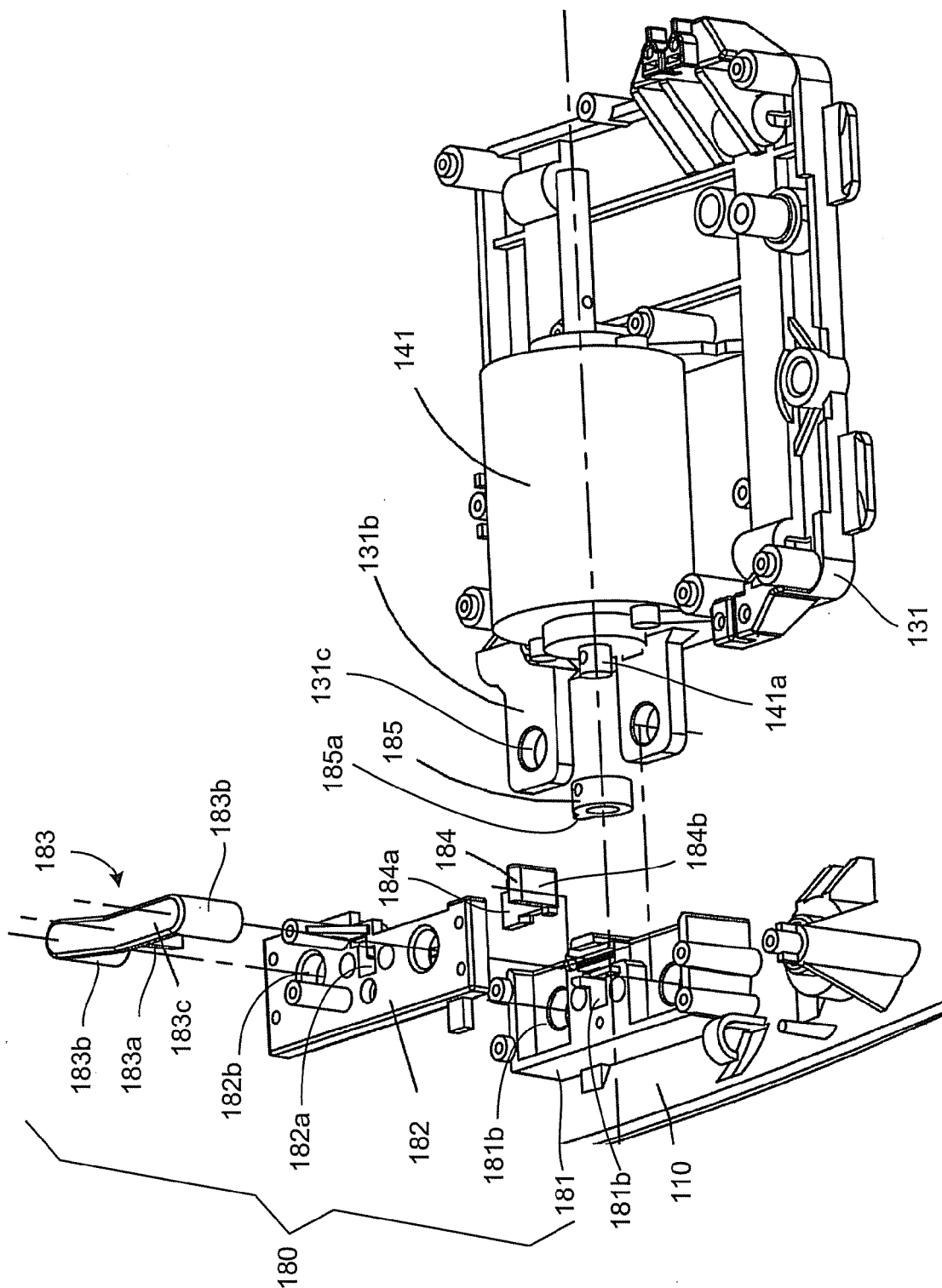


Fig. 3

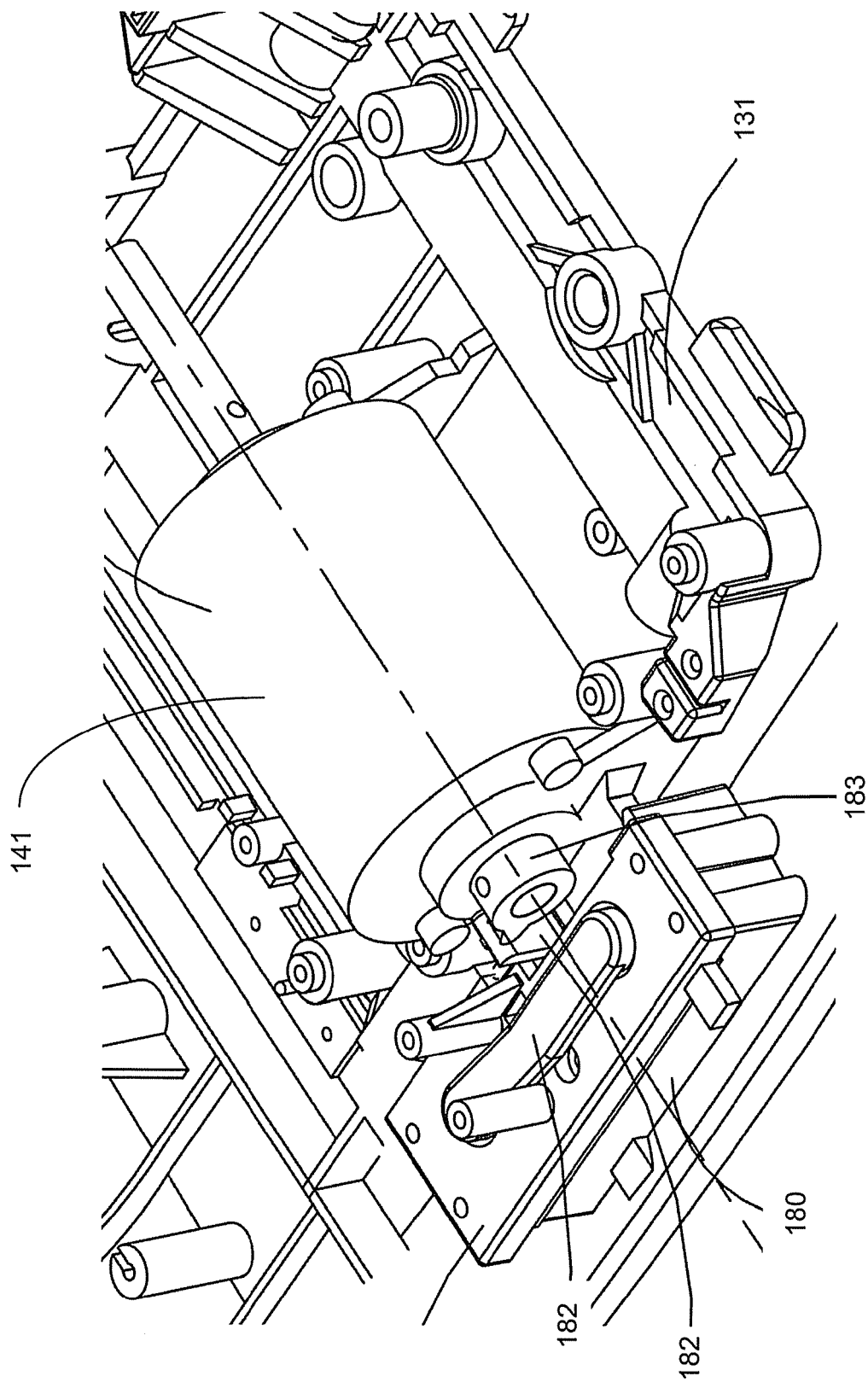


Fig. 4

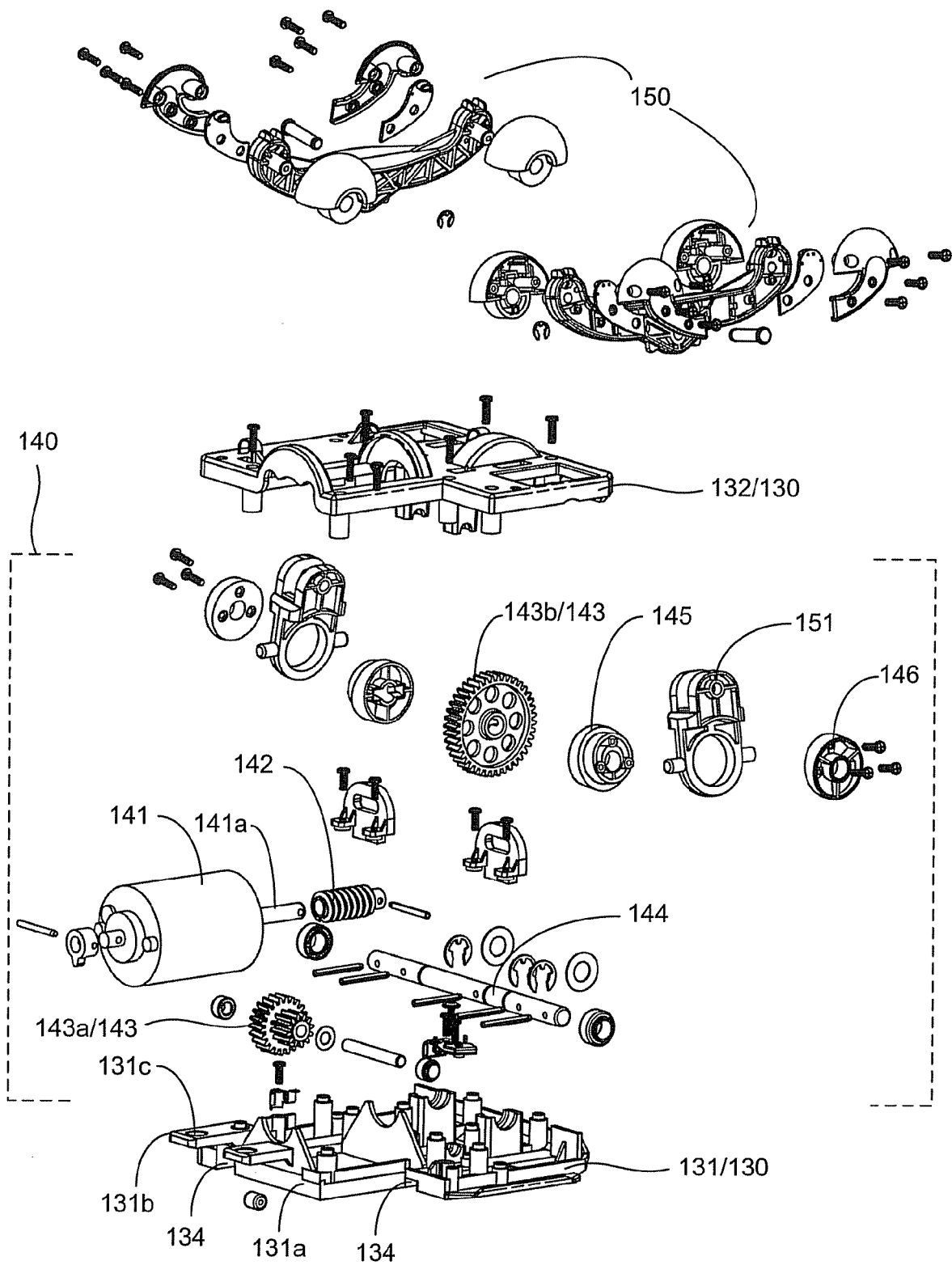


Fig. 5

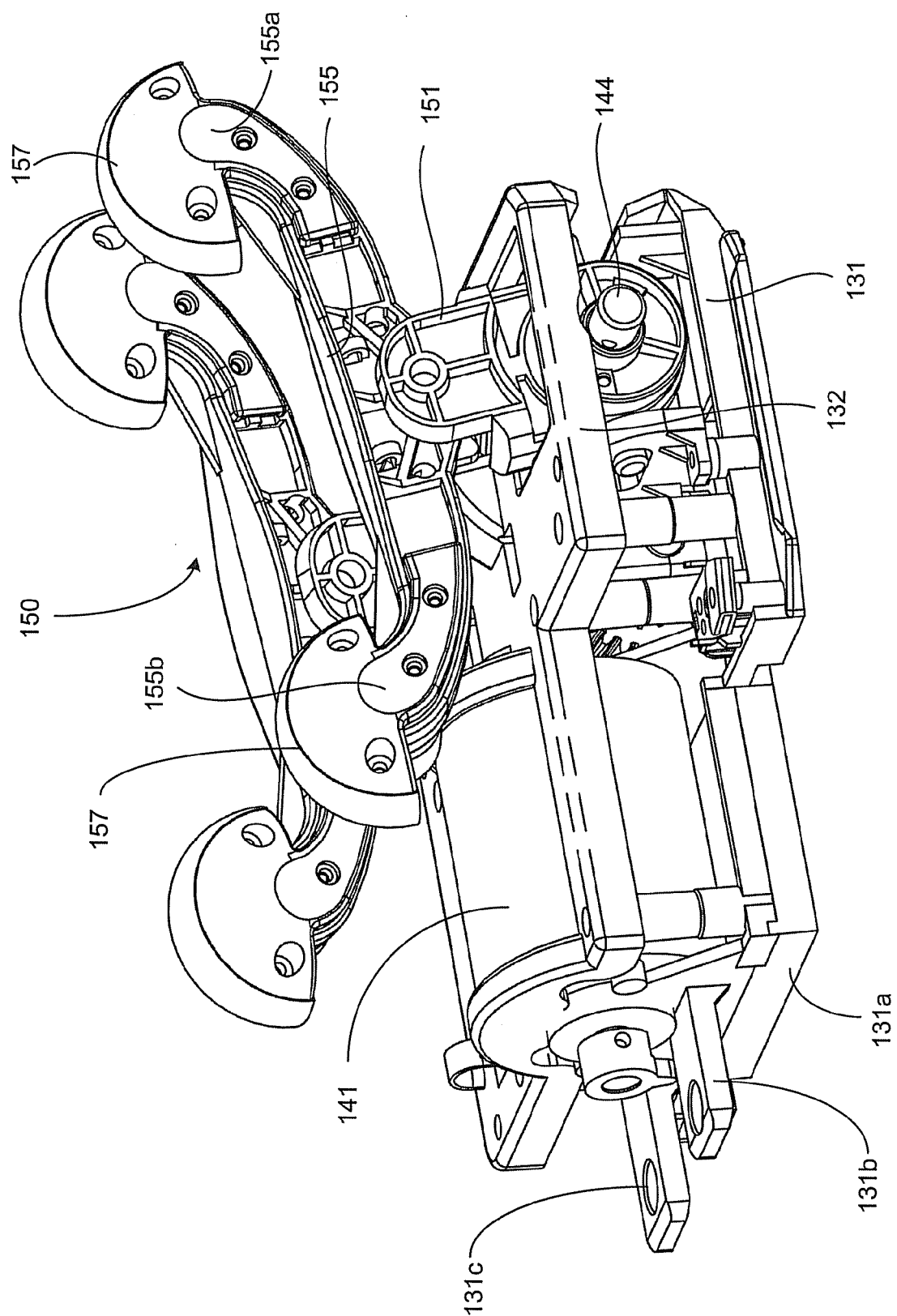
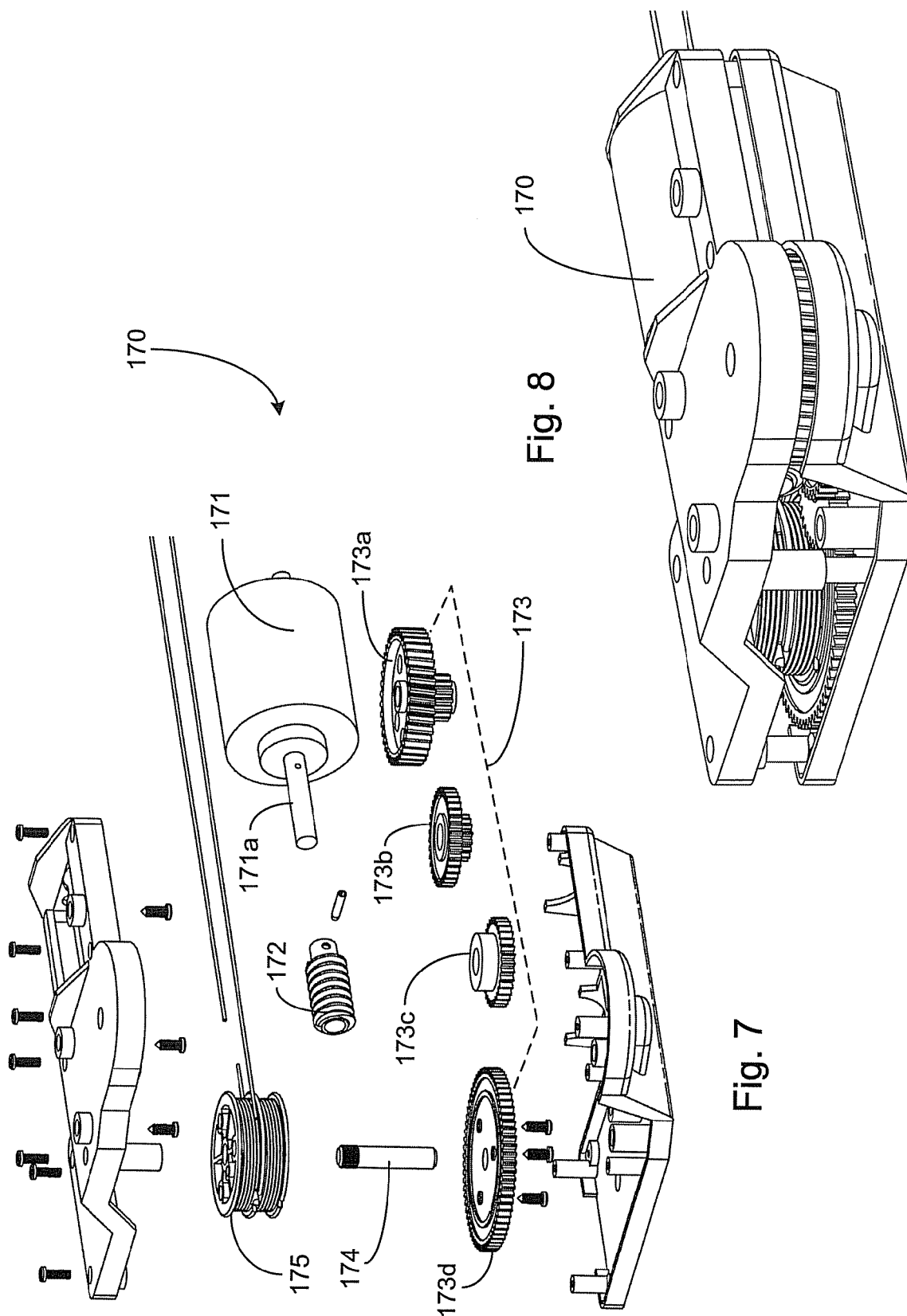


Fig. 6





EUROPEAN SEARCH REPORT

Application Number
EP 10 15 7222

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	US 2007/118059 A1 (LUO XIUQUN [CN] WU CHICHUN [CN] ET AL) 24 May 2007 (2007-05-24) * paragraphs [0026] - [0029]; figures * -----	1-11	INV. A61H1/00 A61H37/00
A	CN 201 244 170 Y (DONGGUAN WEIGHTEC ELECTRONIC T [CN]) 27 May 2009 (2009-05-27) * the whole document * -----	1-11	
L	CN 201 469 637 U (DONGGUAN WEIGHTEC ELECTRONIC TECHNOLOGY) 19 May 2010 (2010-05-19) * the whole document * -----		
			TECHNICAL FIELDS SEARCHED (IPC)
			A61H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 August 2010	Examiner Fischer, Elmar
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
EPO FORM 1503 03/82 (P04C01)

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

EP 10 15 7222

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.

12-08-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007118059 A1	24-05-2007	CN 2707246 Y	06-07-2005
		EP 1595521 A1	16-11-2005
		US 2005256434 A1	17-11-2005
		US 2007299379 A1	27-12-2007

CN 201244170 Y	27-05-2009	NONE	

CN 201469637 U	19-05-2010	NONE	
