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

Massagevorrichtung mit Sperrmechanismus

Dispositif de massage avec mécanisme de verrouillage

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Description**FIELD OF THE INVENTION**

[0001] The present invention relates generally to a massage device, and more particularly to a massage device that comprises 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. Such a massage device is known from US 2007/0118059 A1, on which the preamble part of claim 1 is based.

[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 prevent 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] To this end, the present invention provides the massage device defined in claim 1. Preferred embodiments are defined in the subclaims.

[0006] 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

[0007] 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.

[0008] 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

[0009] 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.

[0010] 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.

[0011] 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.

[0012] The description will be made as to the embodiments of the present invention in conjunction with the accompanying drawings in Figs. 1-8. Described herein

is a locking mechanism to releasably lock the massage assemblies from moving.

[0013] 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 transmission assembly 170, a massage assembly having a pair of massage members 150, and a locking mechanism 180.

[0014] 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.

[0015] 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.

[0016] 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 cou-

pled 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 massage and/or kneading effects to the user.

[0017] 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.

[0018] 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.

[0019] 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.

[0020] 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 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.

[0021] 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 chassis member 131 from moving.

[0022] 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.

[0023] Briefly, the present invention, among other things, recites a massage device that utilizes a locking mechanism to releasably lock the massage assemblies from moving.

[0024] 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.

[0025] 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. Accordingly, the scope of the present invention is defined by the appended claims rather than the foregoing description and the exemplary embodiments described therein.

[0026] It is disclosed a locking mechanism and a massage device of using same. 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 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 (131b) protruded from one end (131a), the massage device further comprising a locking mechanism (180), **characterized in that** the locking mechanism (180) 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 (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),

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 1, wherein the locking
 mechanism (180) is pre-set such that the at least
 one tab (131b) of the chassis member (131) is re-
 ceived 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 open-
 ing (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.
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 mecha-
 nism 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 longi-
 tudinal 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 en-
 gaged with the base cover (110), the plurality of
 guiding rails (112) is received in the plurality of
 grooves (134) of the chassis member (131), re-
 spectively, 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), se-
 cured in the carriage (130) is provided;
 (d) a massage assembly having a pair of mas-
 sage members (150) engaged with the trans-
 mission 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 is provided; and
 (e) the locking mechanism (180) is provided
 such that:

the base member (181) defines the bore
 and the 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 the base cover
 (110);

the protrusion (185a) is mounted to the driv-
 ing shaft (141a) of the at least one motor
 (141) such that the protrusion (185a) is op-
 erably against to the side portion (184b) of
 the wedge member (184).

7. The massage device of claim 6, wherein the trans-
 mission assembly comprises a first transmission as-
 sembly (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) me-
 chanically 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 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.

Patentansprüche

1. Massagevorrichtung (100), welche eine Basisabdeckung (110) und einen mit der Basisabdeckung (110) beweglich in Eingriff tretenden Schlitten (130) und wenigstens einen Motor (141) aufweist, welcher in dem Schlitten (130) befestigt ist, wobei der Schlitten (130) ein Rahmenelement (131) umfasst, welches wenigstens eine von einem Ende (131a) vorstehende Zunge (131b) aufweist, wobei die Massagevorrichtung ferner einen Verriegelungsmechanismus (180) umfasst, **dadurch gekennzeichnet, dass** der Verriegelungsmechanismus (180) umfasst:
 - (a) ein Basiselement (181), welches eine Bohrung (181b) und wenigstens eine stufenartige Aussparung (181a) definiert, um den Schlitten (130) lösbar zu verriegeln, wobei das Basiselement (181) an der Basisabdeckung (110) befestigt ist;
 - (b) ein Einlagenelement (182), welches eine erste Öffnung (182a) und wenigstens eine zweite Öffnung (182b) aufweist, welches über dem Basiselement (181) derart positioniert ist, dass die erste Öffnung (182a) und die wenigstens eine zweite Öffnung (182b) jeweils der Bohrung und der wenigstens einen stufenartigen Aussparung

(181 a) des Basiselements (181) entsprechen; (c) ein Bolzenelement (183), welches einen Körperabschnitt (183c) und einen Stift (183a) und wenigstens eine zylindrische Säule (183b) aufweist, welche jeweils von dem Körperabschnitt (183c) vorstehen, welches derart über dem Einlagenelement (182) positioniert ist, dass der Stift (183a) und die wenigstens eine zylindrische Säule (183b) jeweils der ersten Öffnung (182a) und der wenigstens einen zweiten Öffnung (182b) des Einlagenelements (182) entsprechen, (d) ein Keilelement (184), welches einen Basisabschnitt (184a) und einen Seitenabschnitt (184b) aufweist, welcher sich mit einem Winkel von dem Basisabschnitt (184a) erstreckt, welches derart positioniert ist, dass der Basisabschnitt (184) unter dem Einlagenelement (182) liegt und mit dem Bolzenelement (183) in operativer Weise in Eingriff steht; und (e) einen exzentrischen Block (185), welcher einen Vorsprung (185a) aufweist, der mit dem wenigstens einen Motor (141) derart in Eingriff steht, dass der Vorsprung (185a) gegen dem Seitenabschnitt (184b) des Keilelements (184) betreibbar ist,

wobei der Verriegelungsmechanismus (180) derart konfiguriert ist, dass der Schlitten (130) der Massagevorrichtung gegen Bewegungen vorverriegelt ist und die Aktivierung des Motors (141) die Massagevorrichtung entriegelt.

2. Massagevorrichtung nach Anspruch 1, wobei der Verriegelungsmechanismus (180) derart vor-eingestellt ist, dass die wenigstens eine Zunge (131b) des Rahmenelements (131) in der wenigstens einen stufenartigen Aussparung (181a) des Basiselements (181) aufgenommen ist; der Stift (183a) des Bolzenelements (183) durch die erste Öffnung (182a) des Einlagenelements (182) in die Bohrung des Basiselements (181) eingerastet ist; die wenigstens eine zylindrische Säule (183b) des Bolzenelements (183) durch die wenigstens eine zweite Öffnung (182b) des Einlagenelements (182) und die Bohrung (131c) der wenigstens einen Zunge (131a) des Rahmenelements (131) in die wenigstens eine stufenartige Aussparung (181 a) des Basiselements (181) eingerastet ist; und der Basisabschnitt (184) des Keilelements (184) unter dem Einlagenelement (182) positioniert ist und mit dem Bolzenelement (183) lösbar in Eingriff steht, wodurch das Rahmenelement (131) gegen eine Bewegung verriegelt ist.
3. Massagevorrichtung nach Anspruch 2, wobei der exzentrische Block (185) um die Drehwelle (141a) des Motors (141) dreht, wenn der Motor

(141) aktiviert wird, und die Drehung des exzentrischen Blocks (185) bewirkt, dass der Vorsprung (185a) den Seitenabschnitt (184b) des Keilelements (184) in Richtung eines Positionsgrenzpunkts des Einlagenelements (182) drückt, um das Bolzenelement (183) auszuwerfen, wodurch die wenigstens eine Zunge (131 a) des Rahmenelements (131) von dem Basiselement (181) des Verriegelungsmechanismus (180) gelöst wird.

4. Massagevorrichtung nach Anspruch 3, wobei der Verriegelungsmechanismus ferner einen Auswerfer umfasst, welcher unter dem Stift (183a) des Bolzenelements (183) positioniert ist.

5. Massagevorrichtung nach Anspruch 1, wobei das Keilelement (184) L-förmig gebildet ist.

6. Massagevorrichtung nach einem der Ansprüche 1 bis 5, wobei:

(a) die Basisabdeckung (110) einen ersten Endabschnitt (113) und einen gegenüberliegenden, zweiten Endabschnitt (114), eine Längsachse (111) und eine Mehrzahl von Führungsschienen (112) aufweist, welche parallel zur Längsachse (111) gebildet sind;

(b) das Rahmenelement (131) eine Mehrzahl von Rillen (134), welche in der Bodenfläche gebildet sind, und wenigstens eine Zunge (131b) aufweist, welche darin ein Loch (131c) definiert; wobei, wenn der Schlitten (130) mit der Basisabdeckung (110) in Eingriff steht, die Mehrzahl von Führungsschienen (112) jeweils in der Mehrzahl von Rillen (134) des Rahmenelements (131) aufgenommen ist und der Schlitten (130) Hin und Her entlang der Mehrzahl von Führungsschienen (112) der Basisabdeckung (110) bewegbar ist;

(c) eine Getriebearordnung bereitgestellt ist, welche wenigstens einen Motor (141) mit einer Drehwelle (141a) aufweist, der in dem Schlitten (130) befestigt ist;

(d) eine Massageanordnung bereitgestellt ist, welche ein Paar von Massageelementen (150) aufweist, die derart mit der Getriebearordnung in Eingriff stehen, dass, wenn der wenigstens eine Motor (141) aktiviert wird, das Paar von Massageelementen (150) für Massage- oder/und Kneteffekte für einen Benutzer sorgt; und

(e) der Verriegelungsmechanismus (180) derart bereitgestellt ist, dass:

das Basiselement (181) die Bohrung und die wenigstens eine stufenartige Aussparung (181a) definiert, um die wenigstens ei-

ne Zunge (131b) des Rahmenelements (131) lösbar aufzunehmen, wobei das Basiselement (181) an dem ersten Endabschnitt (113) der Basisabdeckung (110) befestigt ist;

der Vorsprung (185a) an der Drehwelle (141a) des wenigstens einen Motors (141) derart angebracht ist, dass der Vorsprung (185a) gegen den Seitenabschnitt (184b) des Keilelements (184) betreibbar ist.

7. Massagevorrichtung nach Anspruch 6, wobei die Getriebearordnung eine erste Getriebearordnung (140), welche an dem Schlitten (130) befestigt ist, und eine zweite Getriebearordnung (170) umfasst, welche mit der ersten Getriebearordnung (140) in Eingriff steht, wobei die ersten Getriebearordnung (140) umfasst:

(a) einen ersten Motor (141), welcher eine Ausgangswelle (141a) aufweist, eine erste Schnecke (142), welche mit der Ausgangswelle (141a) des ersten Motors (141) mechanisch gekoppelt ist, und ein oder mehrere Schneckenräder (143), welches/welche mit der ersten Schnecke (142) und dem Paar von Massageelementen (150) mechanisch gekoppelt ist/sind, so dass, wenn der erste Motor (141) aktiviert wird, er die erste Schnecke (142) zum Drehen antreibt, die Drehung der ersten Schnecke (142) wiederum zu Drehungen des einen oder der mehreren Schneckenräder (143) führt, wodurch bewirkt wird, dass das Paar von Massageelementen (150) für die Massage- oder/und Kneteffekte für den Benutzer sorgt; und

wobei die zweite Getriebearordnung (170) einen Hubgetriebemechanismus (175), einen zweiten Motor (171), welcher eine Ausgangswelle (171a) aufweist, eine zweite Schnecke (172), welche mit der Ausgangswelle (171 a) des zweiten Motors (171) mechanisch gekoppelt ist, ein oder mehrere Schneckenräder (173) umfasst, welches/welche mit der zweiten Schnecke (172) und dem Hubgetriebemechanismus (175) mechanisch gekoppelt ist/sind, so dass, wenn der zweite Motor (171) aktiviert wird, er die zweite Schnecke (172) zum Drehen antreibt, die Drehung der zweiten Schnecke (172) wiederum zu Drehungen des einen oder der mehreren Schneckenräder (173) führt, wodurch der Schlitten (130) entlang der Mehrzahl der Führungsschienen der Basisabdeckung (110) bewegt wird.

8. Massagevorrichtung nach Anspruch 6, wobei jedes Massageelement (150) eine Quelle aufweist, die in der Lage ist, wenigstens eine thermische Energie und photonische Energie zu erzeugen.

9. Massagevorrichtung nach Anspruch 8, wobei die Quelle einen Lampensockel, eine PCB-Platte, welche an dem Lampensockel angebracht ist, und Heizlampen umfasst, welche an der PCB-Tafel angebracht sind.

Revendications

1. Dispositif de massage (100) comprenant un couvercle de base (110) et un chariot (130) qui est engagé de façon mobile avec le couvercle de base (110), et au moins un moteur (141) qui est fixé dans le chariot (130), dans lequel le chariot (130) comprend un élément de châssis (131) présentant au moins une patte (131b) faisant saillie à partir d'une extrémité (131a), le dispositif de massage comprenant en outre un mécanisme de verrouillage (180), **caractérisé en ce que** le mécanisme de verrouillage (180) comprend:

(a) un élément de base (181) qui définit un alésage (181b) et au moins un évidement en forme de gradin (181a) pour verrouiller de façon libérable le chariot (130), l'élément de base (181) étant fixé au couvercle de base (110);

(b) un élément de coussin (182) présentant une première ouverture (182a), et au moins une deuxième ouverture (182b), qui est positionné au-dessus de l'élément de base (181), de telle sorte que la première ouverture (182a) et ladite au moins une deuxième ouverture (182b) correspondent respectivement à l'alésage et audit au moins un évidement en forme de gradin (181a) de l'élément de base (181);

(c) un élément de boulon (183) comprenant une partie de corps (183c), une cheville (183a) et au moins une colonne cylindrique (183b) qui font respectivement saillie à partir de la partie de corps (183c), qui est positionné au-dessus de l'élément de coussin (182), de telle sorte que la cheville (183a) et ladite au moins une colonne cylindrique (183b) correspondent respectivement à la première ouverture (182a) et à ladite au moins une deuxième ouverture (182b) de l'élément de coussin (182);

(d) un élément de coin (184) comprenant une partie de base (184a) et une partie latérale (184b) qui s'étend en formant un angle à partir de la partie de base (184a), qui est positionné de telle sorte que la partie de base (184) se trouve en dessous de l'élément de coussin (182) et soit engagée de façon opérationnelle avec l'élément de boulon (183); et

(e) un bloc d'excentrique (185) présentant une saillie (185a), qui est engagé avec ledit au moins un moteur (141), de telle sorte que la saillie (185a) se trouve de façon opérationnelle contre la partie latérale (184b) de l'élément de coin

(184),

dans lequel le mécanisme de verrouillage (180) est configuré de telle sorte que le chariot (130) du dispositif de massage est pré-verrouillé pour empêcher tout déplacement, et que l'activation du moteur (141) déverrouille le dispositif de massage.

2. Dispositif de massage selon la revendication 1, dans lequel le mécanisme de verrouillage (180) est pré-réglé de telle sorte qu'au moins une patte (131b) de l'élément de châssis (131) soit reçue dans ledit au moins un évidement en forme de gradin (181a) de l'élément de base (181), la cheville (183a) de l'élément de boulon (183) est happée, à travers la première ouverture (182a) de l'élément de coussin (182), dans l'alésage de l'élément de base (181), ladite au moins une colonne cylindrique (183b) de l'élément de boulon (183) est happée, à travers ladite au moins une deuxième ouverture (182b) de l'élément de coussin (182) et le trou (131c) de ladite au moins une patte (131a) de l'élément de châssis (131), dans ledit au moins un évidement en forme de gradin (181a) de l'élément de base (181); et la partie de base (184) de l'élément de coin (184) est positionnée en dessous de l'élément de coussin (182) et engagée de façon libérable avec l'élément de boulon (183), verrouillant de ce fait l'élément de châssis (131) pour empêcher tout déplacement.

3. Dispositif de massage selon la revendication 2, dans lequel lorsque le moteur (14) est activé, le bloc d'excentrique (185) tourne autour de l'arbre d'entraînement (141a) du moteur (141), et la rotation du bloc d'excentrique (185) entraîne la saillie (185a) à pousser la partie latérale (184b) de l'élément de coin (184) à se déplacer vers un point limite de position de l'élément de coussin (182) de manière à éjecter l'élément de boulon (183), libérant de ce fait ladite au moins une patte (131a) de l'élément de châssis (131) de l'élément de base (181) du mécanisme de verrouillage (180).

4. Dispositif de massage selon la revendication 3, dans lequel le mécanisme de verrouillage comprend en outre un éjecteur qui est positionné en dessous de la cheville (183a) de l'élément de boulon (183).

5. Dispositif de massage selon la revendication 1, dans lequel l'élément de coin (184a) présente une configuration en forme de L.

6. Dispositif de massage selon l'une quelconque des revendications 1 à 5, dans lequel:

(a) le couvercle de base (110) présente une première partie d'extrémité (113) et une deuxième partie d'extrémité opposée (114), un axe longi-

tudinal (111) et une pluralité de rails de guidage (112) formés parallèlement à l'axe longitudinal (111);

(b) l'élément de châssis (131) comporte une pluralité de rainures (134) qui sont formées dans la surface inférieure, ladite au moins une patte (131b) définissant un trou (131c) dans celle-ci; dans lequel lorsque le chariot (130) est engagé avec le couvercle de base (110), la pluralité de rails de guidage (112) sont reçus dans la pluralité de rainures (134b) de l'élément de châssis (131), respectivement, et le chariot (130) peut aller et venir le long de la pluralité de rails de guidage (112) du couvercle de base (110);

(c) il est prévu un ensemble de transmission comprenant au moins un moteur (141) présentant un arbre d'entraînement (141a), qui est fixé dans le chariot (130);

(d) il est prévu un ensemble de massage présentant une paire d'éléments de massage (150) engagés avec l'ensemble de transmission de telle sorte que lorsque ledit au moins un moteur (141) est activé, la paire d'éléments de massage (150) réalisent des actions de massage et/ou de pétrissage sur un utilisateur; et

(e) le mécanisme de verrouillage (180) est prévu de telle sorte que:

l'élément de base (18) définisse l'alésage et ledit au moins un évidement en forme de gradin (181a) pour recevoir de façon libérable ladite au moins une patte (131b) de l'élément de châssis (131), l'élément de base (181) étant fixé à la première partie d'extrémité (113) du couvercle de base (110); la saillie (185a) soit montée sur l'arbre d'entraînement (141a) dudit au moins un moteur (141) de telle sorte que la saillie (185a) se trouve de façon opérationnelle contre la partie latérale (184b) de l'élément de coin (184).

7. Dispositif de massage selon la revendication 6, dans lequel l'ensemble de transmission comprend un premier ensemble de transmission (140) qui est fixé dans le chariot (130), et un deuxième ensemble de transmission (170) qui est engagé avec le premier ensemble de transmission (140), dans lequel le premier ensemble de transmission (140) comprend:

un premier moteur (141) qui présente un arbre de sortie (141a), une première vis sans fin (142) qui est couplée de façon mécanique à l'arbre de sortie (141a) du premier moteur (141), et un ou plusieurs engrenage(s) à vis sans fin (143) qui est (sont) couplé(s) de façon mécanique à la première vis sans fin (142) et à la paire d'éléments de massage (150), de telle sorte que lors-

que le premier moteur (141) est activé, il entraîne la première vis sans fin (142) à tourner, la rotation de la première vis sans fin (142) entraînant à son tour les rotations dudit/desdits un ou plusieurs engrenage(s) à vis sans fin (143), entraînant de ce fait la paire d'éléments de massage (150) à réaliser des actions de massage et/ou de pétrissage sur l'utilisateur; et dans lequel le deuxième ensemble de transmission (170) comprend un mécanisme de transmission de levage (175), un deuxième moteur (171) présentant un arbre de sortie (171a), une deuxième vis sans fin (172) qui est couplée de façon mécanique à l'arbre de sortie (171a) du deuxième moteur (171), un ou plusieurs engrenage(s) à vis sans fin (173) qui est (sont) couplé(s) de façon mécanique à la deuxième vis sans fin (172) et au mécanisme de transmission de levage (175), de telle sorte que lorsque le deuxième moteur (171) est activé, il entraîne la deuxième vis sans fin (172) à tourner, la rotation de la deuxième vis sans fin (172) entraînant à son tour les rotations dudit/desdits un ou plusieurs engrenage(s) à vis sans fin (173), déplaçant de ce fait le chariot (130) le long de la pluralité des rails de guidage du couvercle de base (110).

8. Dispositif de massage selon la revendication 6, dans lequel chaque élément de massage (150) comprend une source qui est capable de générer au moins une énergie thermique et une énergie photonique.
9. Dispositif de massage selon la revendication 8, dans lequel la source comprend un culot, une plaquette de circuit imprimé attachée au culot, et des lampes de chauffage attachées sur la plaquette de circuit imprimé.

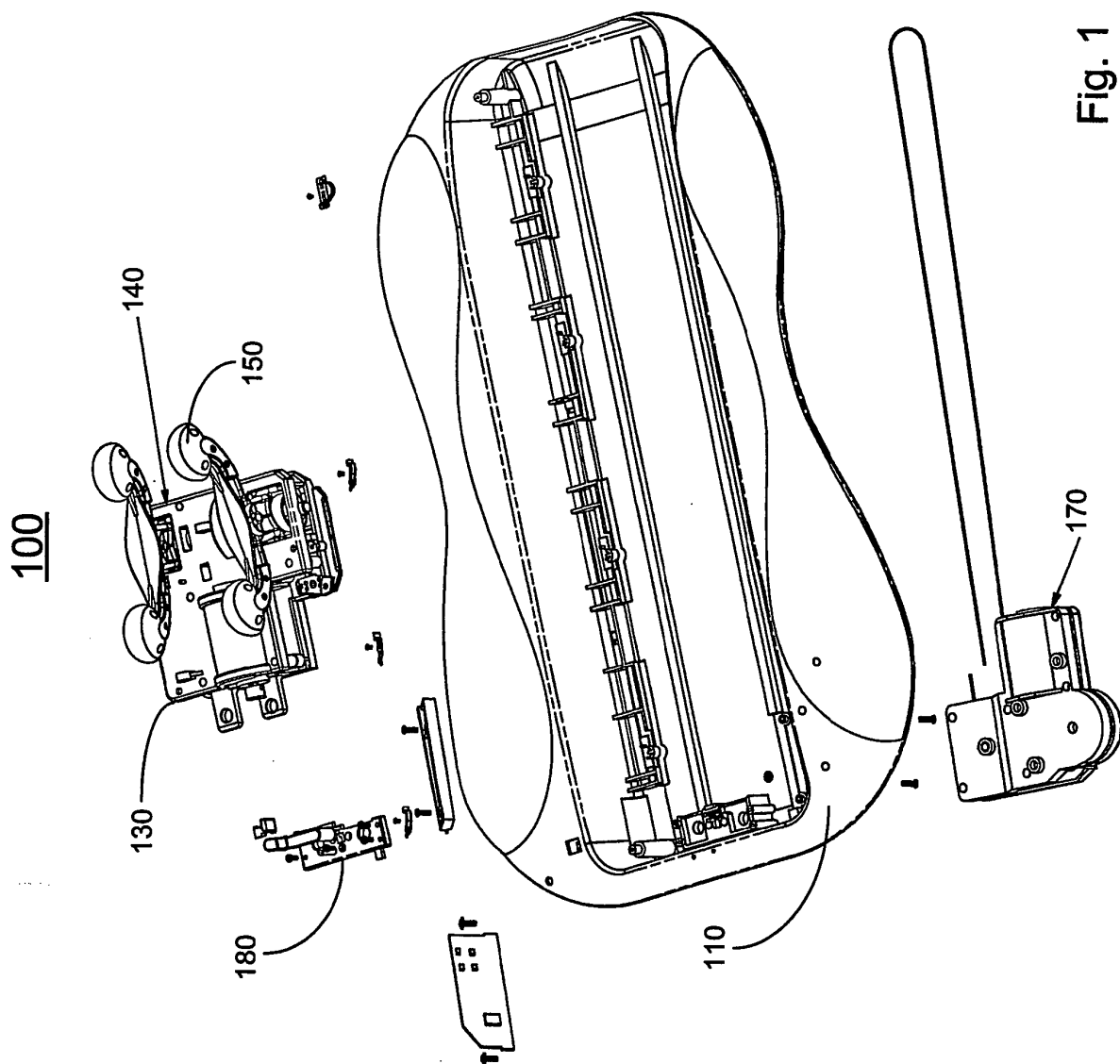


Fig. 1

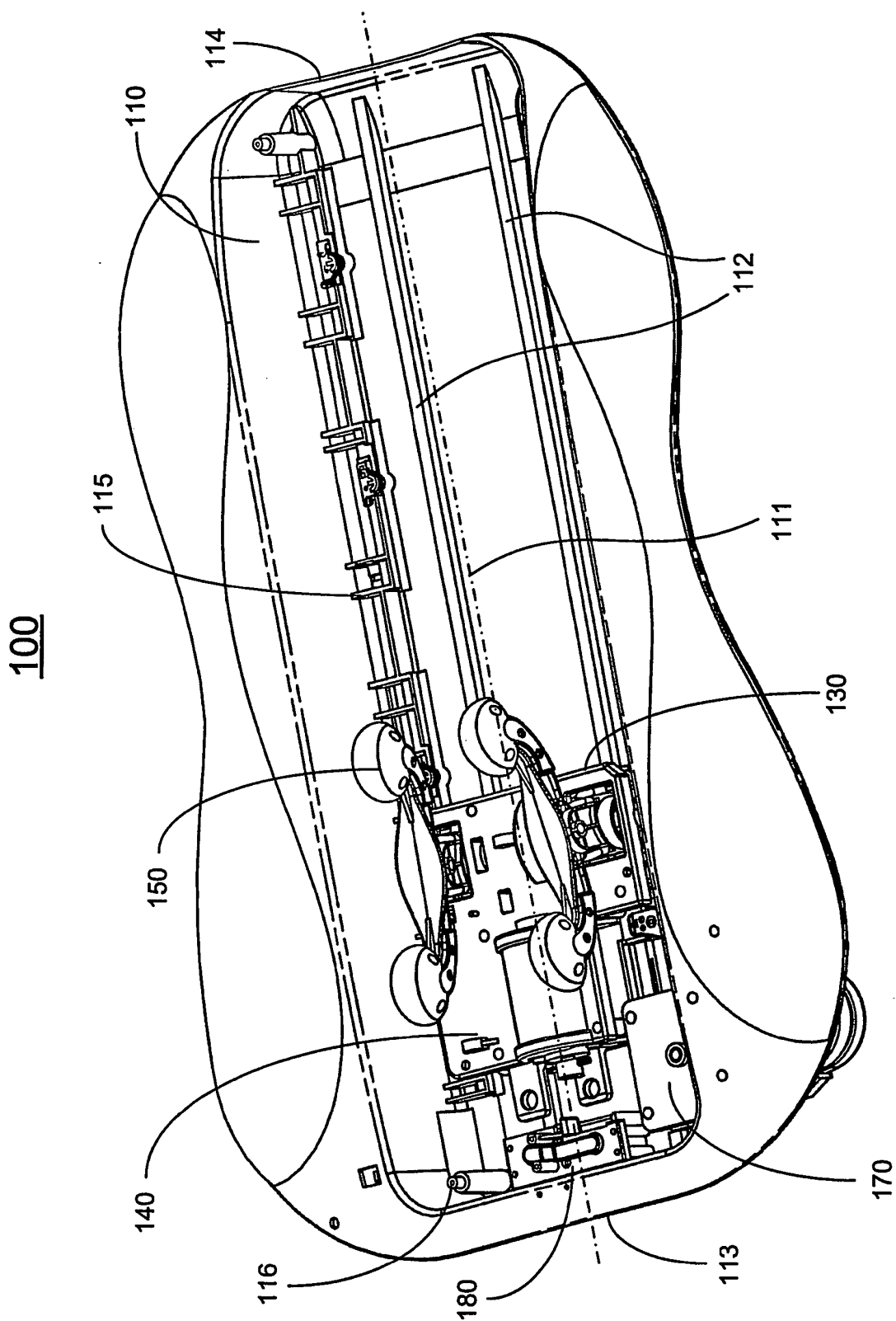


Fig. 2

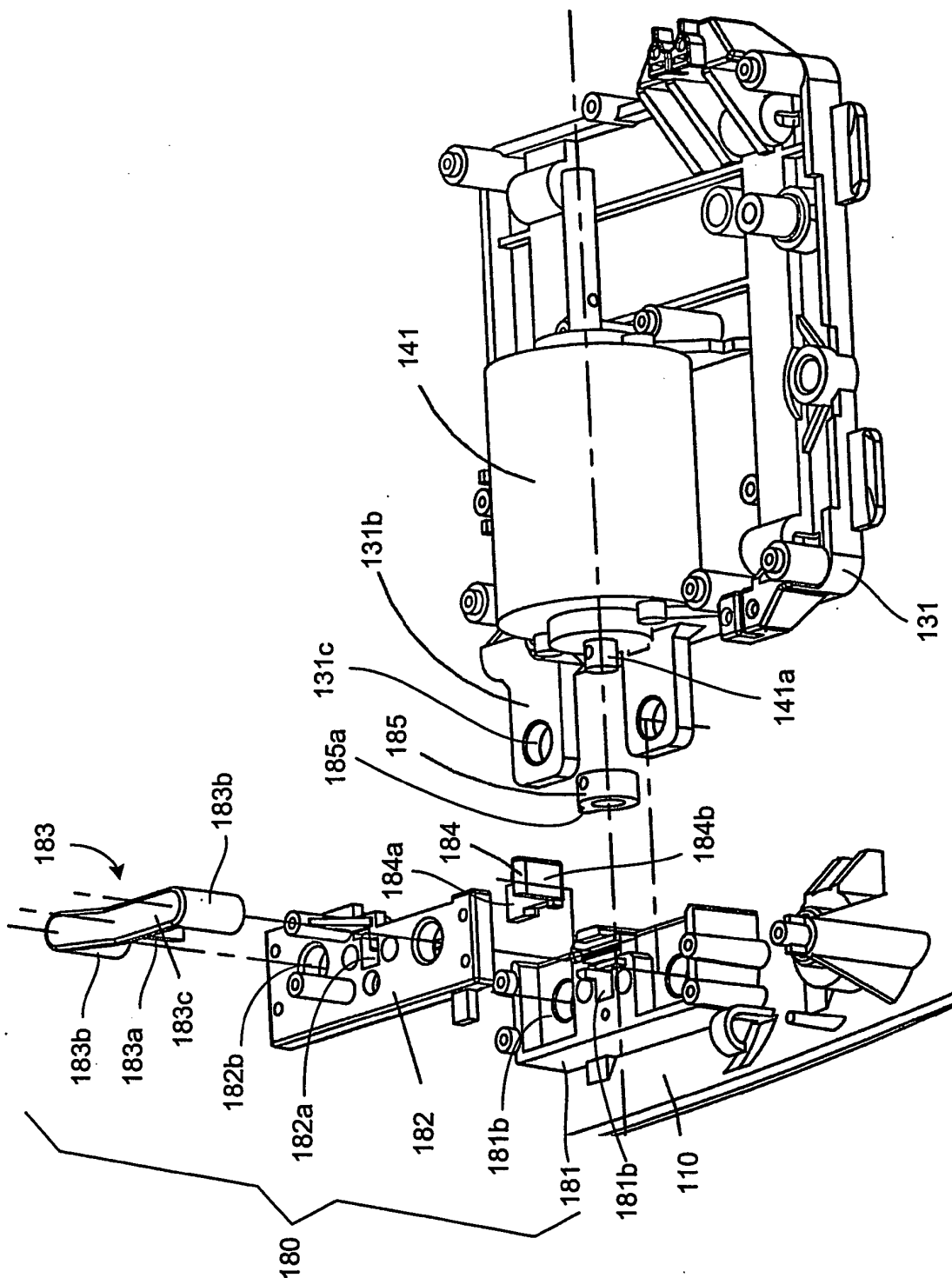


Fig. 3

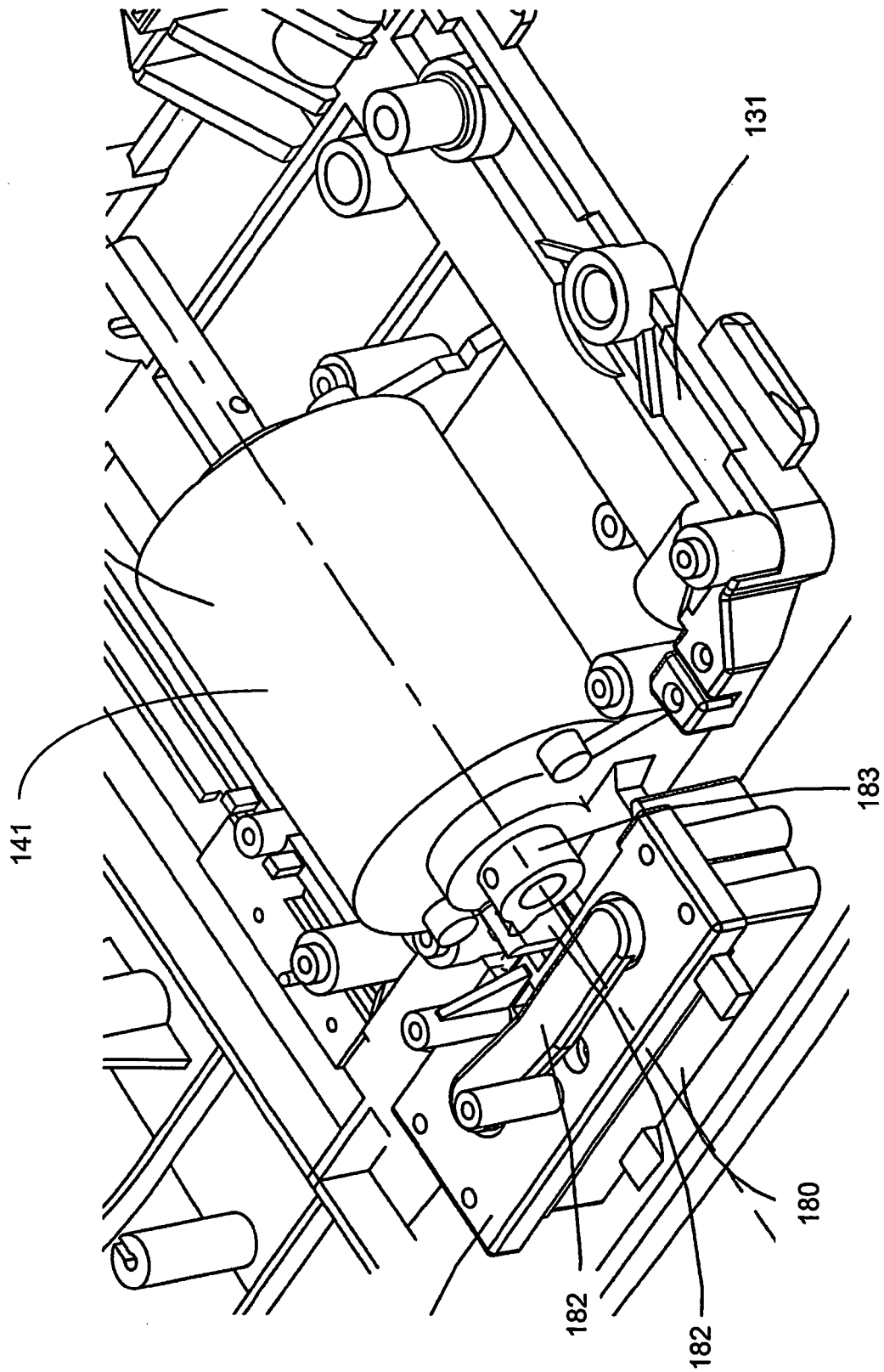


Fig. 4

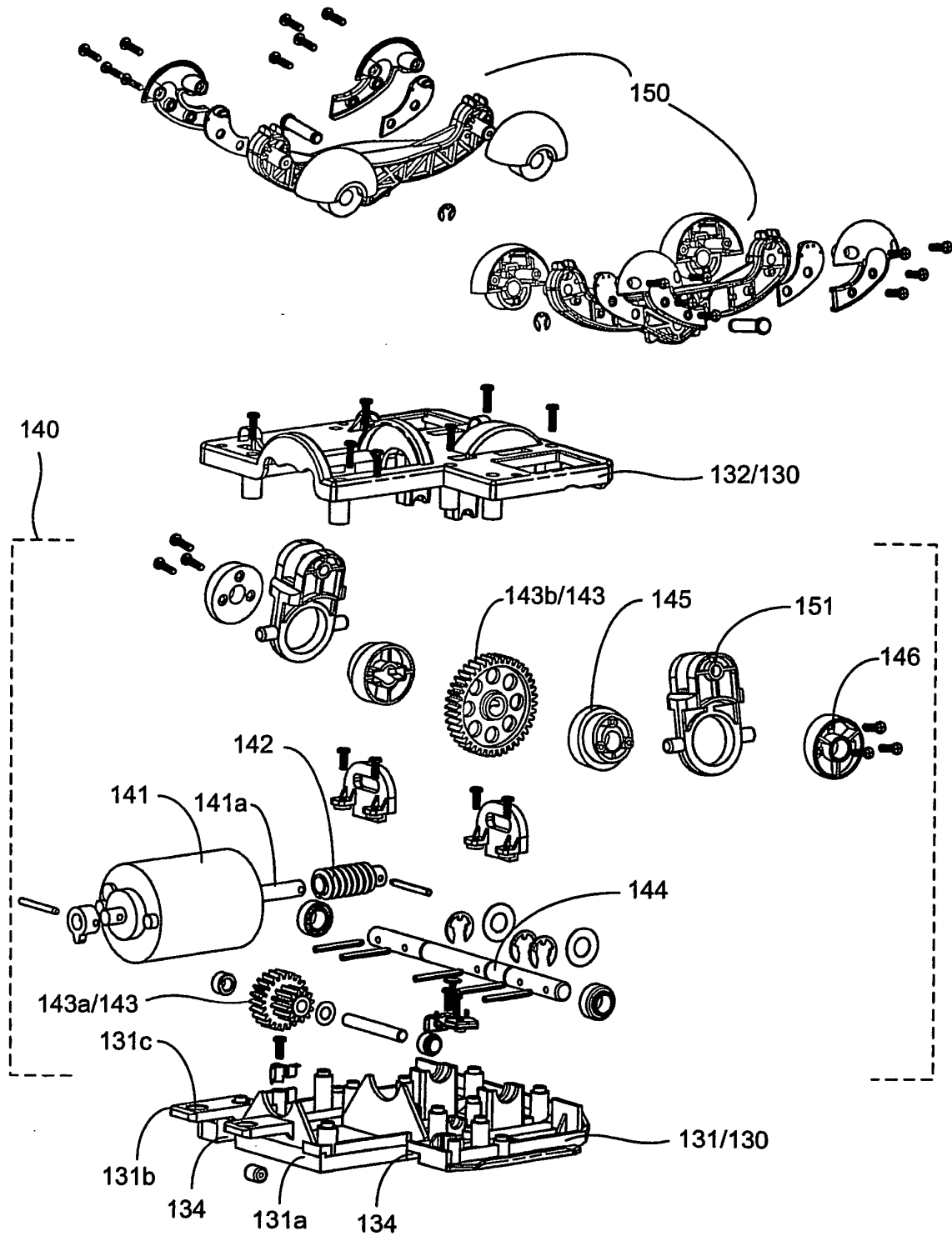


Fig. 5

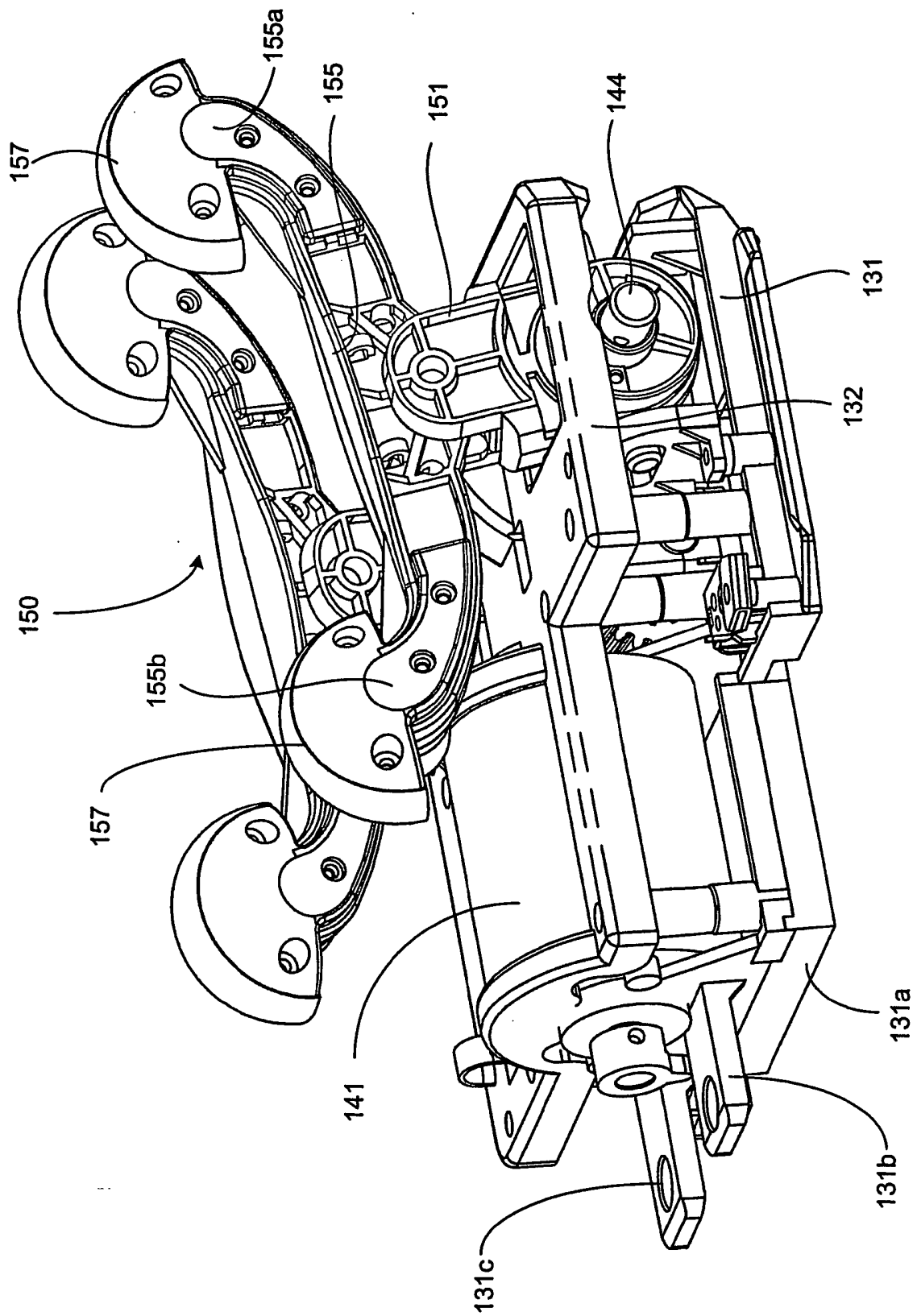
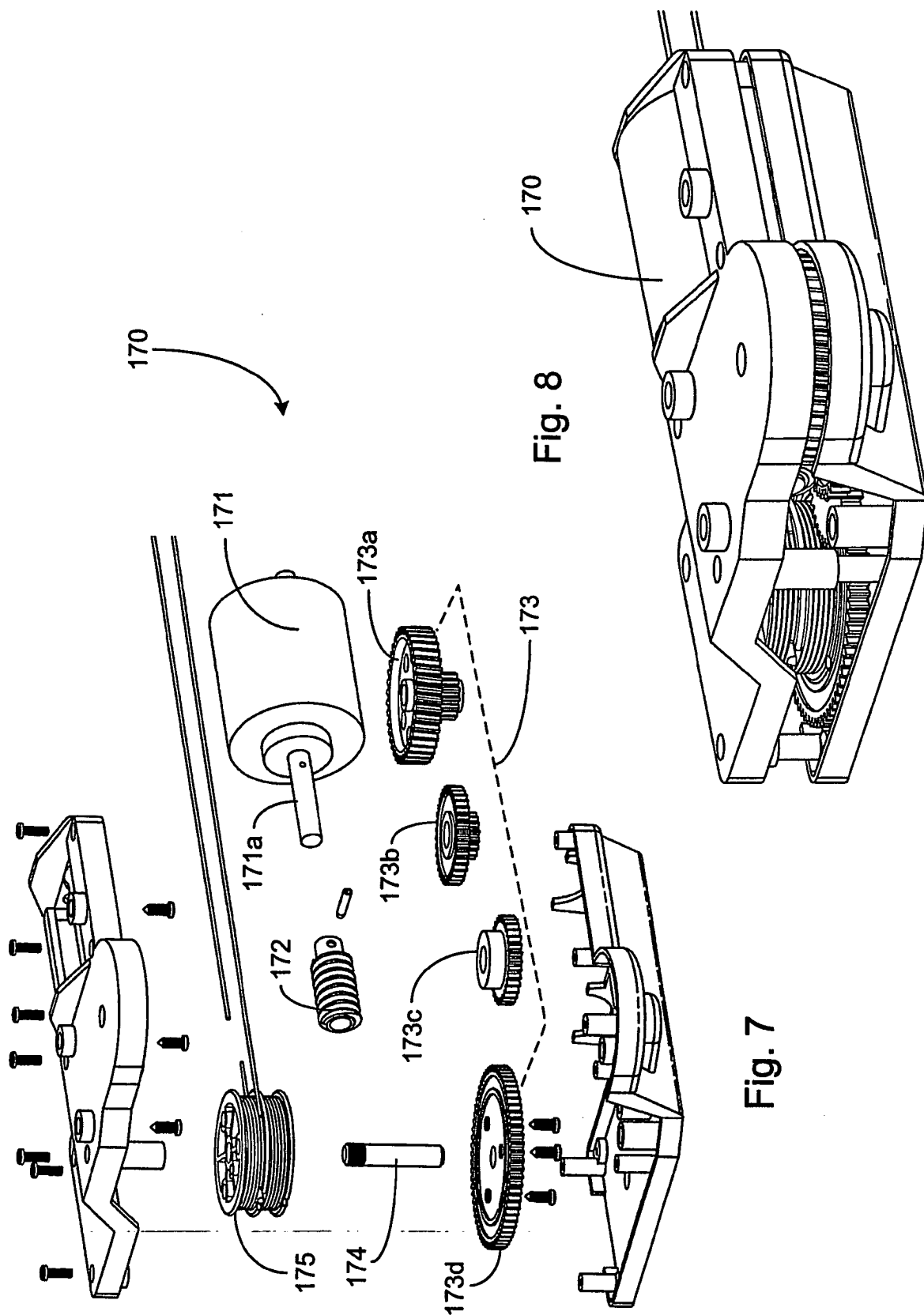


Fig. 6



REFERENCES CITED IN THE DESCRIPTION

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