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Morris

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(54) **TELESCOPING MASSAGE ROLLER AND ASSEMBLY OF A PHYSICAL FITNESS CAGE WITH A TELESCOPING MASSAGE ROLLER**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 693 days.

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(51) **Int. Cl.**
A61H 15/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A61H 15/00*** (2013.01); ***A61H 15/0092*** (2013.01); *A61H 2015/0021* (2013.01);
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(58) **Field of Classification Search**
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(Continued)

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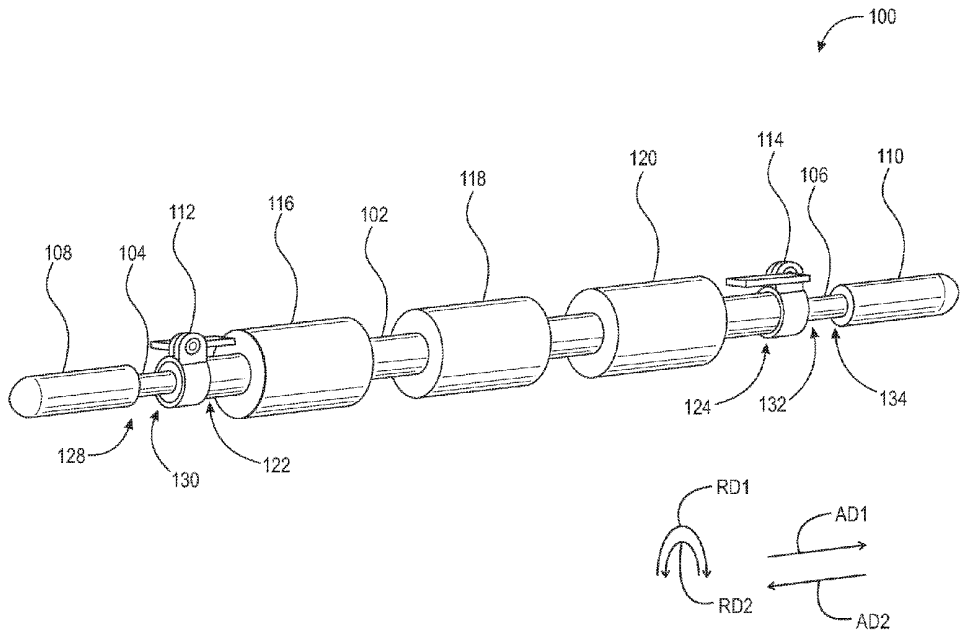
(57) **ABSTRACT**

A roller device, including a first tube having a first diameter, and a through-bore having a second diameter smaller than the first diameter, the through-bore extending through and concentric with the first tube, a first rod having a third diameter smaller than the second diameter, a first end, and a second end, where the second end of the first rod is operatively arranged to telescopingly engage with the through-bore of the first tube, a second rod having a fourth diameter equal to the third diameter, a first end and a second end, where the first end of the second rod is operatively arranged to telescopingly engage with the through-bore of the first tube, at least one roller arranged to rotate about the first tube, and a first handle fixedly secured to the first end of the first rod.

19 Claims, 15 Drawing Sheets



(52) **U.S. Cl.**
CPC *A61H 2201/0123* (2013.01); *A61H 2201/0126* (2013.01); *A61H 2201/0153* (2013.01); *A61H 2201/0157* (2013.01); *A61H 2201/0161* (2013.01); *A61H 2201/1253* (2013.01); *A61H 2201/1284* (2013.01); *A61H 2201/1609* (2013.01); *A61H 2201/1614* (2013.01); *A61H 2201/1623* (2013.01); *A61H 2205/062* (2013.01); *A61H 2205/081* (2013.01)

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CPC A61H 2201/0126; A61H 2201/0153; A61H 2201/0157; A61H 2201/0161; A61H 2201/1253; A61H 2201/1284; A61H 2201/1609; A61H 2201/1614; A61H 2201/1623; A61H 2205/062; A61H 2205/081
See application file for complete search history.

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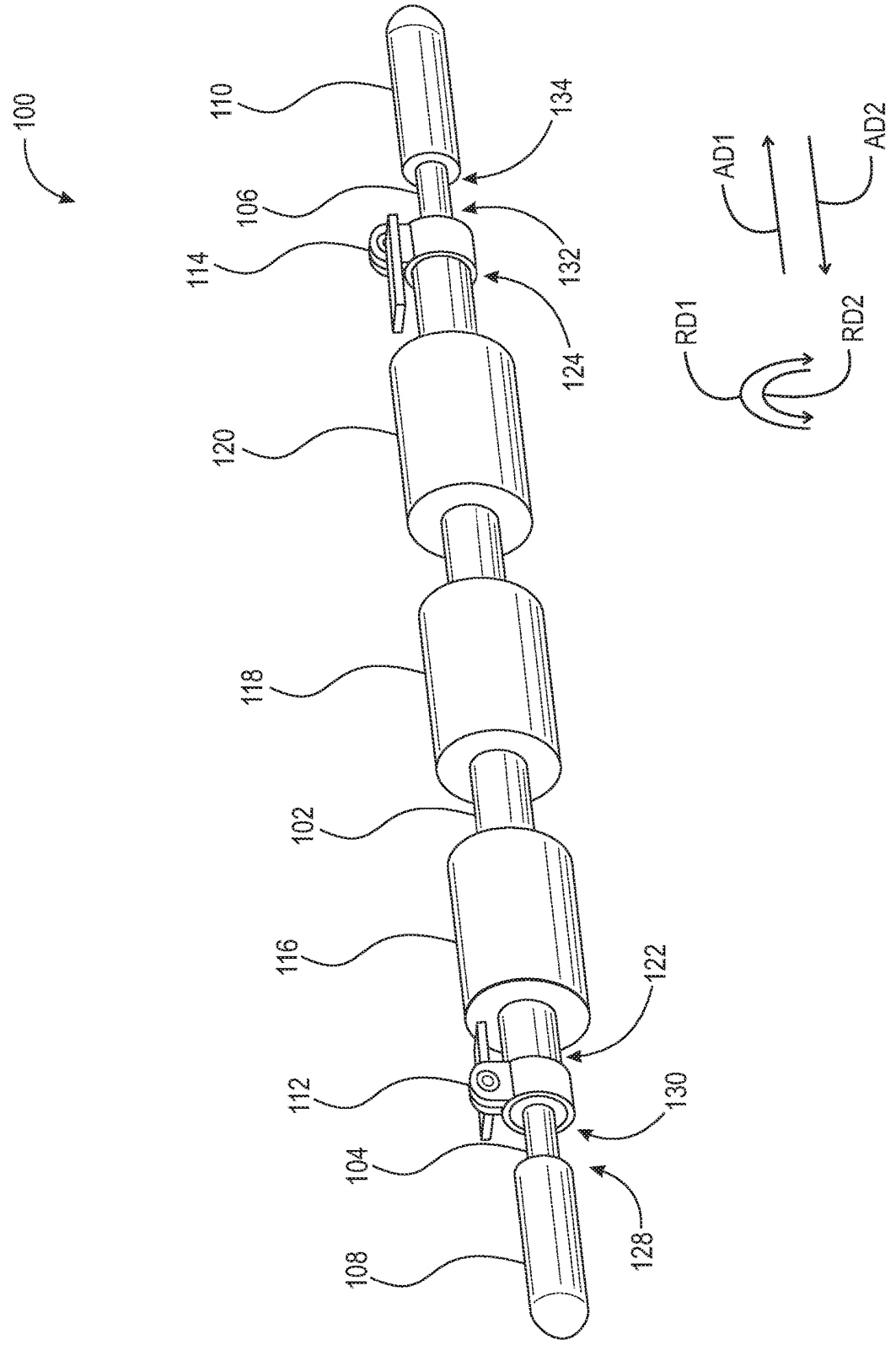
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110
134
106
114
132
124
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118
102
116
122
112
130
104
128
108
AD1
AD2
RD1
RD2

Fig. 1

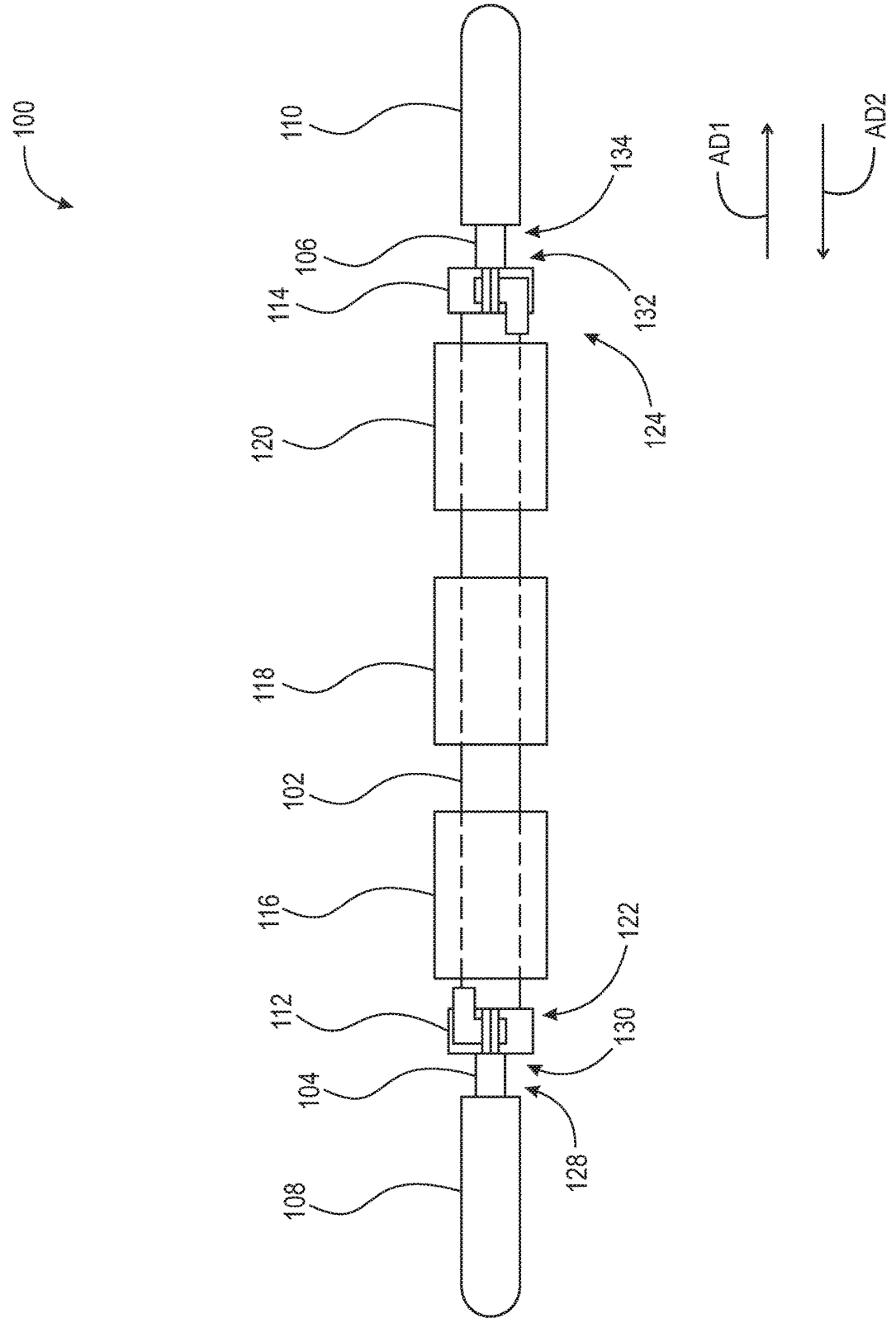
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Fig. 2

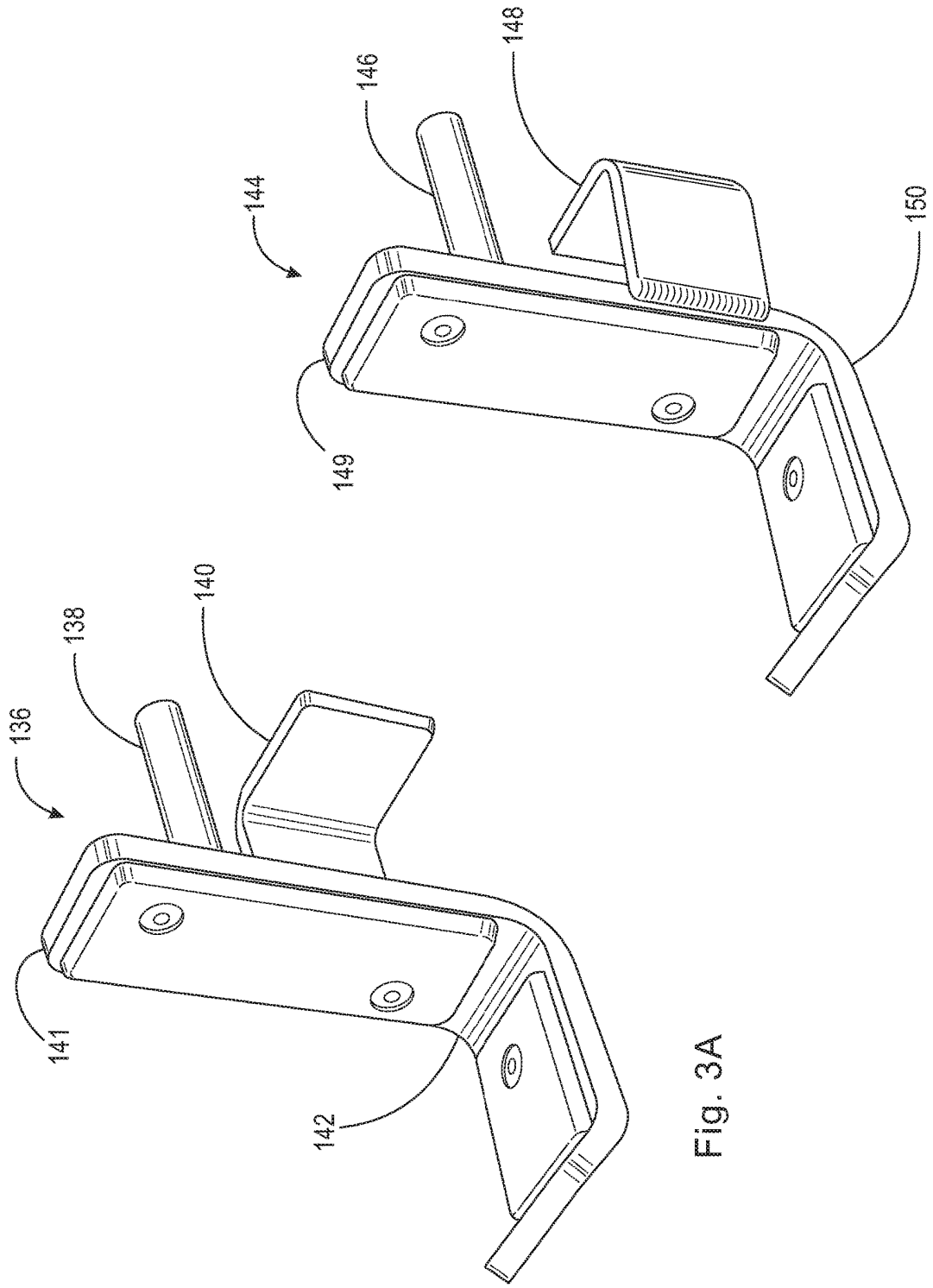


Fig. 3A

Fig. 3B

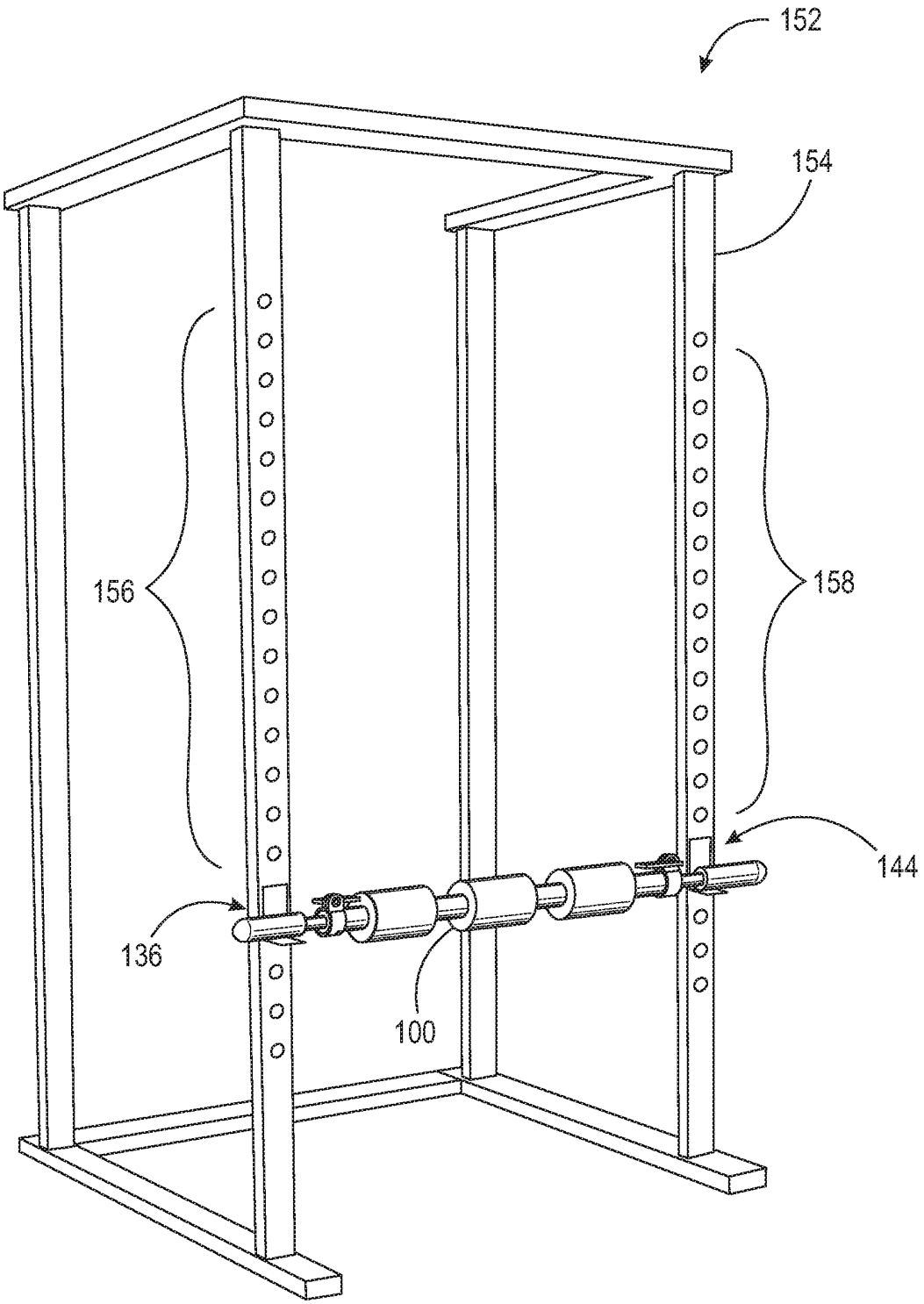
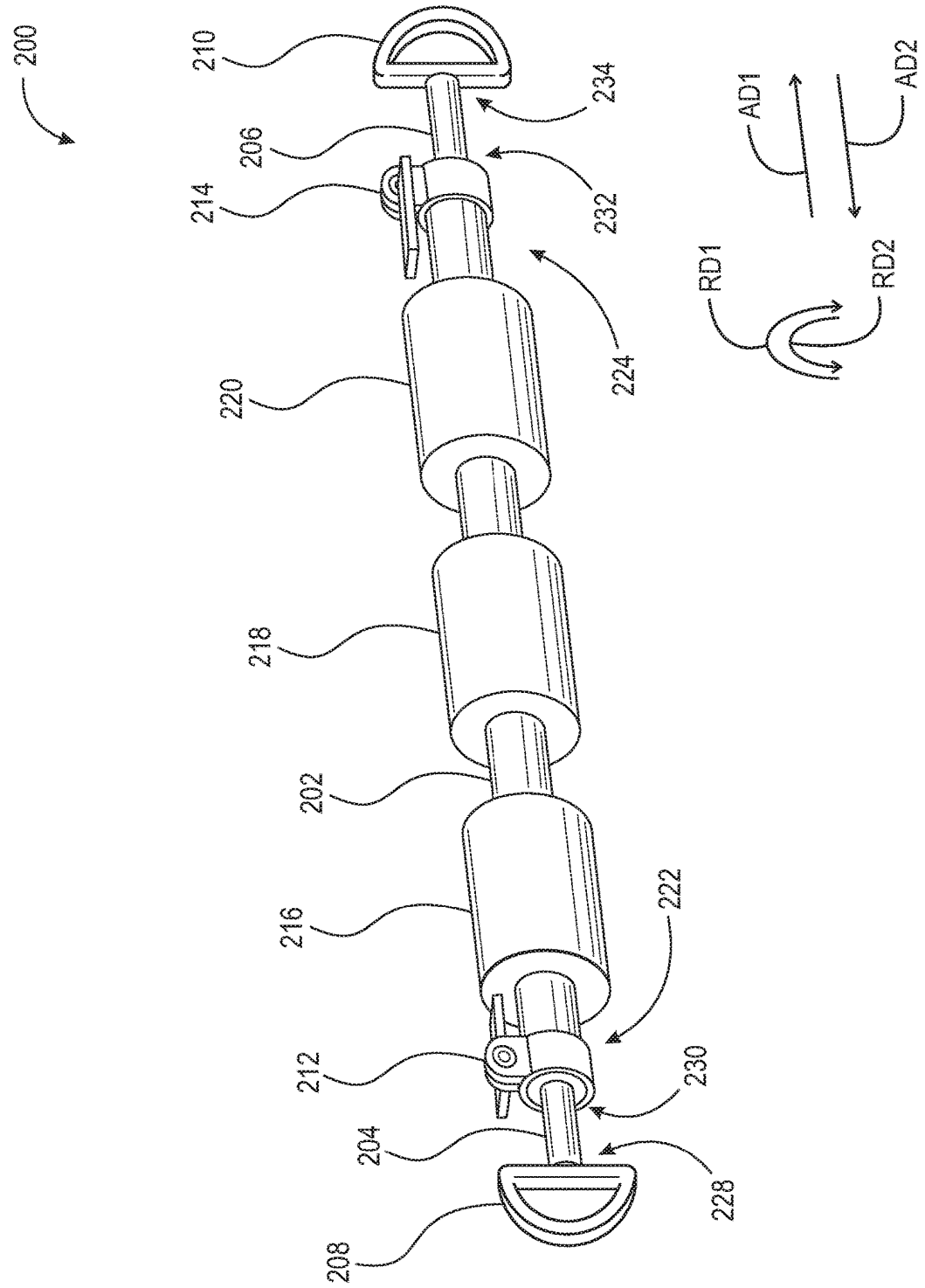


Fig. 4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228
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AD1
AD2
RD1
RD2

Fig. 5

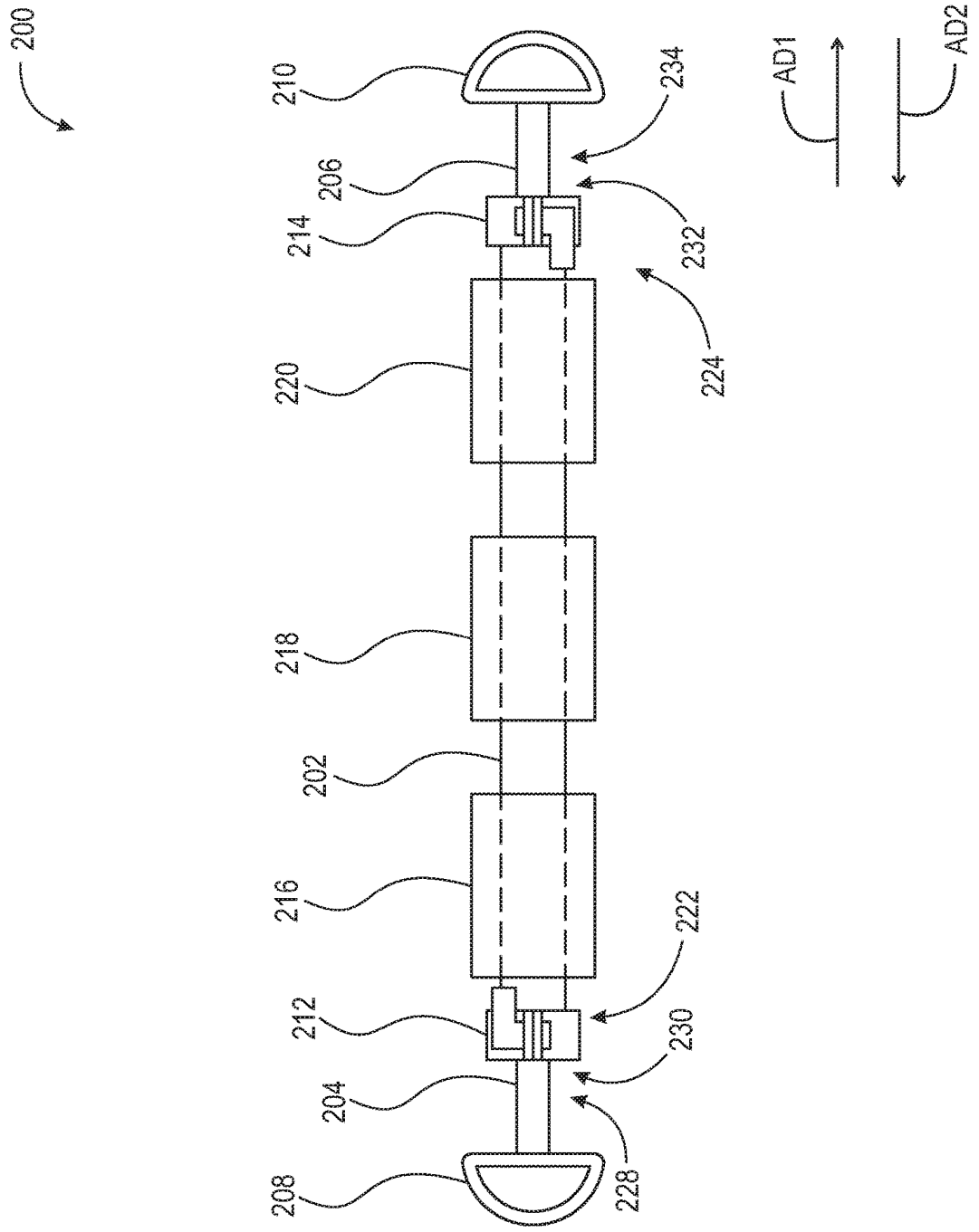
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Fig. 6

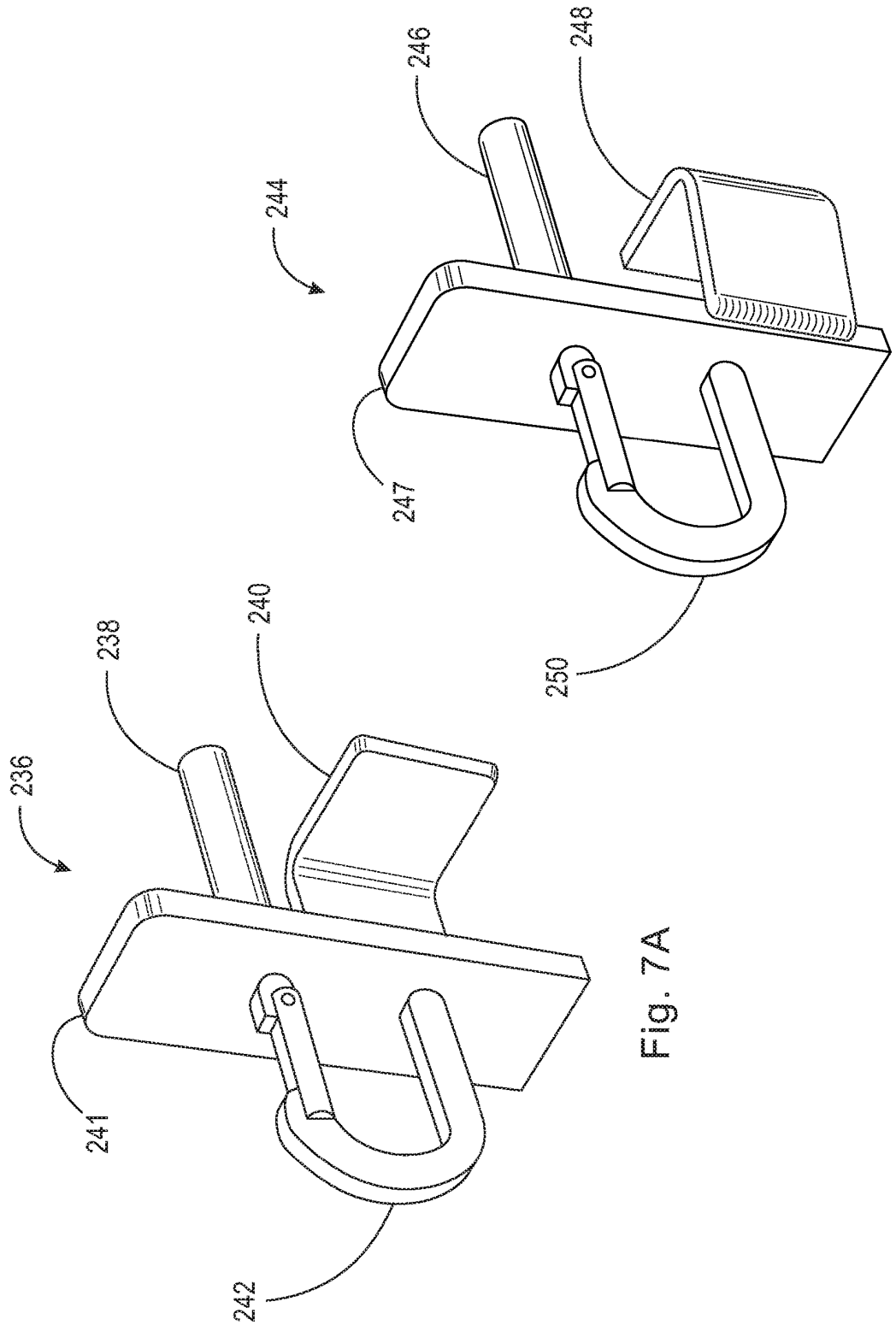


Fig. 7A

Fig. 7B

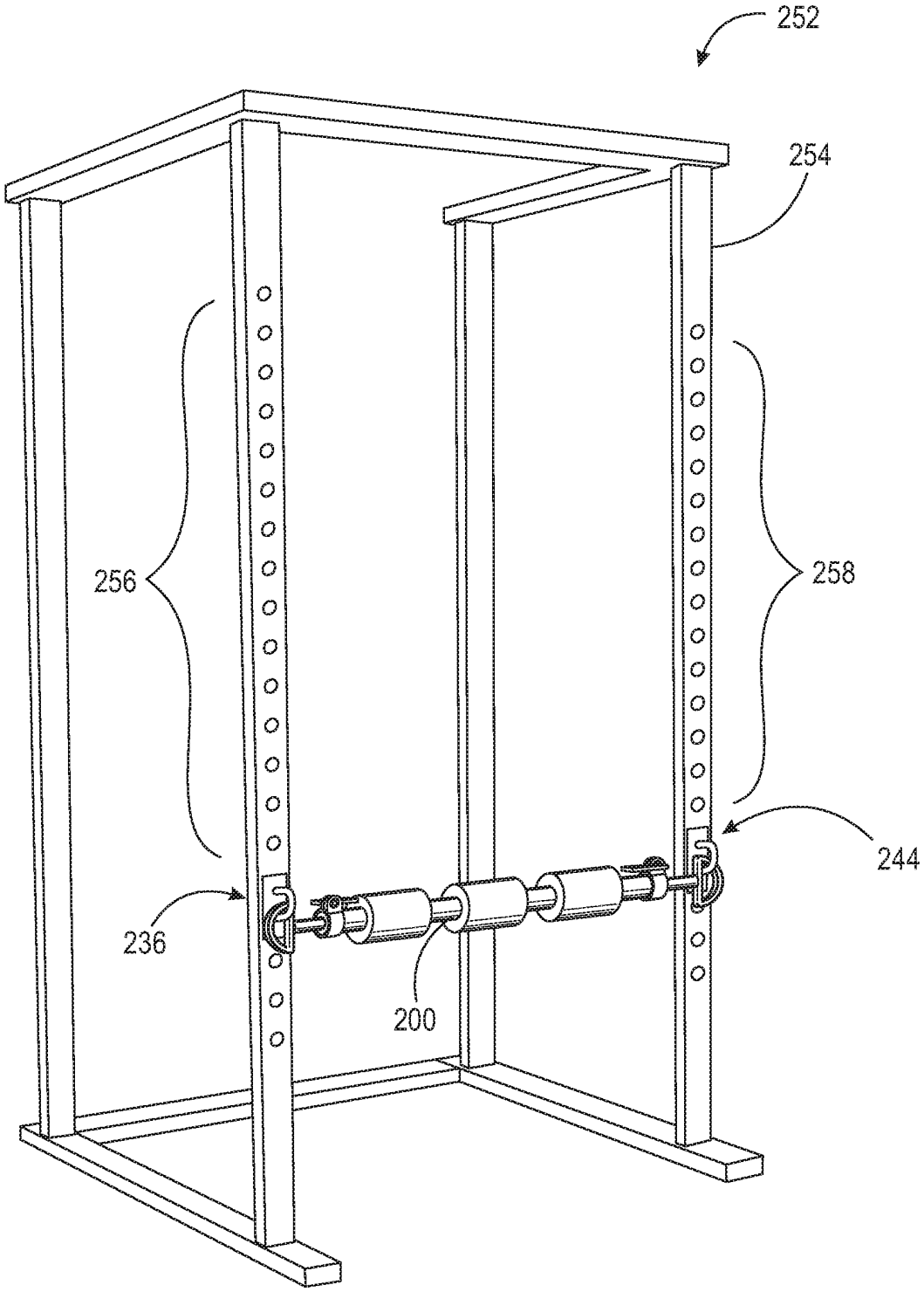
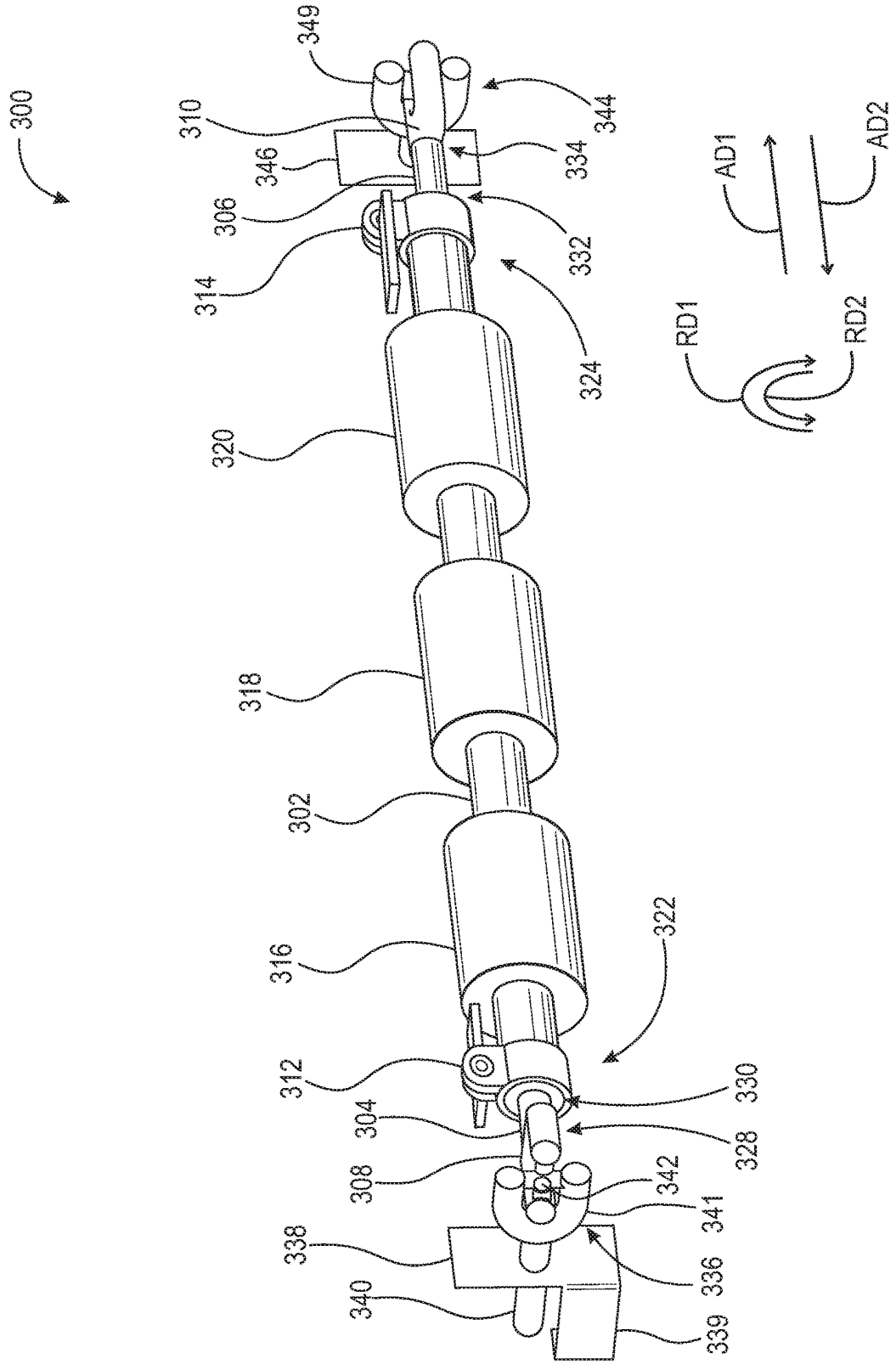


Fig. 8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339
AD1
AD2
RD1
RD2

Fig. 9

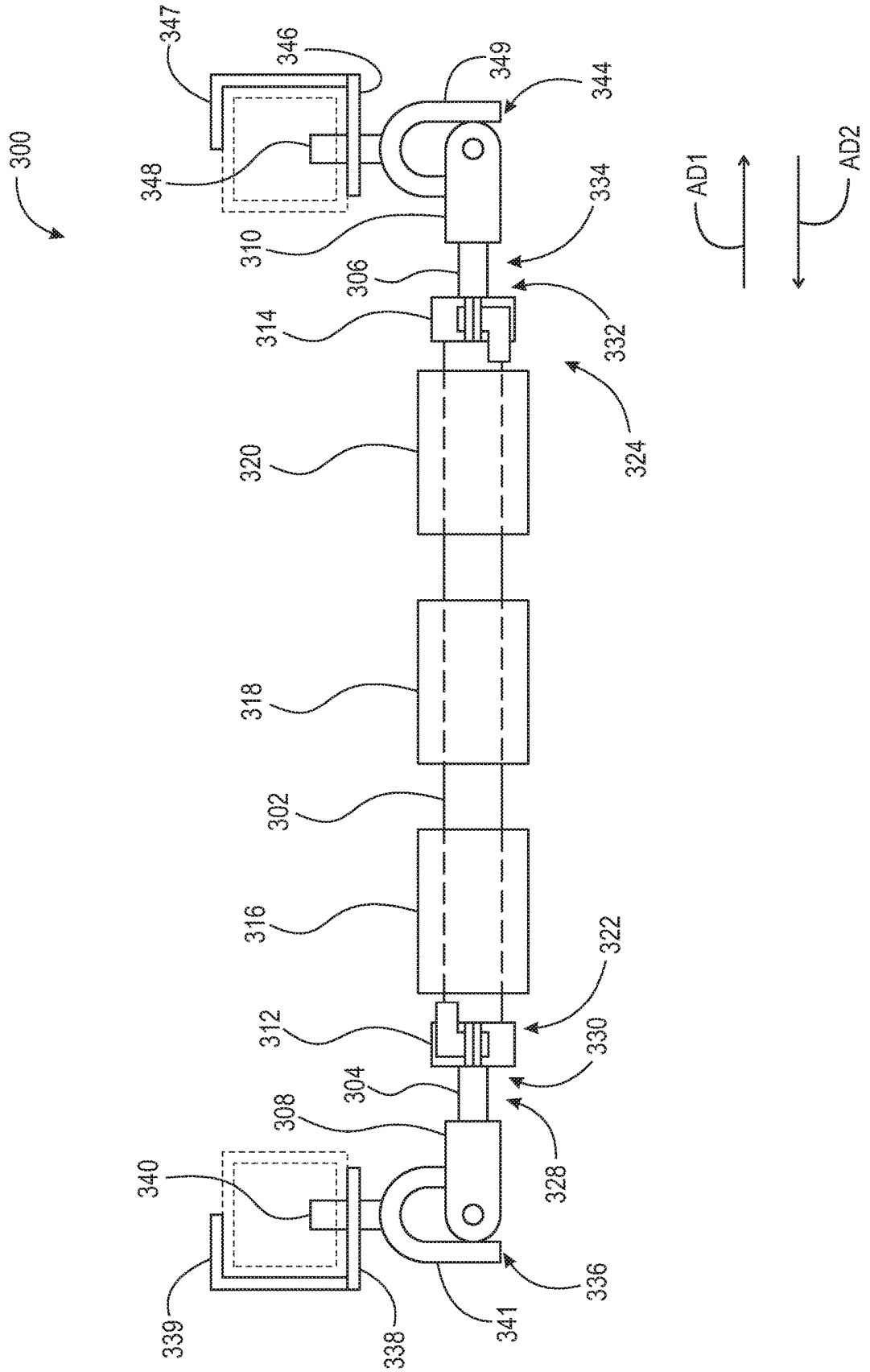
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Fig. 10

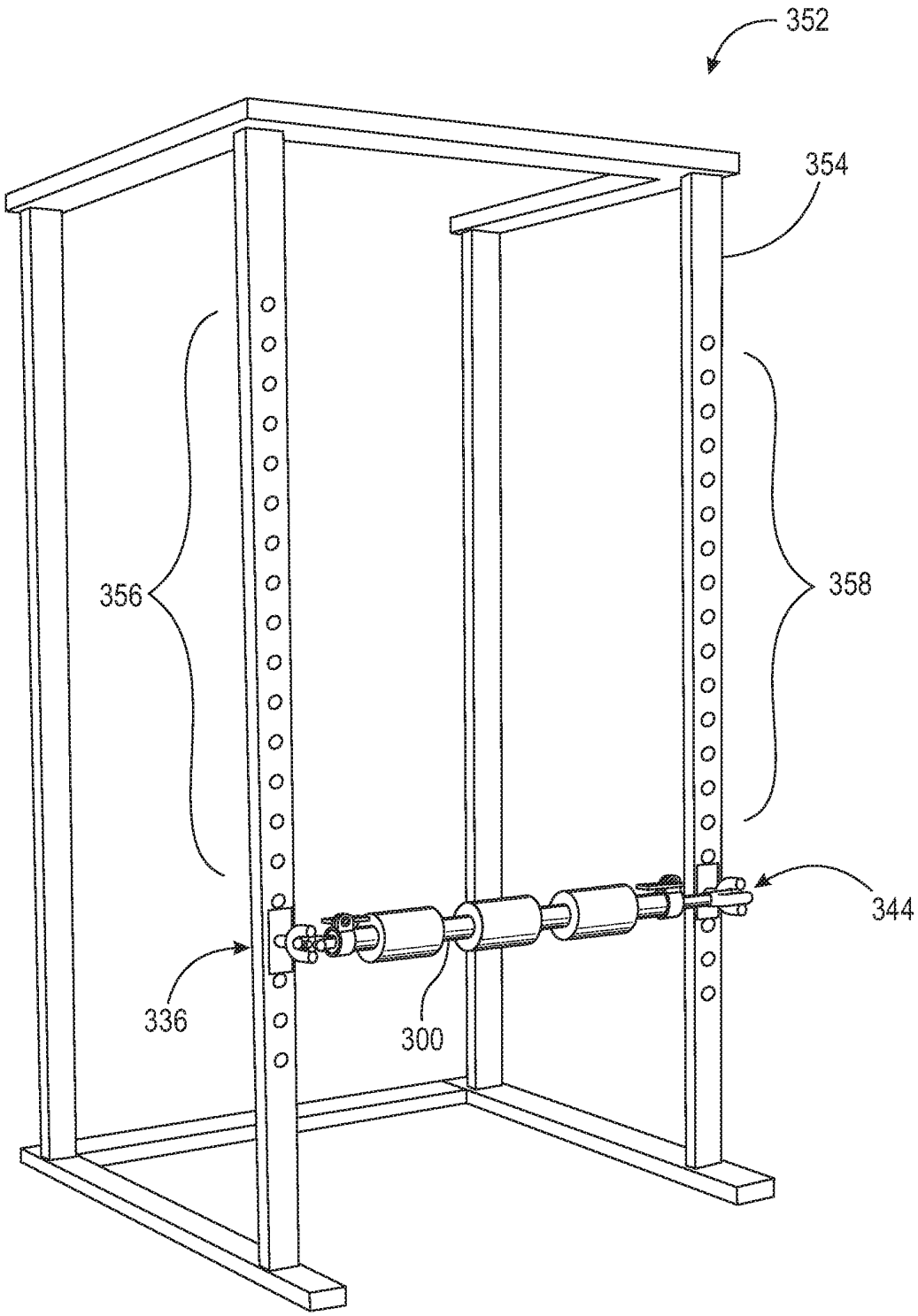


Fig. 11

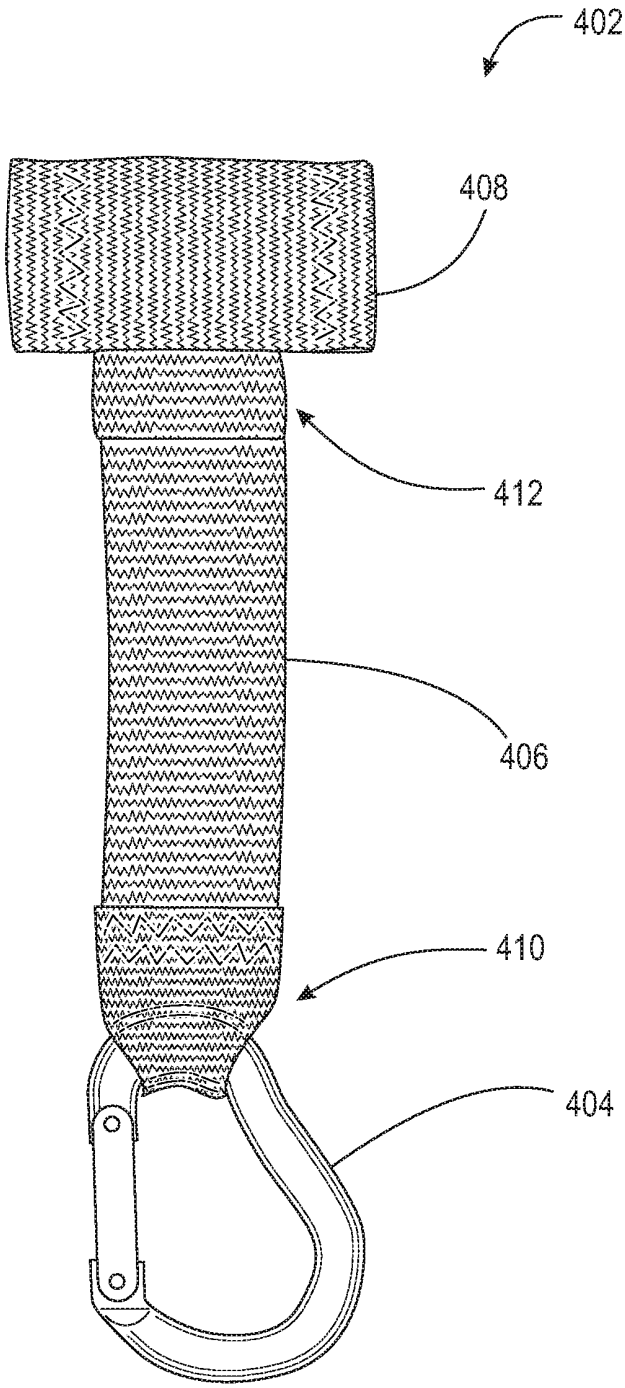


Fig. 12

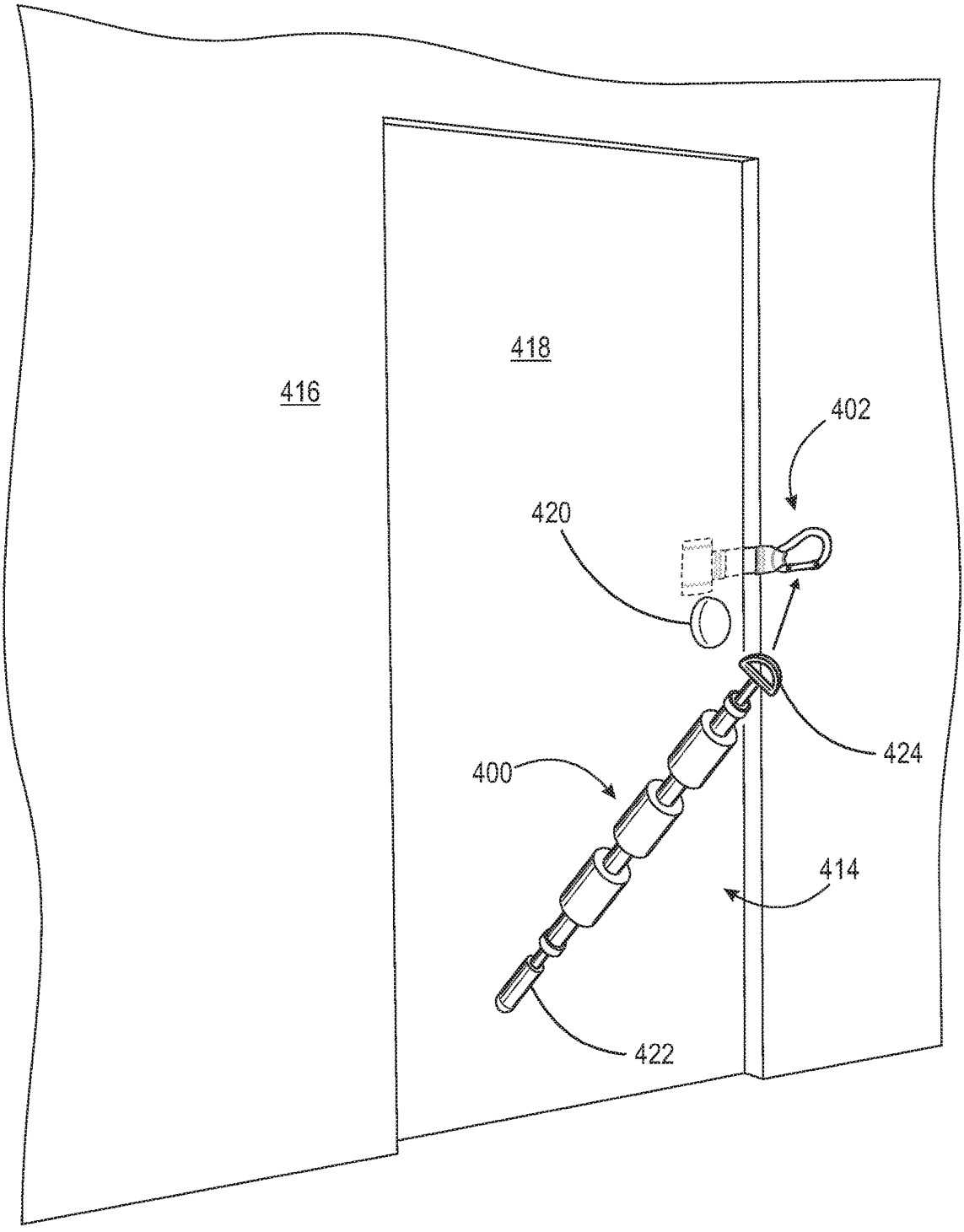
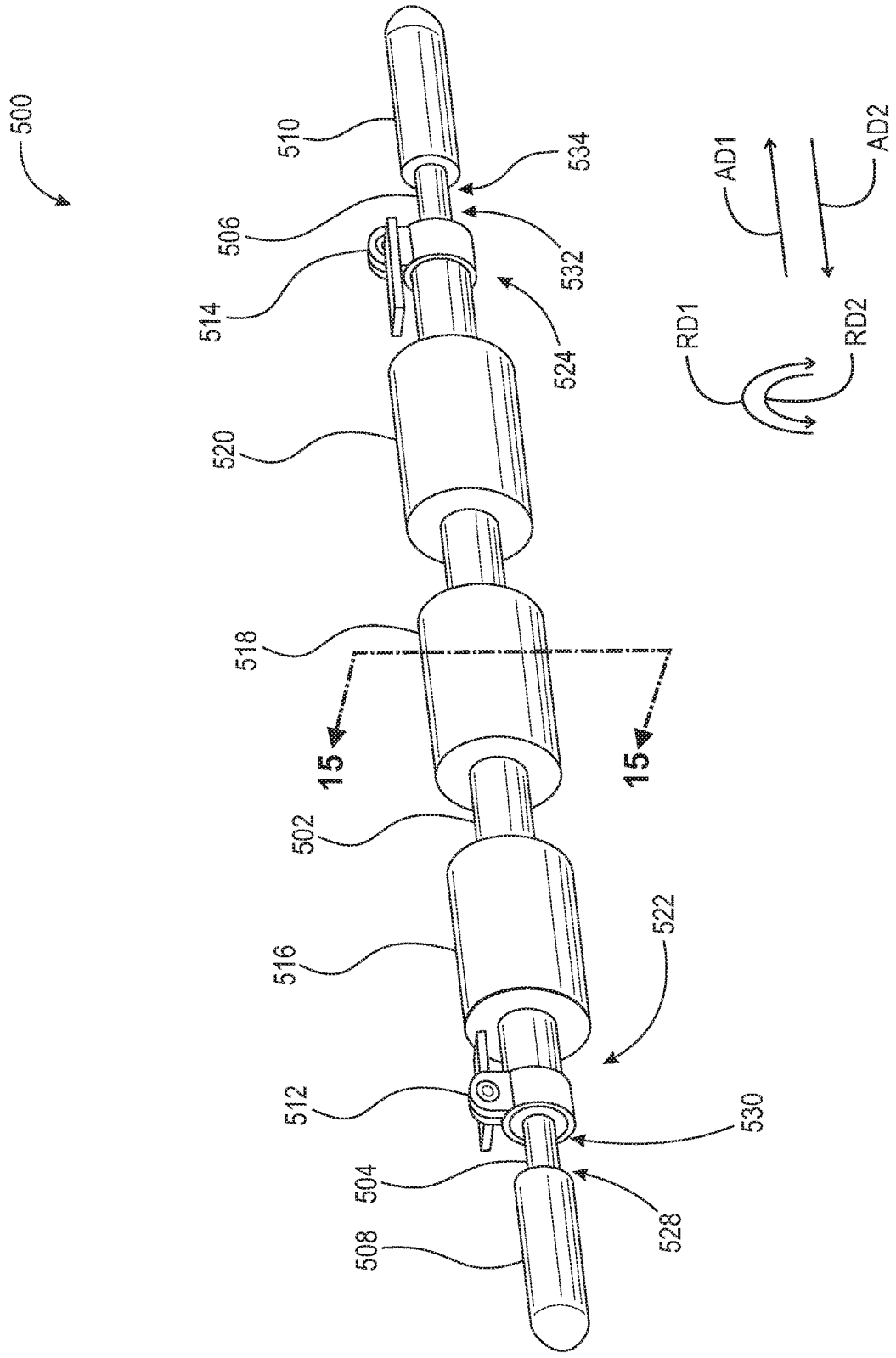


Fig. 13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AD1
AD2
RD1
RD2

Fig. 14

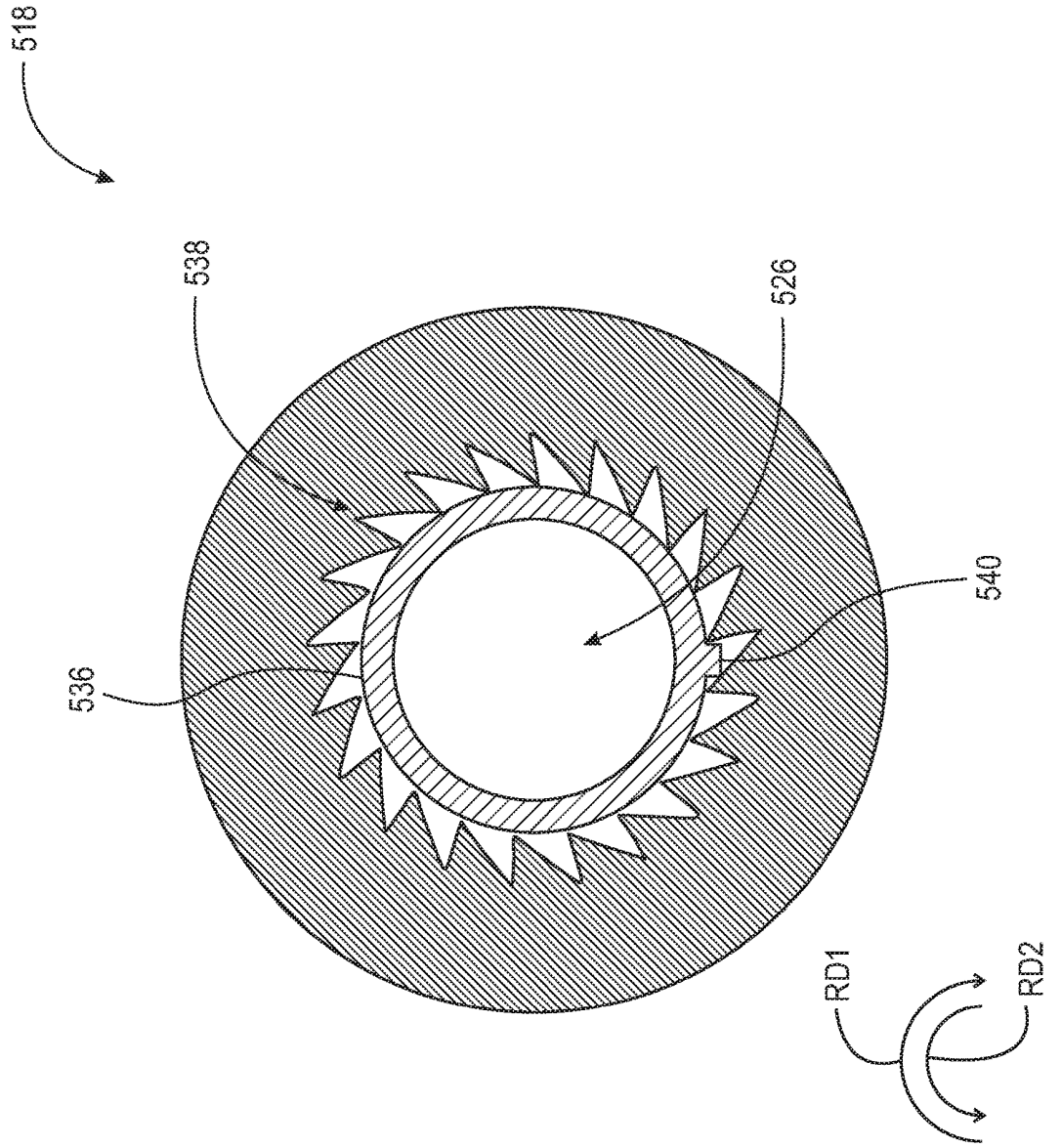

Fig. 15

TELESCOPING MASSAGE ROLLER AND ASSEMBLY OF A PHYSICAL FITNESS CAGE WITH A TELESCOPING MASSAGE ROLLER

CROSS REFERENCE TO RELATED APPLICATIONS

This is a continuation of U.S. patent application Ser. No. 15/816,709, filed Nov. 17, 2017, which application is incorporated herein by reference in its entirety.

FIELD

The disclosure relates to a massage roller, more specifically, a massage roller that can be affixed to a stationary support structure, e.g., a power rack or door frame.

BACKGROUND

Exercise, to any significant degree, causes micro-tears in muscle tissue. Additionally, as an individual exercises, muscle tissue burns stored glucose for energy. Lactic acid is a metabolic byproduct of muscle tissue breaking down stored glucose, and often leads to muscle fatigue. Over time, blood flow to the afflicted area both removes lactic acid from the muscle tissue and allows white blood cells, known as prostaglandins, to flood the area to reduce inflammation caused by the micro-tears. Therefore, muscle recovery and removal of lactic acid are directly correlated with blood flow the afflicted muscle tissue. One well know technique for promoting blood flow to muscle tissue, and thus accelerating recovery of the muscle's performance, includes direct application of external physical stress, e.g., massaging the afflicted muscle.

Two-handed massage rollers are well known to athletes and connoisseurs of exercise as a way to massage muscles such as the quadriceps, hamstrings, calves, and glutes. However, one persistent limitation to two-handed massage rollers is the limited range of muscles that can be massaged, i.e., it is difficult to massage a user's triceps when both of the user's arms are holding the massage roller. For example, it is exceedingly difficult, if not impossible, to use a two-handed massage roller to massage a majority of the muscles in a user's back.

Thus, there is a long-felt need for a massage roller that does not require the use of two hands to massage muscle tissue. This creates the possibility of massaging muscles not previously accessible to two-handed massage rollers.

SUMMARY

According to aspects illustrated herein, there is provided a roller device, including a first tube having a first diameter, and a through-bore having a second diameter smaller than the first diameter, the through-bore extending through and concentric with the first tube, a first rod having a third diameter smaller than the second diameter, a first end, and a second end, where the second end of the first rod is operatively arranged to telescopingly engage with the through-bore of the first tube, a second rod having a fourth diameter equal to the third diameter, a first end and a second end, where the first end of the second rod is operatively arranged to telescopingly engage with the through-bore of the first tube, at least one roller arranged to rotate about the first tube, and a first handle fixedly secured to the first end of the first rod.

According to aspects illustrated herein, there is provided a roller device, including a first tube having a first diameter, and a through-bore having a second diameter smaller than the first diameter, the through-bore extending through and concentric with the first tube, a first rod having a third diameter smaller than the second diameter, a first end, and a second end, where the second end of the first rod is operatively arranged to telescopingly engage with the through-bore of the first tube, a second rod having a fourth diameter equal to the third diameter, a first end and a second end, where the first end of the second rod is operatively arranged to telescopingly engage with the through-bore of the first tube, at least one roller arranged to rotate about the first tube, and a first connector fixedly secured to the first end of the first rod.

According to aspects illustrated herein, there is provided a physical fitness cage/roller device assembly including a physical fitness cage having a first vertical support and a second vertical support, and a roller device. The roller device including a first tube having a first diameter, and a through-bore having a second diameter smaller than the first diameter, the through-bore extending through and concentric with the first tube, a first rod having a third diameter smaller than the second diameter, a first end, and a second end, where the second end of the first rod is operatively arranged to telescopingly engage with the through-bore of the first tube, a second rod having a fourth diameter equal to the third diameter, a first end and a second end, where the first end of the second rod is operatively arranged to telescopingly engage with the through-bore of the first tube, and at least one roller arranged to rotate about the first tube.

One object of the roller device of the present disclosure is to provide a one-handed massage roller where one end of the massage roller can be secured to a physical fitness cage or power rack.

Another object of the roller device of the present disclosure is to provide a roller device capable of being supported within a physical fitness cage or power rack such that a user can utilize the device without the need for the user to work the massager with their hands.

These, and other objects and advantages, will be readily appreciable from the following description of preferred embodiments and from the accompanying drawings and claims.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

The nature and mode of operation of the present disclosure will now be more fully described in the following detailed description of the embodiments taken with the accompanying figures, in which:

FIG. **1** is a perspective view of a first embodiment of a roller device as described herein;

FIG. **2** is a side elevational view of a first embodiment of a roller device as described herein;

FIG. **3**A is a perspective view of a first embodiment of a bracket used in conjunction with the various roller devices described herein;

FIG. **3**B is a perspective view of a second embodiment of a bracket used in conjunction with the various roller devices as described herein;

FIG. **4** is a perspective view of a first embodiment of a rack-roller assembly as described herein;

FIG. **5** is a perspective view of a second embodiment of a roller device as described herein;

FIG. **6** is a side elevational view of a second embodiment of a roller device as described herein;

FIG. **7**A is a perspective view of a third embodiment of a bracket used in conjunction with the various roller devices described herein;

FIG. **7**B is a perspective view of a fourth embodiment of a bracket used in conjunction with the various roller devices as described herein;

FIG. **8** is a perspective view of a second embodiment of a rack-roller assembly as described herein;

FIG. **9** is a perspective view of a third embodiment of a roller device used in conjunction with a fifth and a sixth embodiment of a bracket as described herein;

FIG. **10** is a side elevational view of a third embodiment of a roller device used in conjunction with a fifth and a sixth embodiment of a bracket as described herein;

FIG. **11** is a perspective view of a third embodiment of a rack-roller assembly as described herein;

FIG. **12** is a side view of a door anchor as described herein;

FIG. **13** is a perspective view a door anchor used in conjunction with a door and a fourth embodiment of a roller device as described herein;

FIG. **14** is a perspective view of a fifth embodiment of a roller device as described herein;

FIG. **15** is a cross-sectional view of a ratchet mechanism taken generally along line **15-15** in FIG. **14**.

DETAILED DESCRIPTION OF EMBODIMENTS

At the outset, it should be appreciated that like drawing numbers on different drawing views identify identical, or functionally similar, structural elements. While the embodiments are described with respect to what is presently considered to be the preferred aspects, it is to be understood that the invention as claimed is not limited to the disclosed aspect. The present invention is intended to include various modifications and equivalent arrangements within the spirit and scope of the appended claims.

The term "pressure clamp" as used in the present disclosure is intended to mean any device that secures objects to prevent their movement or separation by the application a force, e.g., a circumferential force. The term "carabiner" as used in the present disclosure is intended to mean a generally D-shaped or oblong connector with one spring-hinged side which permits the fastening of other pieces of equipment. The term "ratchet" as used in the present disclosure is intended to mean any mechanical device that allows continuous linear or rotary motion in one direction while preventing motion in the opposite direction.

Furthermore, it is understood that this disclosure is not limited to the particular methodology, materials and modifications described and, as such, may, of course, vary. It is also understood that the terminology used herein is for the purpose of describing particular aspects only, and is not intended to limit the scope of the present invention, which is limited only by the appended claims.

Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood to one of ordinary skill in the art to which this invention belongs. Although any methods, devices or materials similar or equivalent to those described herein can be used in the practice or testing of the invention, the preferred methods, devices, and materials are now described.

Adverting now to the Figures, FIG. **1** is a perspective view of roller device **100**. Roller device **100** includes first tube **102**, first rod **104**, second rod **106**, first handle **108**, second handle **110**, first pressure clamp **112**, second pressure clamp **114**, first roller **116**, second roller **118**, and third roller **120**. First tube **102** includes first end **122**, second end **124**, and through-bore **126** (not shown). Through-bore **126** of first tube **102** is concentric with, and passes completely through, first tube **102**. First rod **104** has first end **128** and second end **130**. First end **128** of first rod **104** is fixedly secured to handle **108**. Second end **130** of first rod **104** is arranged to slide within, and telescopingly engage with, through-bore **126** of first tube **102**. Second rod **106** has first end **132** and second end **134**. First end **132** of second rod **106** is arranged to slide within, and telescopingly with, through-bore **126** of first tube **102**. Second end **134** of second rod **106** is fixedly secured to second handle **110**. First handle **108** and second handle **110** are depicted as substantially cylindrical members with one rounded end and can be made of various materials, e.g., rubber, foam, or plastic such as high-density polyethylene. First handle **108** and second handle **110** are intended to be gripped by a user's hand, or engage and be supported by brackets **136** and **144** described infra, such that a pressure force may be exerted by device **100** to a user's muscle.

First pressure clamp **112** is fixedly secured to first end **122** of first tube **102** and arranged between first rod **104** and first tube **102**. When first pressure clamp **112** is disengaged, first rod **104** can slide within, and telescopingly engage with, through-bore **126** of first tube **102**. When engaged, first pressure clamp **112** is operatively arranged to provide a pressure force about the circumference of first rod **104** and prevent movement of first rod **104** in both axial direction AD**1** and axial direction AD**2**. Similarly, second pressure clamp **114** is fixedly secured to second end **124** of first tube **102** and arranged between second rod **106** and first tube **102**. When second pressure clamp **114** is disengaged, second rod **106** can slide within, and telescopingly engage with, through-bore **126** of first tube **102**. When engaged, second pressure clamp **114** is operatively arranged to provide a pressure force about the circumference of second rod **106** and prevent movement of second rod **106** in both axial direction AD**1** and axial direction AD**2**. Roller device **100** further includes first roller **116**, second roller **118**, and third roller **120**. Rollers **116**, **118**, and **120** are arranged about first tube **102**. Roller **116**, **118**, and **120** are operatively arranged to rotate in rotational direction RD**1** and/or second rotational direction RD**2**. It should be appreciated that although three rollers, i.e., rollers **116**, **118**, and **120** are depicted, additional rollers may be provided. Furthermore, it is contemplated herein that at least one roller, i.e., one or more rollers could be disposed about first tube **102**.

FIG. **2** is a side elevational view of roller device **100**. FIG. **2** illustrates that first tube **102** is a continuous tube which extends between first pressure clamp **112** and second pressure clamp **114**. It should be appreciated that first tube **102** could be embodied as a segmented tube between each roller **116**, **118**, and **120**. It should further be appreciated that rollers **116**, **118**, and **120** can be made of rubber, foam, or a hard plastic, such as high-density polyethylene.

FIG. **3**A is a perspective view of a bracket **136**. Bracket **136** includes pin **138**, guard **140**, back plate **141**, and support **142**. Pin **136** is fixedly secured to back plate **141** and arranged to slidingly engage with first plurality of through-bores **156** (shown in FIG. **4**). Guard **140** is arranged to prevent bracket **136** from slidingly disengaging with rack **154** (shown in FIG. **4**). Back plate **141** is positioned between pin **138** and support **142**. Support **142** is integrally connected with back plate **141** and arranged to hold a device when in use in association with rack **154**, e.g., a bar used for squatting or bench-pressing, or roller device **100**. As embod-

ied in FIG. **3**A, support **142** is depicted as a flat plate with a lip on one side and back plate **141** on the other to prevent disengagement of a device in any direction orthogonal to the surface of back plate **141**. It should be appreciated that back plate **141** and support **142** can include pads, as illustrated, to prevent excessive wear of bracket **136**. FIG. **3**B is a perspective view of bracket **144** used in conjunction with roller device **100**. Bracket **144** includes pin **146**, guard **148**, back plate **149**, and support **150**. Pin **146** is fixedly secured to back plate **149** and arranged to slidingly engage with second plurality of through-bores **158** (shown in FIG. **4**). Guard **148** is arranged to prevent bracket **144** from slidingly disengaging with rack **154**. Back plate **141** is positioned between pin **146** and support **150**. Support **150** is integrally connected with back plate **149** and arranged to hold a device when in use in association with rack **154**, e.g., a bar used for squatting or bench-pressing, or roller device **100**. As embodied in FIG. **3**B, support **150** is depicted as a flat plate with a lip on one side and back plate **149** on the other to prevent disengagement of a device in any direction orthogonal to the surface of back plate **149**. It should be appreciated that back plate **149** and support **150** can include pads, as illustrated, to prevent excessive wear of bracket **144**.

FIG. **4** is a perspective view of a rack-roller assembly **152**. Rack-roller assembly **152** includes rack **154**, first plurality of through-bores **156**, second plurality of through-bores **158**, brackets **136** and **144**, and roller device **100**. Device **100** rests on and is supported by brackets **136** and **144**. To compensate for variations in size of different racks and rack assemblies, device **100** is capable of telescoping as discussed supra. Device **100** may telescope to varying lengths such that handles **108** and **110**, described supra, can contact and be supported by brackets **136** and **144**, simultaneously. It should be appreciated that brackets **136** and **144** do not have to engage with horizontally corresponding through-bores in first plurality of through-bores **156** and second plurality of through-bores **158**, i.e., device **100** does not have to be level when resting on brackets **136** and **144**. In fact, it may be desirable to position brackets **136** and **144** at different heights, corresponding to different through-bores of first plurality of through-bores **156** and second plurality of through-bores **158** so that different muscle areas, e.g., a user's latissimus dorsi, can be massaged easily.

FIG. **5** is a perspective view of roller device **200**. Roller device **200** includes first tube **202**, first rod **204**, second rod **206**, first connector **208**, second connector **210**, first pressure clamp **212**, second pressure clamp **214**, first roller **216**, second roller **218**, and third roller **220**. First tube **202** includes first end **222**, second end **224**, and through-bore **226** (not shown). Through-bore **226** of first tube **202** is concentric with, and passes completely through, first tube **202**. First rod **204** has first end **228** and second end **230**. First end **228** of first rod **204** is fixedly secured to handle **208**. Second end **230** of first rod **204** is arranged to slide within, and telescopingly engage with, through-bore **226** of first tube **202**. Second rod **206** has first end **232** and second end **234**. First end **232** of second rod **206** is arranged to slide within, and telescopingly with, through-bore **226** of first tube **202**. Second end **234** of second rod **206** is fixedly secured to second connector **210**. First connector **208** and second connector **210** are depicted as substantially D-shaped members arranged to engage with brackets **236** and **244** described infra and can be made of various materials, e.g., rubber, foam, high-density polyethylene, or stainless steel. First connector **208** and second connector **210** are intended to engage and be supported by brackets **236** and **244** described infra, such that a pressure force may be exerted by device **200** to a user's muscle.

First pressure clamp **212** is fixedly secured to first end **222** of first tube **202** and arranged between first rod **204** and first tube **202**. When first pressure clamp **212** is disengaged, first rod **204** can slide within, and telescopingly engage with, through-bore **226** of first tube **202**. When engaged, first pressure clamp **212** is operatively arranged to provide a pressure force about the circumference of first rod **204** and prevent movement of first rod **204** in both axial direction AD**1** and axial direction AD**2**. Similarly, second pressure clamp **214** is fixedly secured to second end **224** of first tube **202** and arranged between second rod **206** and first tube **202**. When second pressure clamp **214** is disengaged, second rod **206** can slide within, and telescopingly engage with, through-bore **226** of first tube **202**. When engaged, second pressure clamp **214** is operatively arranged to provide a pressure force about the circumference of second rod **206** and prevent movement of second rod **206** in both axial direction AD**1** and axial direction AD**2**. Roller device **200** further includes first roller **216**, second roller **218**, and third roller **220**. Rollers **216**, **218**, and **220** are arranged about first tube **202**. Roller **216**, **218**, and **220** are operatively arranged to rotate in rotational direction RD**1** and/or second rotational direction RD**2**. It should be appreciated that although three rollers, i.e., rollers **216**, **218**, and **220** are depicted, additional rollers may be provided. Furthermore, it is contemplated herein that at least one roller, i.e., one or more roller could be disposed about first tube **202**.

FIG. **6** is a side elevational view of a roller device **200**. FIG. **6** illustrates that first tube **202** is a continuous tube which extends between first pressure clamp **212** and second pressure clamp **214**. It should be appreciated that first tube **202** could be embodied as a segmented tube between each roller **216**, **218**, and **220**. It should further be appreciated that rollers **216**, **218**, and **220** can be made of rubber, foam, or a hard plastic, such as high-density polyethylene.

FIG. **7**A is a perspective view of a bracket **236** used in conjunction with roller device **200**. Bracket **236** includes pin **238**, guard **240**, back plate **241**, and support **242**. Pin **236** is fixedly secured to back plate **241** and arranged to slidingly engage with first plurality of through-bores **256** (shown in FIG. **8**). Guard **240** is arranged to prevent bracket **236** from slidingly disengaging with rack **254** (shown in FIG. **8**). Back plate **241** is positioned between pin **238** and support **242**. Support **242** is integrally connected with back plate **241** and arranged to hold a device when in use in association with rack **254**, e.g., roller device **200**. As embodied in FIG. **7**A, support **242** is depicted as a substantially U-shaped carabiner integrally connected with back plate **241** and arranged to prevent displacement of device **200**. Much like a carabiner clip, support **242** includes a spring-biased gate that allows a piece of equipment to quickly clip into and be secured by support **242**. FIG. **7**B is a perspective view of bracket **244** used in conjunction with roller device **200**. Bracket **244** includes pin **246**, guard **248**, back plate **249**, and support **250**. Pin **246** is fixedly secured to back plate **249** and arranged to slidingly engage with second plurality of through-bores **258** (shown in FIG. **8**). Guard **248** is arranged to prevent bracket **244** from slidingly disengaging with rack **254**. Back plate **241** is positioned between pin **246** and support **250**. Support **250** is integrally connected with back plate **249** and arranged to hold a device when in use in association with rack **254**, e.g., roller device **200**. As embodied in FIG. **7**B, support **250** is depicted as a substantially U-shaped carabiner integrally connected with back plate **249** and arranged to prevent displacement of device **200**. Much

like a carabiner clip, support **250** includes a spring-biased gate that allows a piece of equipment to quickly clip into and be secured by support **250**.

FIG. **8** is a perspective view of a rack-roller assembly **252**. Rack-roller assembly **252** includes rack **254**, first plurality of through-bores **256**, second plurality of through-bores **258**, brackets **236** and **244**, and roller device **200**. Device **200** clips to and is supported by brackets **236** and **244**. To compensate for variations in size of different racks and rack assemblies, device **200** is capable of telescoping as discussed supra. Device **200** may telescope to varying lengths such that connectors **208** and **210**, described supra, can clip into and be supported by brackets **236** and **244**, simultaneously. It should be appreciated that brackets **236** and **244** do not have to engage with horizontally corresponding through-bores in first plurality of through-bores **256** and second plurality of through-bores **258**, i.e., device **200** does not have to be level when resting in brackets **236** and **244**. In fact, it may be desirable to position brackets **236** and **244** at different heights, corresponding to different through-bores of first plurality of through-bores **256** and second plurality of through-bores **258** so that different muscle areas, e.g., a user's latissimus dorsi, can be massaged easily.

FIG. **9** is a perspective view of roller device **300**. Roller device **300** includes first tube **302**, first rod **304**, second rod **306**, first fork **308**, second fork **310**, first pressure clamp **312**, second pressure clamp **314**, first roller **316**, second roller **318**, and third roller **320**. First tube **302** includes first end **322**, second end **324**, and through-bore **326** (not shown). Through-bore **326** of first tube **302** is concentric with, and passes completely through, first tube **302**. First rod **304** has first end **328** and second end **330**. First end **328** of first rod **304** is fixedly secured to first fork **308**. Second end **330** of first rod **304** is arranged to slide within, and telescopingly engage with, through-bore **326** of first tube **302**. Second rod **306** has first end **332** and second end **334**. First end **332** of second rod **306** is arranged to slide within, and telescopingly with, through-bore **326** of first tube **302**. Second end **334** of second rod **306** is fixedly secured to second fork **310**. First fork **308** and second fork **310** are depicted as fork shaped members, i.e., having a first prong, a second prong, and a space between the first and second prongs. First fork **308** and second fork **310** are intended engage and be supported by joints **336** and **346** described infra, such that a pressure force may be exerted by device **300** to a user's muscle.

First pressure clamp **312** is fixedly secured to first end **322** of first tube **302** and arranged between first rod **304** and first tube **302**. When first pressure clamp **312** is disengaged, first rod **304** can slide within, and telescopingly engage with, through-bore **326** of first tube **302**. When engaged, first pressure clamp **312** is operatively arranged to provide a pressure force about the circumference of first rod **304** and prevent movement of first rod **304** in both axial direction AD**1** and axial direction AD**2**. Similarly, second pressure clamp **314** is fixedly secured to second end **324** of first tube **302** and arranged between second rod **306** and first tube **302**. When second pressure clamp **314** is disengaged, second rod **306** can slide within, and telescopingly engage with, through-bore **326** of first tube **302**. When engaged, second pressure clamp **314** is operatively arranged to provide a pressure force about the circumference of second rod **306** and prevent movement of second rod **306** in both axial direction AD**1** and axial direction AD**2**. Roller device **300** further includes first roller **316**, second roller **318**, and third roller **320**. Rollers **316**, **318**, and **320** are arranged about first tube **302**. Roller **316**, **318**, and **320** are operatively arranged to rotate in rotational direction RD**1** and/or second rotational direction RD**2**. It should be appreciated that although three rollers, i.e., rollers **316**, **318**, and **320** are depicted, additional rollers may be provided. Furthermore, it is contemplated herein that at least one roller, i.e., one or more rollers could be disposed about first tube **302**.

FIG. **9** further illustrates joints **336** and **344**. Joint **336** includes plate **338**, guard **339**, pin **340**, fork **341**, and cross **342**. Pin **340** is fixedly secured to plate **338** and arranged to slidingly engage with first plurality of through-bores **356** (shown in FIG. **11**). Guard **339** is arranged to prevent joint **336** from slidingly disengaging with rack **354** (shown in FIG. **11**). Plate **338** is positioned between pin **340** and fork **341**. Fork **341** is integrally connected with plate **338** and arranged to hold a device when in use in association with rack **354**, e.g., a bar used for squatting or bench-pressing, or roller device **300**. As embodied in FIG. **9**, fork **341** is depicted as a fork shaped member integrally connected with plate **338** and arranged to prevent displacement of device **300**. Fork **341** of joint **336** is arranged to connect with fork **308** of roller device **300** via cross **342**. Cross **342** allows for rotation of device **300** with respect to joint **336** without disengaging with joint **336**. Joint **336**, when connected to device **300** partially supports device **300** such that that a pressure force may be exerted by device **300** to a user's muscle. Joint **344** includes plate **346**, guard **347**, pin **348**, fork **349**, and cross **350**. Pin **348** (shown in FIG. **10**) is fixedly secured to plate **346** and arranged to slidingly engage with first plurality of through-bores **356** (shown in FIG. **11**). Guard **347** (shown in FIG. **10**) is arranged to prevent joint **344** from slidingly disengaging with rack **354** (shown in FIG. **11**). Plate **346** is positioned between pin **348** and fork **349**. Fork **349** is integrally connected with plate **346** and arranged to hold a device when in use in association with rack **354**, e.g., a bar used for squatting or bench-pressing, or roller device **300**. It should be appreciated that forks **341** and **349** can be made from various materials e.g., stainless steel. As embodied in FIG. **9**, fork **349** is depicted as a fork shaped member integrally connected with plate **346** and arranged to prevent displacement of device **300**. Fork **349** of joint **344** is arranged to connect with fork **310** of roller device **300** via cross **350** (not shown). Cross **350** allows for omnidirectional rotation of device **300** with respect to joint **344** without disengaging with joint **344**. Joint **336**, when connected to device **300** partially supports device **300** such that that a pressure force may be exerted by device **300** to a user's muscle. It should be appreciated that forks **308** and **310** along with first rod **304** and second rod **306**, can be arranged to rotate within through bore **326**. Further, it should be appreciated that forks **341** and **349** on joints **336** and **344**, respectively, can also be arranged to rotate on joints **336** and **344**.

FIG. **10** is a side elevational view of roller device **300**. FIG. **10** illustrates that first tube **302** is a continuous tube which extends between first pressure clamp **312** and second pressure clamp **314**. It should be appreciated that first tube **302** could be embodied as a segmented tube between each roller **316**, **318**, and **320**. It should further be appreciated that rollers **316**, **318**, and **320** can be made of rubber, foam, or a hard plastic, such as high-density polyethylene.

FIG. **11** is a perspective view of a rack-roller assembly **352**. Rack-roller assembly **352** includes rack **354**, first plurality of through-bores **356**, second plurality of through-bores **358**, joints **336** and **344**, and roller device **300**. Device **300** secures to and is supported by joints **336** and **344**. To compensate for variations in size of different racks and rack assemblies, device **300** is capable of telescoping as discussed supra. Device **300** may telescope to varying lengths

such that forks **308** and **310**, described supra, can connect to and be supported by joints **336** and **344**, simultaneously. It should be appreciated that joints **336** and **344** do not have to engage with horizontally corresponding through-bores in first plurality of through-bores **356** and second plurality of through-bores **358**, i.e., device **300** does not have to be level when connected to joints **336** and **344**. In fact, it may be desirable to position joints **336** and **344** at different heights, corresponding to different through-bores of first plurality of through-bores **356** and second plurality of through-bores **358** so that different muscle areas, e.g., a user's latissimus dorsi, can be massaged easily.

FIG. **12** is a side view of door anchor **402** which can be used in association with roller device **400**. Door anchor **402** includes a clip **404**, a first strap **406**, and a second strap **408**. Clip **404** is depicted as a substantially D-shaped carabiner clip having a spring-biased gate arranged to quickly connect to a piece of equipment. First strap **406** has first end **410** and second end **412**. First end **410** is arranged to secure to clip **404**, and second end **412** is arranged to secure to second strap **408**. Second strap **408** is secured to first strap **406** such that second strap **408** is substantially orthogonal to first strap **406**. Second strap is operatively arranged to contact the back of door **416** described infra.

FIG. **13** is a perspective view a door anchor **402** as used in association with roller device **400** in anchor-assembly **414**. It should be appreciated that the handle and connectors depicted in association with roller devices **100**, **200**, and **300**, can be mixed and matched as embodied by roller device **400**. Roller device **400** comprises substantially the same elements as described in association with devices **100**, **200**, and **300**, except that device **400** has **422** handle at one end, and connector **424** at the other. Handle **422** is substantially similar to handle **108** described supra. Connector **424** is substantially similar to connector **210** described supra. Door anchor **402**, is initially positioned against the doorjamb of door **418**, between door **418** and wall **416** and above door handle **420**. Door **418** can then move to the closed position as depicted in FIG. **13** clamping door anchor **402** in place. After door anchor **402** is locked in place, connector **424** of roller device **400** can be clipped to clip **404** of door anchor **402**. In this arrangement a user only needs to use one arm instead of two arms to grip handle **422** and impart a pressure force to roller device **400**. By only using one arm it becomes possible to use door anchor **402** in conjunction with roller device **400** to massage muscle groups while only using one arm. It should be appreciated that by mixing handles and connectors as described above, it is possible to have roller devices **200** and **300** with a handle at one end and a connector at the other in which the devices could be used in a similar one-armed fashion as described above.

FIG. **14** is a perspective view of roller device **500**. Roller device **500** includes first tube **502**, first rod **504**, second rod **506**, first handle **508**, second handle **510**, first pressure clamp **512**, second pressure clamp **514**, first roller **516**, second roller **518**, and third roller **520**. First tube **502** includes first end **522**, second end **524**, and through-bore **526** (shown in FIG. **15**). Through-bore **526** of first tube **502** is concentric with, and passes completely through, first tube **502**. First rod **504** has first end **528** and second end **530**. First end **528** of first rod **504** is fixedly secured to handle **508**. Second end **530** of first rod **504** is arranged to slide within, and telescopingly engage with, through-bore **526** of first tube **502**. Second rod **506** has first end **532** and second end **534**. First end **532** of second rod **506** is arranged to slide within, and telescopingly with, through-bore **526** of first tube **502**. Second end **534** of second rod **506** is fixedly secured to second handle **510**. First handle **508** and second handle **510** are depicted as substantially cylindrical members with one rounded end and can be made of various materials, e.g., rubber, foam, or plastic such as high-density polyethylene. First handle **508** and second handle **510** are intended to be gripped by a user's hand, or engage and be supported by brackets (not shown), such that a pressure force may be exerted by device **500** to a user's muscle.

First pressure clamp **512** is fixedly secured to first end **522** of first tube **502** and arranged between first rod **504** and first tube **502**. When first pressure clamp **512** is disengaged, first rod **504** can slide within, and telescopingly engage with, through-bore **526** of first tube **502**. When engaged, first pressure clamp **512** is operatively arranged to provide a pressure force about the circumference of first rod **504** and prevent movement of first rod **504** in both axial direction AD**1** and axial direction AD**2**. Similarly, second pressure clamp **514** is fixedly secured to second end **524** of first tube **502** and arranged between second rod **506** and first tube **502**. When second pressure clamp **514** is disengaged, second rod **506** can slide within, and telescopingly engage with, through-bore **526** of first tube **502**. When engaged, second pressure clamp **514** is operatively arranged to provide a pressure force about the circumference of second rod **506** and prevent movement of second rod **506** in both axial direction AD**1** and axial direction AD**2**. Roller device **500** further includes first roller **516**, second roller **518**, and third roller **520**. Rollers **516**, **518**, and **520** are arranged about first tube **502**. Roller **516**, **518**, and **520** are operatively arranged to rotate in rotational direction RD**1** and not in second rotational direction RD**2**. This this one-way rotation is made possible by plurality of teeth **538** (shown in FIG. **15**) and stopping element **540** (shown in FIG. **15**). It should be appreciated that although three rollers, i.e., rollers **516**, **518**, and **520** are depicted, additional rollers may be provided. Furthermore, it is contemplated herein that at least one roller, i.e., one or more rollers could be disposed about first tube **502**.

FIG. **15** is depicts a cross-sectional view of roller **518** taken generally along line **15-15** in FIG. **14**. First tube **502** includes radial outwardly facing surface **536**. Surface **536** includes stopping element **540** arranged to engage with plurality of teeth **538**. Roller **518** includes plurality of teeth **538** arranged on a radially inwardly facing surface. Each tooth of plurality of teeth **538** are angled such that rotation of roller **518** in rotational direction RD**1** causes each tooth to slide over and past stopping element **540** while preventing rotation of roller **518** in rotational direction RD**2**.

Thus it is seen that the objects of the invention are efficiently obtained, although changes and modifications to the invention should be readily apparent to those having ordinary skill in the art, which changes would not depart from the spirit and scope of the invention as claimed.

LIST OF REFERENCE NUMBERS

AD**1** Axial direction
AD**2** Axial direction
DR**1** Direction
DR**1** Direction
RD**1** Rotational direction
RD**2** Rotational direction
100 Roller device
102 First tube
104 First rod
106 Second rod
108 First handle

110 Second handle
112 First pressure clamp
114 Second pressure clamp
116 First roller
118 Second roller
120 Third roller
122 First end of first tube
124 Second end of first tube
126 Through-bore
128 First end of first rod
130 Second end of first rod
132 First end of second rod
134 Second end of second rod
136 Left bracket
138 Pin
140 Guard
141 Back plate
142 Support
144 Right bracket
146 Pin
148 Guard
149 Back plate
150 Support
152 Rack-Roller assembly
154 Rack
156 First plurality of through-bores
158 Second plurality of through-bores
200 Roller device
202 First tube
204 First rod
206 Second rod
208 First connector
210 Second connector
212 First pressure clamp
214 Second pressure clamp
216 First roller
218 Second roller
220 Third roller
222 First end of first tube
224 Second end of first tube
226 Through-bore
228 First end of first rod
230 Second end of first rod
232 First end of second rod
234 Second end of second rod
236 Left bracket
238 Pin
240 Guard
241 Back plate
242 Support
244 Right bracket
246 Pin
248 Guard
249 Back plate
250 Support
252 Rack-Roller assembly
254 Rack
256 First plurality of through-bores
258 Second plurality of through-bores
300 Roller device
302 First tube
304 First rod
306 Second rod
308 First fork
310 Second fork
312 First pressure clamp
314 Second pressure clamp
316 First roller
318 Second roller
320 Third roller
322 First end of first tube
324 Second end of first tube
326 Through-bore
328 First end of first rod
330 Second end of first rod
332 First end of second rod
334 Second end of second rod
336 Joint
338 Plate
339 Guard
340 Pin
341 Fork
342 Cross
344 Joint
346 Plate
347 Guard
348 Pin
349 Fork
350 Cross
352 Rack-Roller assembly
354 Rack
356 First plurality of through-bores
358 Second plurality of through-bores
400 Roller device
402 Door anchor
404 Carabiner
406 First strap
408 Second strap
410 First end
412 Second end
414 Anchor-roller assembly
416 Wall
418 Door
420 Door handle
422 Handle
424 Connector
500 Roller device
502 First tube
504 First rod
506 Second rod
508 First handle
510 Second handle
512 First pressure clamp
514 Second pressure clamp
516 First roller
518 Second roller
520 Third roller
522 First end of first tube
524 Second end of first tube
526 Through-bore
528 First end of first rod
530 Second end of first rod
532 First end of second rod
534 Second end of second rod
536 Surface
538 Plurality of teeth
540 Stopping element

What is claimed is:

1. A roller device, comprising:

a first tube having a first diameter, and a through-bore having a second diameter smaller than the first diameter, the through-bore extending through and concentric with the first tube;

a first rod having a third diameter smaller than the second diameter, a first end, and a second end, where the second end of the first rod is operatively arranged to adjustably detachably secure to and telescopingly engage with the through-bore of the first tube;

a second rod having a fourth diameter equal to the third diameter, a first end and a second end, where the first end of the second rod is operatively arranged to adjustably detachably secure to and telescopingly engage with the through-bore of the first tube;

at least one roller arranged to rotate about the first tube; and,

a first handle secured to the first end of the first rod,

wherein the roller device further comprises a first pressure clamp that asserts a force about a circumference of the first tube and the first rod so as to prevent the first rod from movement in a first or second direction relative to the first tube.

2. The roller device of claim **1** further comprising a first connector secured to the second end of the second rod and operatively arranged to engage with a first support structure.

3. The roller device of claim **1** further comprising a first connector secured to the second end of the second rod and operatively arranged to engage with a bracket on a first support structure.

4. The roller device of claim **1** further comprising a first connector secured to the second end of the second rod and operatively arranged to engage with a first anchor secured to a first support structure.

5. The roller device of claim **1** further comprising a second handle secured to the second end of the second rod and operatively arranged to provide a first force to the roller device.

6. The roller device of claim **1** further comprising a second pressure clamp that asserts a force about a circumference of the first tube and the second rod so as to prevent the second rod from movement in a first or second direction relative to the first tube.

7. The roller device of claim **1** wherein the at least one roller has a radially-outwardly facing surface and a radially-inwardly facing surface, where the radially-inwardly facing surface has a plurality of teeth.

8. The roller device of claim **1** further comprising a first fork secured to the second end of the second rod and operatively arranged to engage with a first joint.

9. A roller device, comprising:

a first tube having a first diameter, and a through-bore having a second diameter smaller than the first diameter, the through-bore extending through and concentric with the first tube;

a first rod having a third diameter smaller than the second diameter, a first end, and a second end, where the second end of the first rod is operatively arranged to adjustably detachably secure to and telescopingly engage with the through-bore of the first tube;

a second rod having a fourth diameter equal to the third diameter, a first end and a second end, where the first end of the second rod is operatively arranged to adjustably detachably secure to and telescopingly engage with the through-bore of the first tube;

at least one roller arranged to rotate about the first tube; and,

a first connector secured to the first end of the first rod,

wherein the roller device further comprises a first pressure clamp that asserts a force about a circumference of the first tube and the first rod so as to prevent the first rod from movement in a first or second direction relative to the first tube.

10. The roller device of claim **9** further comprising a second connector secured to the second end of the second rod and operatively arranged to engage with a first support structure.

11. The roller device of claim **10**, wherein the first connector further comprises a first fork, and the second connector further comprises a second fork, wherein the first fork and the second fork are operatively arranged to engage with a first joint and a second joint, respectively.

12. The roller device of claim **10** wherein the first connector and the second connector are operatively arranged to engage with a first bracket and a second bracket, respectively, where the first and second brackets are secured to a first support structure.

13. The roller device of claim **9** further comprising a second pressure clamp that asserts a force about a circumference of the first tube and the second rod so as to prevent the second rod from movement in a first or second direction relative to the first tube.

14. The roller device of claim **9** wherein the at least one roller has a radially-outwardly facing surface and a radially-inwardly facing surface, where the radially-inwardly facing surface has a plurality of teeth.

15. A physical fitness cage/roller device assembly comprising:

a physical fitness cage having a first vertical support and a second vertical support; and,

a roller device comprising:

a first tube having a first diameter, and a through-bore having a second diameter smaller than the first diameter, the through-bore extending through and concentric with the first tube;

a first rod having a third diameter smaller than the second diameter, a first end, and a second end, where the second end of the first rod is operatively arranged to adjustably detachably secure to and telescopingly engage with the through-bore of the first tube;

a second rod having a fourth diameter equal to the third diameter, a first end and a second end, where the first end of the second rod is operatively arranged to adjustably detachably secure to and telescopingly engage with the through-bore of the first tube; and,

at least one roller arranged to rotate about the first tube,

wherein the roller device further comprises a first pressure clamp that asserts a force about a circumference of the first tube and the first rod so as to prevent the first rod from movement in a first or second direction relative to the first tube, and a second pressure clamp that asserts a force about a circumference of the first tube and the second rod so as to prevent the second rod from movement in a first or second direction relative to the first tube.

16. The physical fitness cage/roller device assembly of claim **15** wherein the roller device further comprises a first handle secured to the first end of the first rod, and a second handle secured to the second end of the second rod.

17. The physical fitness cage/roller device assembly of claim **16** further comprising:

a first bracket operatively arranged to engage the first vertical support of the physical fitness cage, the first bracket further arranged to receive and support the first handle; and,

a second bracket operatively arranged to engage the second vertical support of the physical fitness cage, the second bracket further arranged to receive and support the second handle.

18. The physical fitness cage/roller device assembly of claim 15 wherein the roller device further comprises a connector secured to the first end of the first rod, and a second connector secured to the second end of the second rod.

19. The physical fitness cage/roller device assembly of claim 18 further comprising:

a first bracket operatively arranged to engage the first vertical support of the physical fitness cage, the first bracket further arranged to receive and support the first connector; and,

a second bracket operatively arranged to engage the second vertical support of the physical fitness cage, the second bracket further arranged to receive and support the second connector.

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