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Shapiro et al.

(54) **FITNESS PADDLE DEVICE AND SYSTEM**

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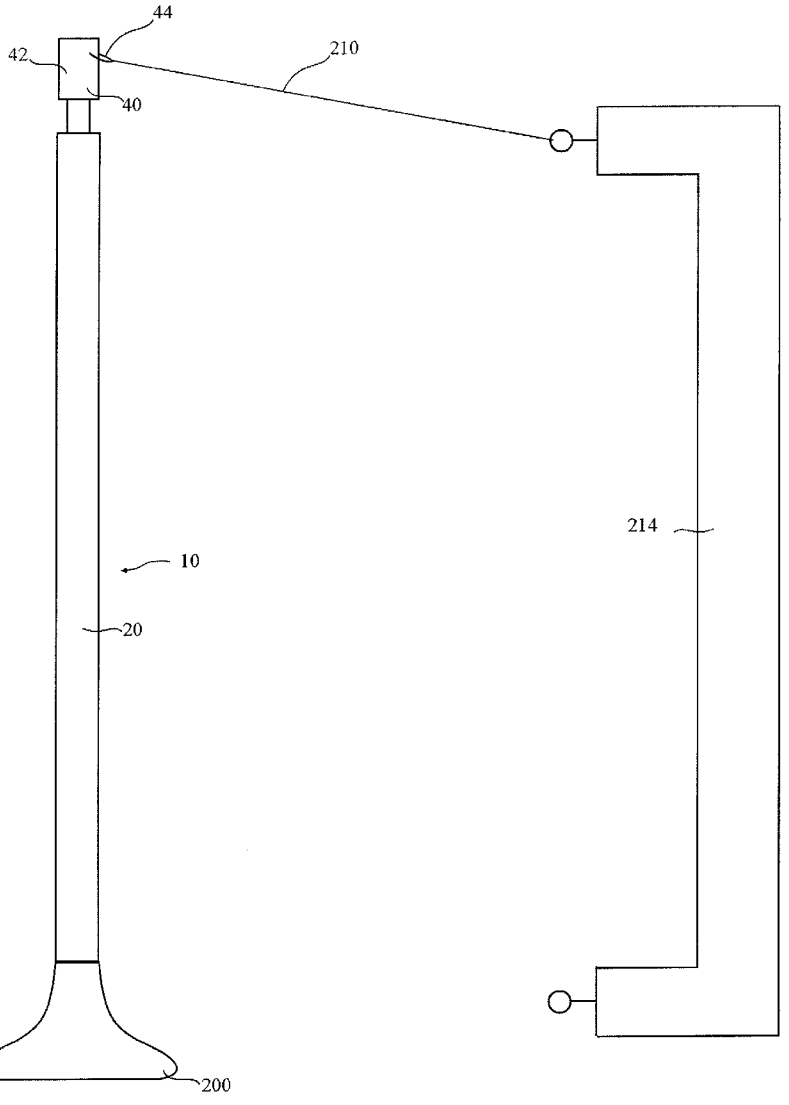
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(57) **ABSTRACT**

An exercise device is provided for simulating the paddling of a watercraft in order to provide a user with both aerobic and anaerobic exercise. In one aspect, an elongate rod is provided having a first assembly coupled to a distal end of the elongate rod. The first assembly can have at least two degrees of freedom and can be configured for selectively attaching to a resistance source. In another aspect, the device further can have a second assembly attached to a proximal end of the elongate rod. The second assembly can have at least two degrees of freedom and can be configured for selectively attaching to a resistance source.



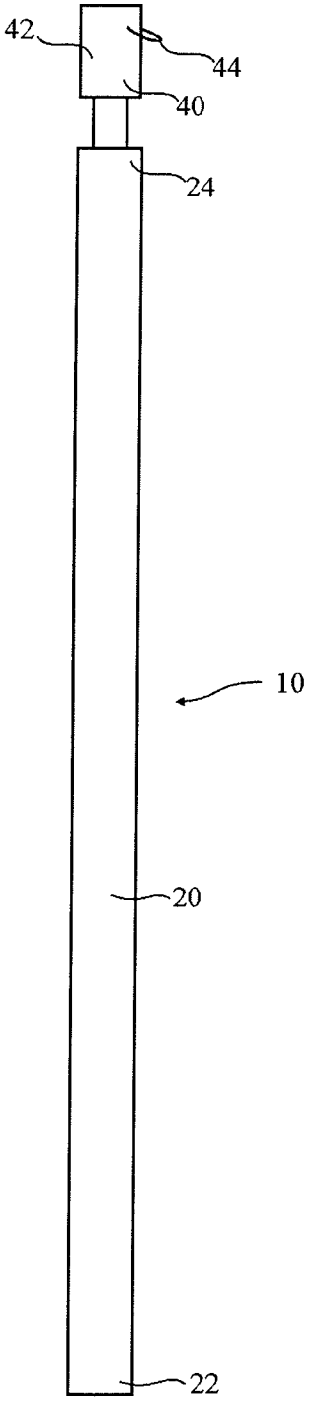


FIG. 1A

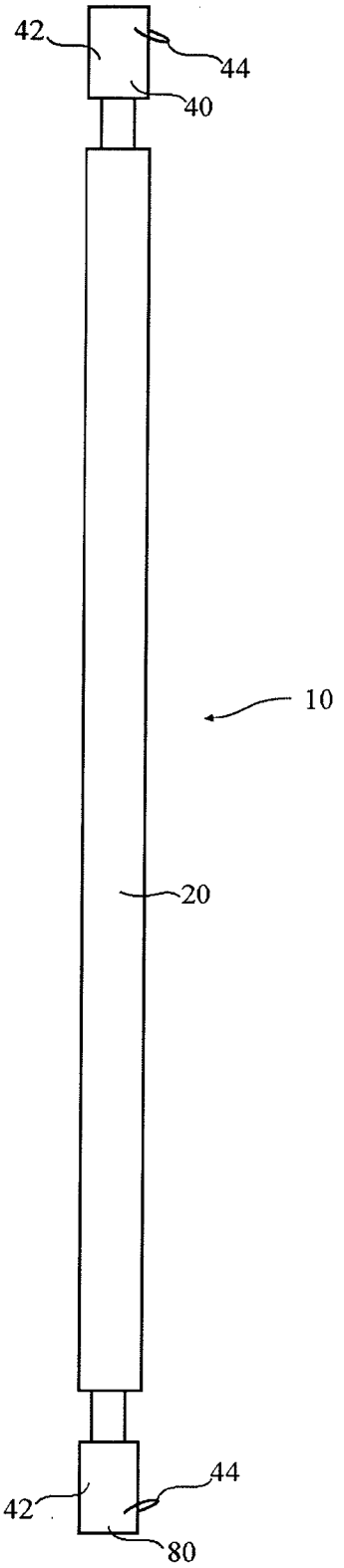


FIG. 1B

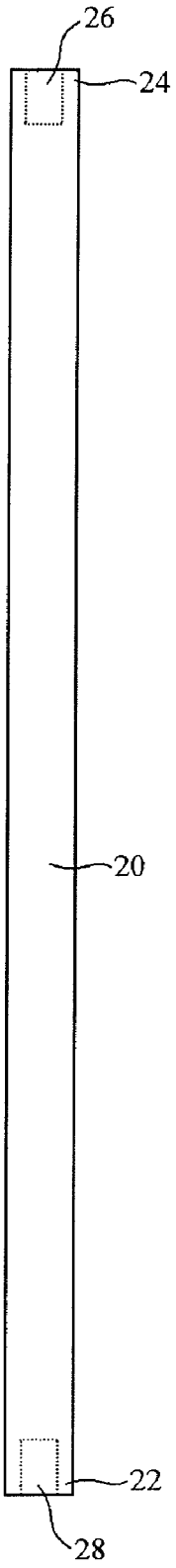


FIG. 2A

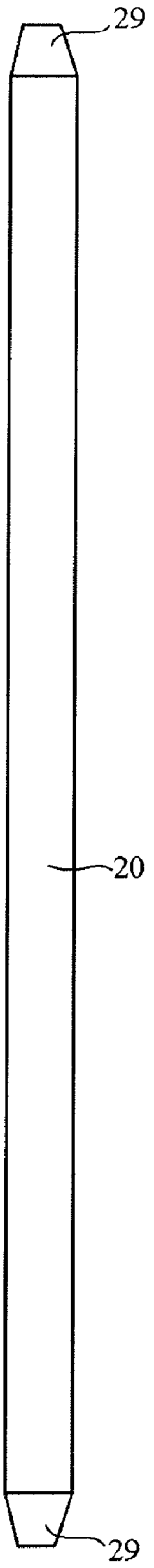


FIG. 2B

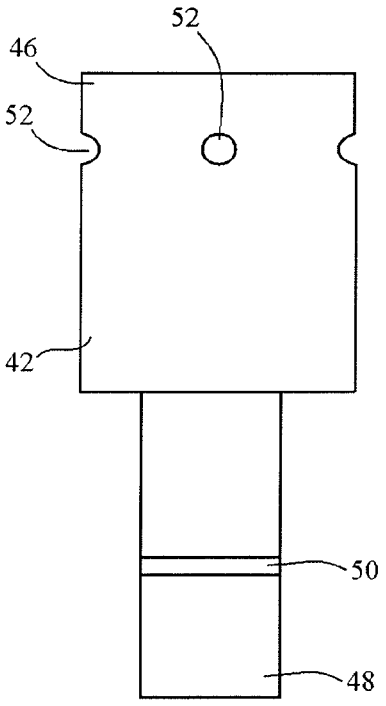


FIG. 3A

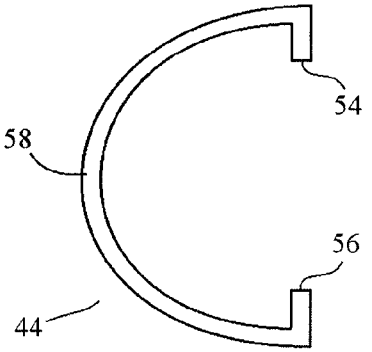


FIG. 3B

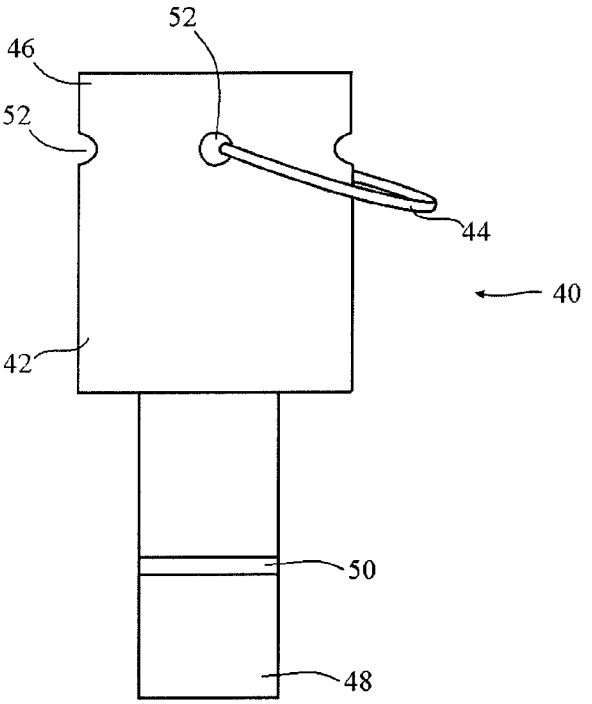


FIG. 3C

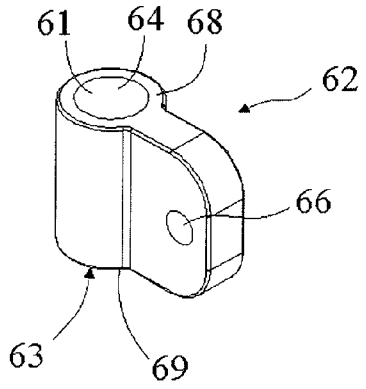


FIG. 4A

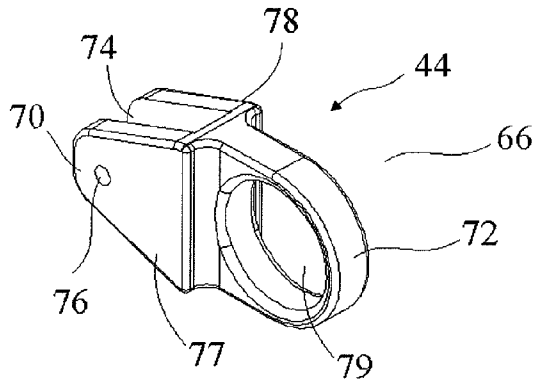


FIG. 4B

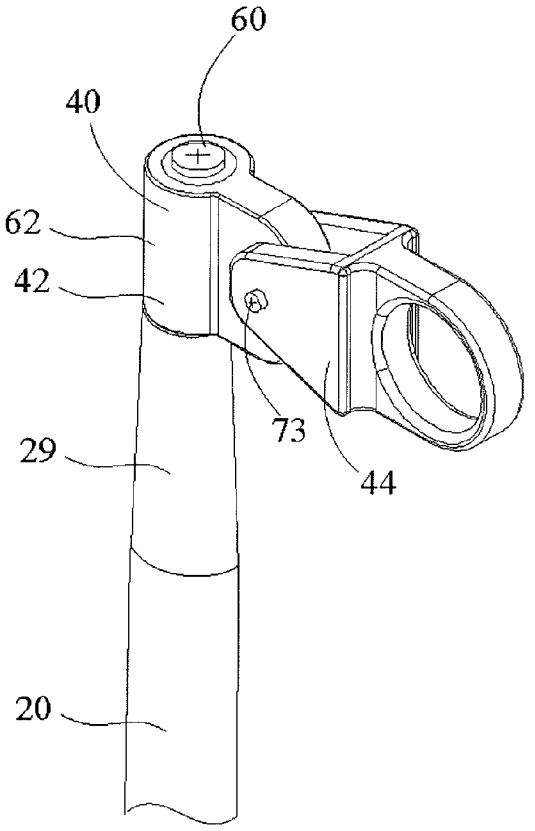


FIG. 4C

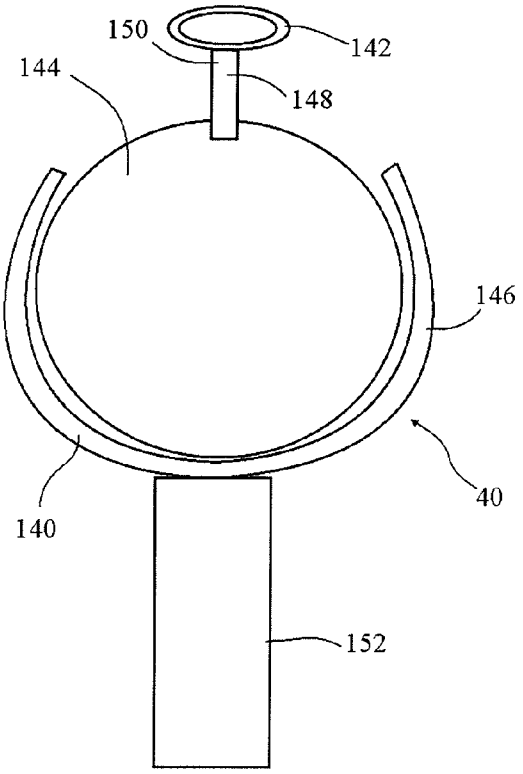


FIG. 5A

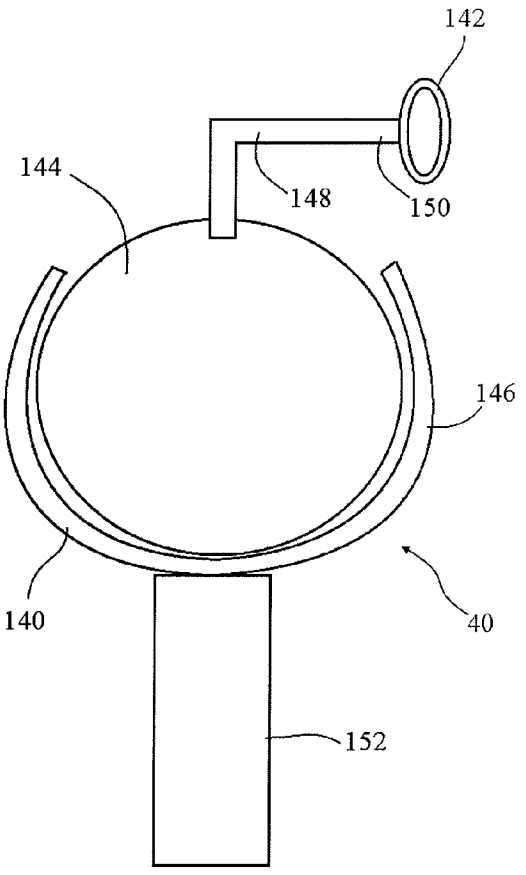


FIG. 5B

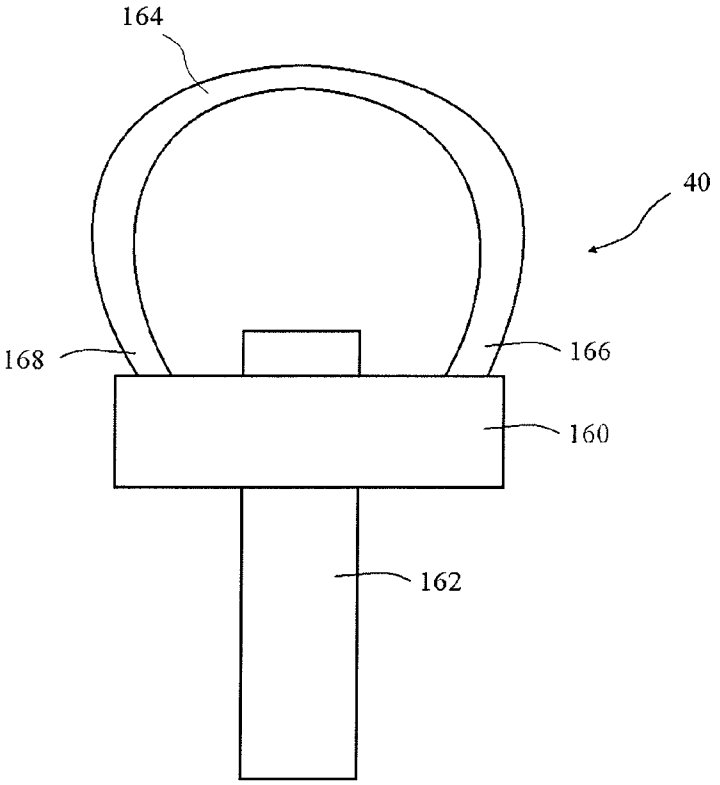


FIG. 6

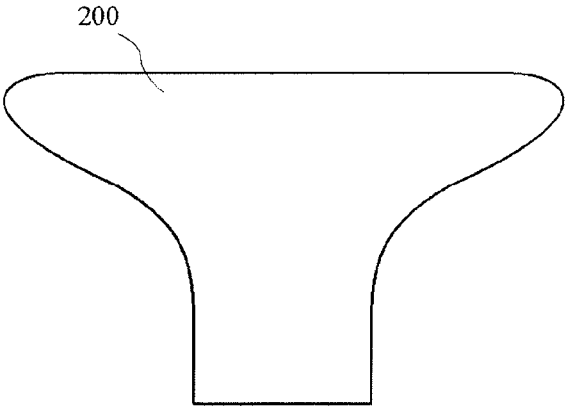


FIG. 7

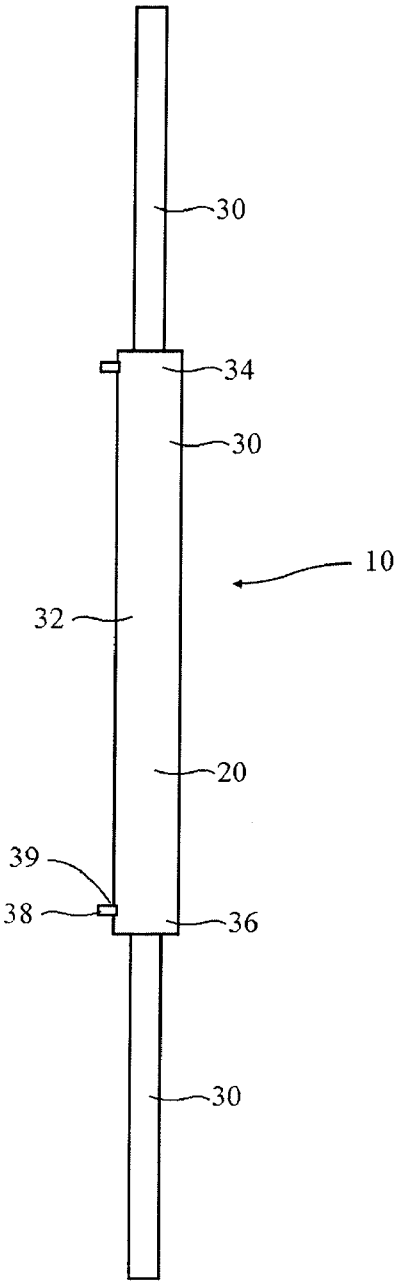


FIG. 8

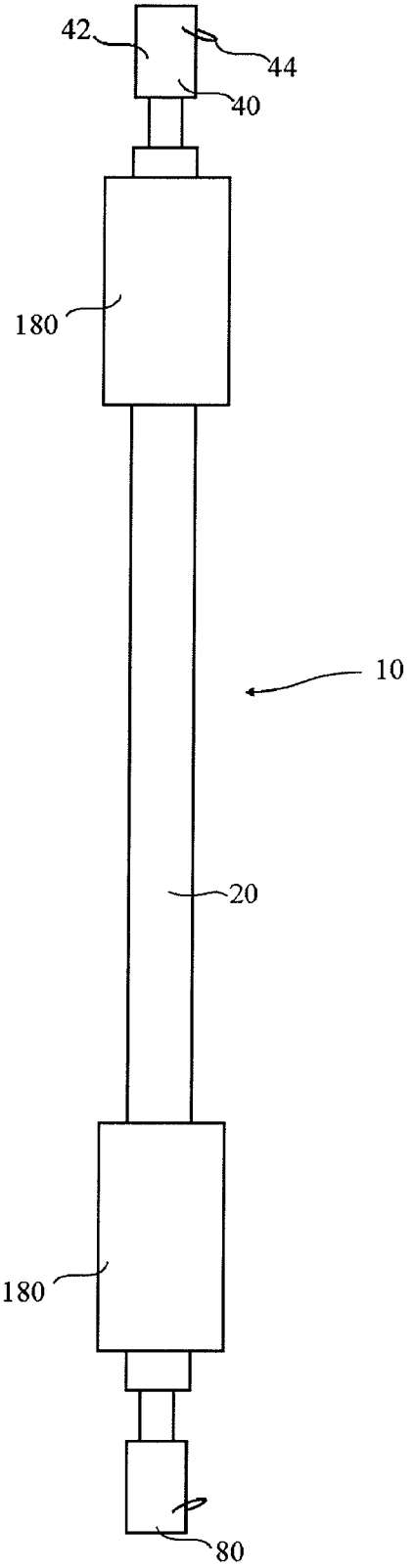


FIG. 9

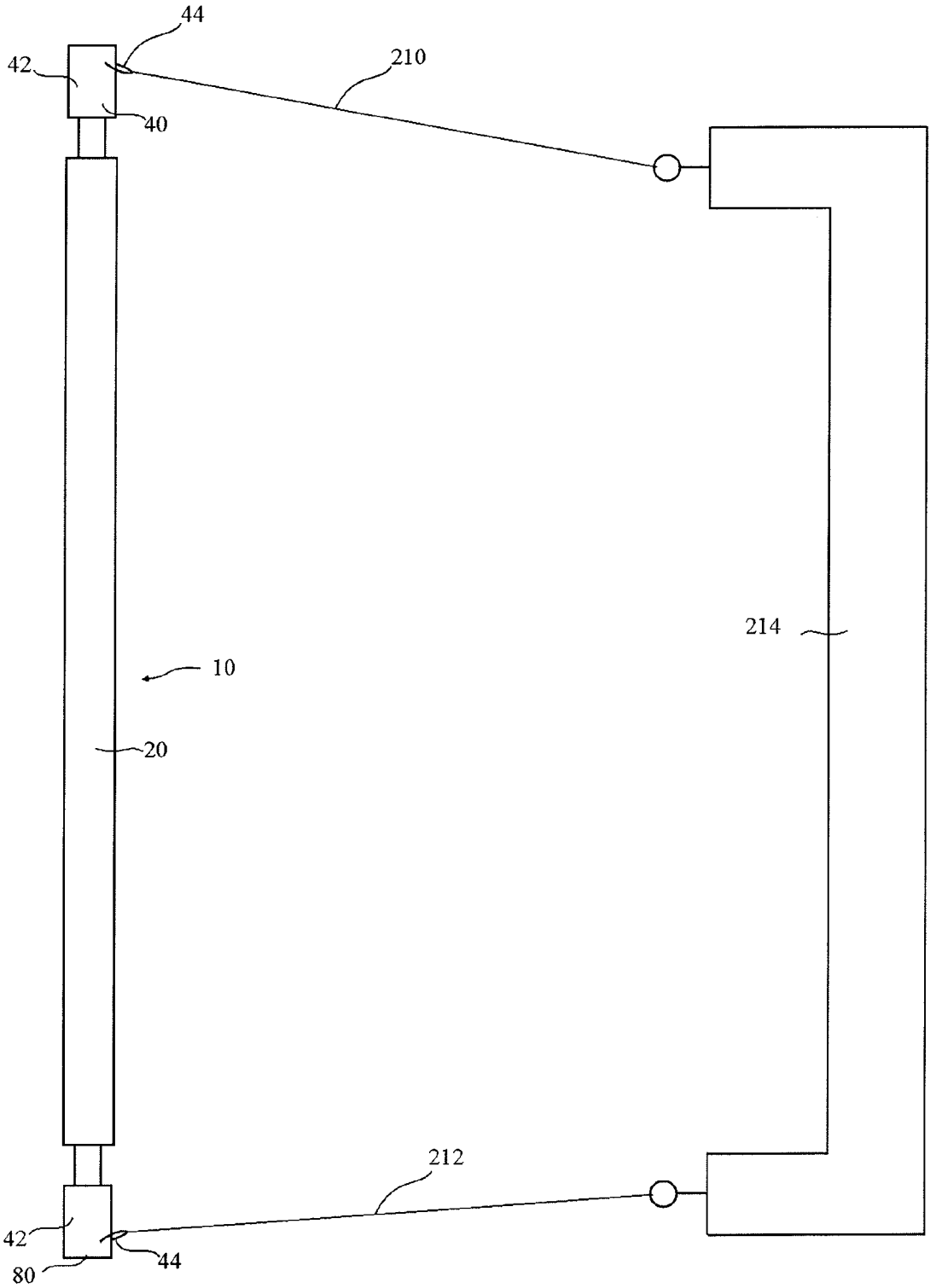


FIG. 10

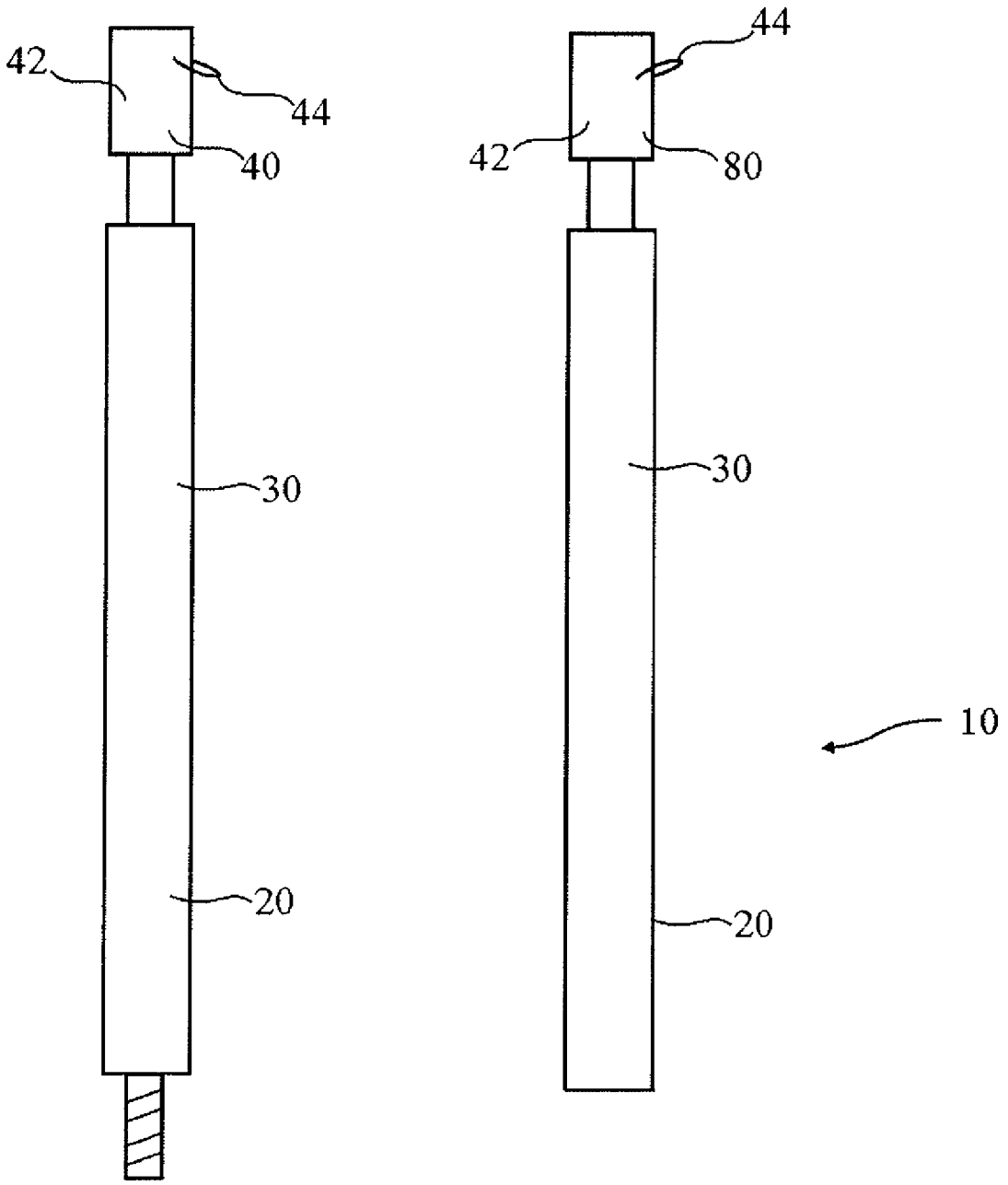


FIG. 11

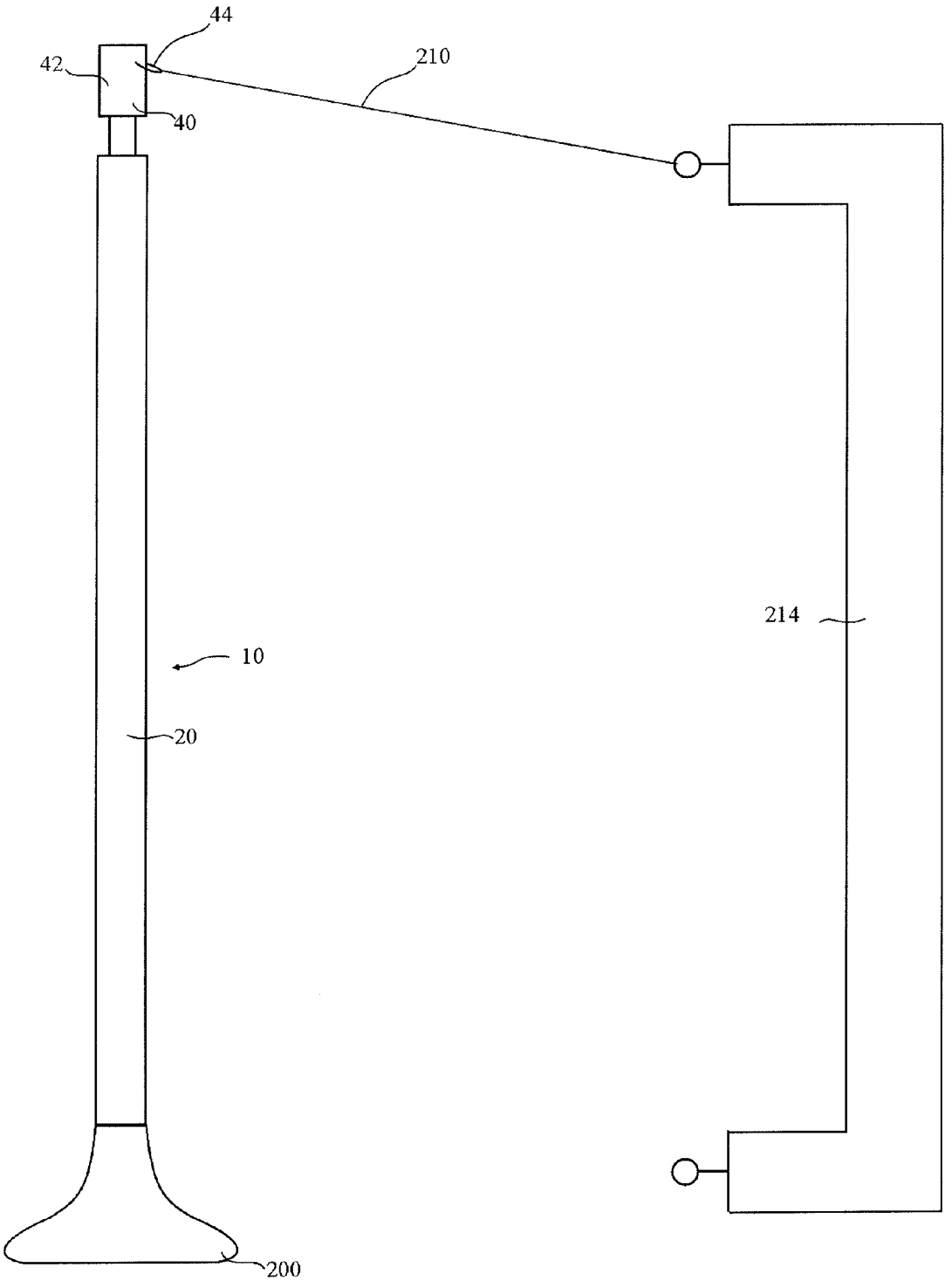


FIG. 12

FITNESS PADDLE DEVICE AND SYSTEM

[0001] This application claims priority to and the benefit of U.S. Provisional Application No. 61/052,038, filed on May 9, 2008, which is incorporated in its entirety in this document by reference.

FIELD OF THE INVENTION

[0002] This invention relates generally to the field of exercise equipment. In particular, the invention relates to a fitness paddle that allows a user to simulate the action of paddling a canoe or kayak, thereby providing both aerobic and anaerobic exercise.

BACKGROUND OF THE INVENTION

[0003] Watercraft paddling sports involve a person propelling a watercraft through a body of water such as a river or lake with a paddle. Two common watercraft paddling sports are canoeing and kayaking. Canoes are small, narrow boats that are usually pointed at both ends and open on top. Most canoeists use a paddle having a single paddling blade on one end of a shaft, and a T-shaped handle on the other end. In order to paddle a canoe, a canoeist sitting or kneeling in a canoe typically places one hand on the shaft of the paddle, and the other hand on the T-shaped handle. The blade is then dipped into the water on the side of the canoe and pulled backward, causing the canoe to move forward through the water.

[0004] Kayaks are also small narrow boats that are usually pointed on both ends, and are usually closed on top. Kayaks are typically propelled by a double-bladed paddle, i.e. a shaft having a blade on both ends. In order to propel a kayak, a kayakist typically spaces his or her hands along the shaft, and alternatively dips each blade into the water on either side of the kayak.

SUMMARY OF THE INVENTION

[0005] According to various aspects, the present invention is a fitness paddle exercise device for simulating the action of paddling a canoe or a kayak. In one aspect, the device can comprise an elongate rod having a longitudinal axis, a proximal end and an opposed distal end. In another aspect, the device can further comprise a first assembly comprising a first member and a second member attached to the distal end of the rod. In still another aspect, the second member can have at least two degrees of freedom relative to the longitudinal axis of the rod. In one embodiment, the first assembly can comprise a first member configured to be rotatably attached to the elongate rod, and a second member rotatably attached to the first member. In this aspect, the second member can be releasably attached to a resistance source, such as, for example and without limitation, a weight stack or an elastic cord to provide a user both aerobic and anaerobic exercise.

[0006] In another embodiment, the first assembly can comprise a first ball and socket interconnection comprising a first ball member and a first socket member, wherein the first ball member has at least three degrees of freedom relative to the longitudinal axis of the rod. In this aspect, the first socket member can be attached to the distal end of the elongate rod, and the first socket member can be adapted to receive the first ball member such that when the first ball member is received in the first socket member it is capable of pivotal and rotational movement within the socket. A first ring can be fixedly attached to the first ball member and a resistance source can be releasably attached to the first ring.

[0007] In another aspect, the device can further comprise a second assembly. In one aspect, the second assembly can be substantially the same as the first assembly. The second assembly can, in another aspect, be attached to the proximal end of the elongate rod. In still another aspect, a second member of the second assembly can have at least two degrees of freedom relative to the longitudinal axis of the rod. In this aspect, the second member of the second assembly can be releasably attached to a resistance source, such as, for example and without limitation, a weight stack.

[0008] In still another aspect, the device can further comprise a handle configured to be attached to the proximal end of the elongate rod. The handle can be mounted such that a longitudinal axis of the handle can be substantially perpendicular to the longitudinal axis of the elongate rod so that user can simulate canoe paddling.

[0009] In yet another aspect, the device can further comprise a first connector having a proximal end and a distal end. The proximal end of the first connector can be selectively and releasably attached to the first assembly, and the distal end of the first connector can be selectively and releasably attached to a resistance source. In another aspect, the device can further comprise a second connector having a proximal end and a distal end. The proximal end of the second connector can be selectively, releasably attached to the second assembly, and the distal end of the second connector can be selectively and releasably attached to a resistance source.

[0010] Additional advantages of the invention will be set forth in part in the description that follows, and in part will be obvious from the description, or can be learned by practice of the invention. The advantages of the invention will be realized and attained by means of the elements and combinations particularly pointed out in the appended claims. It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the invention, as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate (one) several embodiment(s) of the invention and together with the description, serve to explain the principles of the invention.

[0012] FIG. **1**A is a side view of a fitness paddle exercise device, according to one aspect, showing an elongate rod and a first assembly.

[0013] FIG. **1**B is a side view of a fitness paddle exercise device, according to another aspect, showing an elongate rod, a first assembly, and a second assembly.

[0014] FIG. **2**A is a cross-sectional side view of the elongate rod of FIG. **1**A, according to one aspect.

[0015] FIG. **2**B is a side view of the elongate rod of FIG. **1**A, according to one aspect, showing at least one shaft end member attached to the proximal and distal ends of the elongate rod.

[0016] FIG. **3**A is a side view of a first member of the first assembly of FIG. **1**A or the second assembly of FIG. **1**B, according to one aspect.

[0017] FIG. **3**B is a side view of a second member of the first assembly of FIG. **1**A or the second assembly of FIG. **1**B, according to one aspect.

[0018] FIG. **3**C is a side view of the first assembly of FIG. **1**A or the second assembly of FIG. **1**B, according to one aspect.

[0019] FIG. **4**A is a perspective view of a rotating member of the first member of the first assembly or the second assembly, according to one aspect.

[0020] FIG. **4**B is a perspective view of the second member of the first assembly or the second assembly, according to one aspect.

[0021] FIG. **4**C is a perspective view of the elongate rod and the first assembly or the second assembly, according to one aspect.

[0022] FIG. **5**A is a cross-sectional side view of a ball and socket interconnection and a first ring, according to one aspect.

[0023] FIG. **5**B is a cross-sectional side view of a ball and socket interconnection and a first ring, according to another aspect.

[0024] FIG. **6** is a cross-sectional side view of the first assembly or the second assembly, according to one aspect.

[0025] FIG. **7** is a side view of a fitness paddle exercise device handle, according to one aspect.

[0026] FIG. **8** is a side view of the elongate rod of FIG. **1**A, according to another aspect.

[0027] FIG. **9** is a side view of the fitness paddle exercise device, according to another aspect.

[0028] FIG. **10** is a top view of the fitness paddle exercise device, according to another aspect, showing the fitness paddle exercise device connected to a resistance source.

[0029] FIG. **11** is a side view of the fitness paddle exercise device, according to another aspect, showing the fitness paddle exercise device in a disassembled condition.

[0030] FIG. **12** is a top view of the fitness paddle exercise device, according to another aspect, showing the fitness paddle exercise device connected to a resistance source.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0031] The present invention can be understood more readily by reference to the following detailed description, examples, drawings, and claims, and their previous and following description. However, before the present devices, systems, and/or methods are disclosed and described, it is to be understood that this invention is not limited to the specific devices, systems, and/or methods disclosed unless otherwise specified, as such can, of course, vary. It is also to be understood that the terminology used herein is for the purpose of describing particular aspects only and is not intended to be limiting.

[0032] As used in the specification and the appended claims, the singular forms "a," "an" and "the" include plural referents unless the context clearly dictates otherwise. Thus, for example, reference to a "paddle" can include two or more such paddles unless the context indicates otherwise.

[0033] Ranges can be expressed herein as from "about" one particular value, and/or to "about" another particular value. When such a range is expressed, another aspect includes from the one particular value and/or to the other particular value. Similarly, when values are expressed as approximations, by use of the antecedent "about," it will be understood that the particular value forms another aspect. It will be further understood that the endpoints of each of the ranges are significant both in relation to the other endpoint, and independently of the other endpoint.

[0034] As used herein, the terms "optional" or "optionally" mean that the subsequently described event or circumstance can or can not occur, and that the description includes instances where said event or circumstance occurs and instances where it does not.

[0035] Reference will now be made in detail to the present preferred embodiment(s) of the invention, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers are used throughout the drawings to refer to the same or like parts.

[0036] A fitness paddle exercise device is provided, according to various aspects of the present invention. In one embodiment, as shown in FIG. **1**A, the exercise device **10** can comprise an elongate rod **20** and a first assembly **40** configured to be fixedly attached to the elongate rod. In one aspect, the first assembly comprises a first member **42** and a second member **44**. In this aspect, the second member can be releasably attached to a resistance source, such as, for example and without limitation, a weight stack. In one exemplary embodiment, illustrated in FIG. **1**B, the exercise device can further comprise a second assembly **80** fixedly attached to the elongate rod. In another aspect, the second assembly can be substantially the same as the first assembly.

[0037] One embodiment of the elongate rod **20** is illustrated in FIG. **2**A. In one exemplary embodiment, the elongate rod **20** can be substantially cylindrical and have a proximal end **22**, an opposed distal end **24**, and a longitudinal axis. In one aspect, the elongate rod can extend for a predetermined distance. In another aspect, the distal end of the elongate rod can define a first orifice **26** having a longitudinal axis that is substantially co-axially aligned with the longitudinal axis of the elongate rod and that can be configured for receiving at least a portion of the first assembly **40** therein. In still another aspect, the proximal end of the elongate rod **20** can define a second orifice **28** having a longitudinal axis that is substantially co-axially aligned with the longitudinal axis of the elongate rod and that can be configured for receiving at least a portion of the second assembly **80** therein.

[0038] In one aspect, the elongate rod **20** can comprise at least one shaft end member **29**. In another aspect, the elongate rod can comprise two shaft end members. In still another aspect, the at least one shaft end member can have a proximal end configured to be securedly attached to the first orifice **26** or the second orifice **28** of the elongate rod. In one aspect, the at least one shaft end member **29** can be fixedly attached to an end of the elongate rod by known methods, including, for example and without limitation, welding the pieces together, adhering the pieces with an epoxy or other adhesive, threading the pieces together, pressure fitting the pieces together, screwing or bolting the pieces together, or other conventional attachment methods.

[0039] In another aspect, the at least one shaft end member can have a distal end that is configured to interact with the first assembly **40** or the second assembly **80**, described more fully below. In yet another aspect, at least a portion of the at least one shaft member can have a cross-sectional diameter substantially equal to the cross-sectional diameter of the elongate rod **20**. In another aspect, however, the distal end of the at least one shaft member can have a cross-sectional diameter less than the cross-sectional diameter of the elongate rod. In still another aspect, the cross-sectional area of the at least one shaft end member **29** can be tapered toward the distal end of the at least one shaft end member.

[0040] Generally, for clarity, the first assembly **40** and the second assembly **80** are described herein as being attached to the distal end **24** or the proximal end **22** of the elongate rod. It is of course contemplated, as one skilled in the art will appreciate, that in different embodiments of the device **10**, the first assembly and the second assembly, if present, can also be attached to the at least one shaft end member **29** on the distal end and/or the proximal end of the elongate rod **20**. Additionally, it is of course contemplated that in different embodiments of the device the first assembly and the second assembly can also be attached to the elongate rod at various other locations along the length of the elongate rod. For example, in one aspect, the first assembly and/or the second assembly can be offset from the ends of the rod a distance, which offset optionally can be selected by the operator.

[0041] In one aspect, the elongate rod can be a single continuous rod. In another aspect, as illustrated in FIG. **8**, the elongate rod **20** can be a telescopic rod formed from a plurality of segments **30** that can be nested inside of a center segment **32** of the plurality of segments. The center segment **32** can have a distal end **34** and a proximal end **36**, and nested segments can be extendable from both the distal and proximal ends of the center segment. In one aspect, upon extension of the segments, the segments **30** can be held in place by spring-loaded retaining pins **38** that are configured to be complementarily received in bores **39** formed in mating segments. To collapse the telescopic rod, a user can push the spring-loaded retaining pins inwardly towards the center of the rod, thereby allowing the extended segments to be inserted into the center segment. To extend the telescopic rod, a user can simply pull the nested segments **30** out of the center segment **32** until the spring-loaded retaining pins snap into place in the bores of the mating segments.

[0042] In another aspect, the elongate rod **20** can be formed from a plurality of segments **30** that are selectively detachable from each other. In this aspect, the segments can be attached to each other by, for example and without limitation, threads on one end of a segment and complementary mating threads on the end of a mating segment. In this manner, the elongate rod can be broken down into a plurality of pieces by unthreading the segments. The elongate rod can be assembled by threading the segments together, so that an elongate rod, as described above, is formed. In one example, and as illustrated in FIG. **11**, the elongate rod **20** can be formed from two mating segments, such that the two segments are of substantially equal length. In another aspect, the segments can be attached to each other by, for example and without limitation, bolts, screws, pins, and the like.

[0043] One embodiment of the first assembly **40** is illustrated in FIG. **3**C. In one aspect, the first assembly can be comprised of the first member **42** and the second member **44**. In another aspect, and as illustrated in FIG. **3**A, the first member can have a proximal end **48**, a distal end **46**, and a longitudinal axis. In one aspect, the proximal end of the first member can be configured to be inserted into the orifice **26** defined in the distal end **24** of the elongate rod **20** such that the first member **42** can be fixedly attached to the elongate rod. In another aspect, the first member can define at least one bore **52** having a fixed diameter configured or otherwise sized or shaped for rotatable attachment with the second member **44**. In still another aspect, the at least one bore can comprise a plurality of bores **52**. In another aspect, between the proximal end **46** and the distal end **48** of the first member, there can be a bearing **50** that allows the distal end of the first member to rotate freely with respect to the proximal end of the first member, while the proximal end of the first member **42** does not rotate and is held in fixed contact with the elongate rod.

[0044] In another aspect, and as shown in FIG. **3**B, the second member **44** of the first assembly can be a rod **58** formed such that it is substantially D-shaped, though it is contemplated that the second member could be other shapes, such as, for example and without limitation, substantially circular, substantially oval, substantially square or substantially rectangular. In one aspect, the rod can have a diameter that is slightly smaller than the diameter of the plurality of bores **52** defined therein the first member **42**. In another aspect, the second member can have a first end **54** and a second end **56** that do not meet, and thus do not form a continuous ring. In another aspect, the first end and the second of the second member can be positioned to form a substantially continuous ring. The two ends of the second member can be substantially co-axially aligned, and can be separated by a distance that is less than the thickness of the proximal end **46** of the first member.

[0045] In one exemplary aspect, with reference to FIGS. **3**C and **1**A, this embodiment of the first assembly **40** can be assembled and attached to the distal end **24** of the elongate rod by inserting the proximal end **48** of the first member **42** into the orifice **26** defined in the distal end of the elongate rod **20**, such that the longitudinal axis of the first member is substantially co-axially aligned with the longitudinal axis of the elongate rod. The first member can then be fixedly attached to the elongate rod by known conventional attachment methods, including, for example and without limitation, welding the pieces together, adhering the pieces with an epoxy or other adhesive, threading the pieces together, pressure fitting the pieces together, screwing or bolting the pieces together, or other attachment methods. A first end **54** of the second member **44** can be inserted into one of the plurality of bores **52** defined therein the first member **42**, and a second end **56** of the second member can be inserted into another bore of the plurality of bores **52** defined therein the first member. In this aspect, upon insertion of the second member **44** into the first member **42**, the second member can rotate around an axis substantially perpendicular to the longitudinal axis of the first member, and thus, the longitudinal axis of the elongate rod, and in a plane that bisects the longitudinal axis of the rod. Thus, when assembled as described herein, in this embodiment, the first member can rotate with respect to the longitudinal axis of the elongate rod, and the second member can rotate relative to both the longitudinal axis of the elongate rod **20** and in a plane bisecting the longitudinal axis of the elongate rod.

[0046] Another embodiment of the first assembly **40** is illustrated in FIG. **4**C. In this embodiment, the first assembly can be comprised of the first member **42** and the second member **44**. In another aspect, the first member **42** can comprise a fastening member **60** and a rotating member **62**. In one aspect, the fastening member, such as a screw, bolt, or the like can have a neck having a neck diameter and can be configured to fixedly attach the first assembly to the distal end **24** of the elongate rod **20**. In one exemplary aspect, the fastening member can fixedly attach the first assembly **40** to the elongate rod by matingly engaging threads defined in the orifice **26** defined in the distal end of the elongate rod. In this aspect, the fastening member **60** can be configured such that, when assembled as described herein, a portion of the fastening member can extend through a first bore **64** of the rotating member **62** and

matingly engage the threads in the distal end of the elongate rod. In another aspect, the fastening member **60** can fixedly attach the first assembly to the elongate rod by forming a pressure fit between the fastening member and the orifice of the elongate rod **20**. In still another aspect, the fastening member can fixedly attach the first assembly **40** to the elongate rod by other known attachment methods.

[0047] As illustrated in FIG. **4**A, the rotating member **62** of the first member **42**, in one aspect, can have a longitudinal axis extending from an upper surface **68** of the rotating member to a lower surface **69**. In another aspect, the rotating member can define a substantially circular first bore **64** that extends from an upper opening **61** defined in the upper surface of the rotating member to a lower opening **63** defined in the lower surface, the first bore being substantially parallel to the longitudinal axis of the rotating member. In another aspect, the first bore of the rotating member **62** can have a diameter slightly larger than the diameter of the neck of the fastening member **60**. In another aspect, the rotating member can define a second bore **66** having a longitudinal axis substantially transverse to the longitudinal axis of the rotating member.

[0048] The second member **44** of this embodiment of the first assembly **40** is illustrated in FIG. **4**B. In one aspect, the second member can have a proximal end **70** and a distal end **72**. In one aspect, a slot **74** can be formed in the proximal end of the second member, which, in one example, can bifurcate the proximal end of the second member into two portions separated by a distance. In another aspect, at least a portion of the bifurcated proximal end **70** of the second member **44** can be configured to receive a portion of the rotating member **62**. Still referring to FIG. **4**B, the second member can define a substantially circular rotation bore **76** having a predetermined radius and a longitudinal axis. In one aspect, the rotation bore can extend from a front surface **77** of the second member **44** through the slot **74** and to a rear surface **78** of the second member. As shown in FIG. **4**C, the rotation bore can be configured to receive a rotation element **73**, such as for example and without limitation, a pin, screw, bolt, or the like, about which the second member can rotate. In still another aspect, the second member **44** can define a substantially circular connection bore **79** configured for receiving a first connector or a second connector, described more fully below. In another aspect, a longitudinal axis of the connection bore can be substantially parallel to the longitudinal axis of the rotation bore **76**.

[0049] In one exemplary aspect, with reference to FIG. **4**C, this embodiment of the first assembly **40** can be assembled and attached to the distal end **26** of the elongate rod **20** by inserting the neck of the fastening member **60** therethrough the first bore **64** of the rotating member **62** in a direction from the upper surface **68** of the rotating member to the lower surface **69**, until at least a portion of the fastening member protrudes from the lower opening **63** of the rotating member. At least a portion of the neck of the fastening member that protrudes from the lower opening can be fixedly attached to the orifice **26** defined therein the distal end of the elongate rod. In one aspect, the fastening member **60** can fixedly attach the rotating member **62** to the elongate rod while still allowing the rotating member to rotate about the longitudinal axis of the rod. In another aspect, a portion of the rotating member can be inserted into the slot **74** of the second member **44** such that the second bore **66** of the first member is co-axially aligned with the rotation bore **76** of the second member. In another aspect, the rotation element **73** can be inserted therethrough the co-axially aligned bores to create a hinge about which the second member can rotate. In still another aspect, the second member **44** can rotate in a plane bisecting the longitudinal axis of the first bore **64** of the rotating member of the first member **42**. Thus, when assembled as described herein, in this embodiment, the first member can rotate with respect to the longitudinal axis of the elongate rod, and the second member can rotate relative to both the longitudinal axis of the elongate rod **20** and in a plane bisecting the longitudinal axis of the elongate rod.

[0050] FIG. **5**A illustrates another embodiment of the first assembly **40**. In this embodiment, the first assembly can be comprised of a first ball and socket interconnection member **140** and a second member **142**. The first ball and socket interconnection member can be comprised of a first ball member **144** and a first socket member **146**. In one aspect, the first socket member can be adapted to receive the first ball member and have a mounting arm **152** protruding from the socket member configured to be inserted into the orifice **26** defined in the distal end of the elongate rod **20**. In this aspect, when the first ball member is received within the first socket member, the first ball member can have at least three degrees of freedom, i.e. it can be capable of both pivotal and rotational movement within the socket. In another aspect, the first ball member **144** can have a first spacing arm **148** protruding from the ball. The first spacing arm can have a distal end **150** extending a predetermined distance from the ball. In one aspect, as illustrated in FIG. **5**A the first spacing arm can be substantially straight. In another aspect, as illustrated in FIG. **5**B, the first spacing arm **148** can have at least one bend in it.

[0051] In this embodiment, the second member **142** can be a rod formed such that it is substantially D-shaped, though it is contemplated that the second member could be other shapes, such as, for example and without limitation, substantially circular, substantially oval, substantially square or substantially rectangular. In one aspect, the second member **142** can have two ends that are adjacent to each other, forming a continuous ring, and the second member can be attached to the first spacing arm **148** by conventional means, such as, for example and without limitation, welding or otherwise adhering.

[0052] This embodiment of the first assembly **40** can be assembled and attached to the distal end **24** of the elongate rod **20** by inserting the mounting arm **152** of the first socket member **146** into the orifice **26** defined in the distal end of the elongate rod. The first socket member can be fixedly attached to the elongate rod by known attachment methods, as discussed above. The first socket member can receive the first ball member **144** in the socket of the first socket member, and the second member **142** can be attached to the first spacing arm **148** by known methods including, for example and without limitation, welding or otherwise adhering them together. When assembled as described herein, in this embodiment, the first ball member can have at least three degrees of freedom relative to the longitudinal axis of the elongate rod **20**, i.e. it can be capable of both pivotal and rotational movement within the socket.

[0053] FIG. **6** illustrates another embodiment of the first assembly **40**. In this embodiment, the first assembly can comprise a rotating neck **160**, a fastener **162**, and a second member **164**. In one aspect, the rotating neck can be substantially circular having an inner diameter, an outer diameter, and a longitudinal axis. The fastener can be, without limitation, a

bolt, screw, pin or the like. The second member **164** can be a rod formed into a substantially circular shape, and having a first end **166** attached to the rotating neck and a second end **168** attached to an opposed side of the rotating neck. Although a substantially circular second member **164** is illustrated, other shapes, including, for example and without limitation, substantially oval, substantially square or substantially rectangular are contemplated. In this aspect, the second member can be attached to the rotating neck **160** by conventional means, such as, for example and with limitation, welding or otherwise adhering them together.

[0054] This embodiment of the first assembly **40** can be assembled and attached to the distal end **24** of the elongate rod **20** by placing the rotating neck **160** over the orifice **26** defined in the distal end of the elongate rod. In one aspect, a portion of the fastener **162** can be inserted through the inner diameter of the rotating neck into the orifice **26** defined therein the distal end of the elongate rod to fixedly attach the first assembly to the elongate rod. The fastener can be fixedly attached to the elongate rod **20** by known attachment methods, including for example and without limitation, welding, adhering, threading and other conventional attachment methods.

[0055] In another aspect, the exercise device **10** can further comprise a second assembly **80** configured to be fixedly attached to the proximal end **22** of the elongate rod **20**. In this aspect, with both the first assembly and the second assembly attached to respective ends of the elongate rod **20**, a user of the device **10** can be provided resistance from both ends of the rod, as would occur in paddling a kayak.

[0056] In one aspect, the second assembly **80** can be formed similarly to any of the embodiments of the first assembly **40**, as previously described. In another aspect, the exercise device **10** can be further assembled by fixedly attaching the second assembly **80** to the proximal end **22** of the elongate rod. The second assembly can be attached to the elongate rod **20** in any of the manners described above with reference to attaching the first assembly **40** to the elongate rod.

[0057] In other aspects, it is contemplated that the first assembly **40** can be selectively placed, in addition to the distal end **24** of the elongate rod, at any one of a plurality of locations along the length of the elongate rod. In one exemplary aspect, the elongate rod can define a plurality of mounting bores spaced along the length of the elongate rod, such that the first assembly can be selectively bolted to the elongate rod at a desired one of the plurality of mounting bores. In another aspect, the first assembly can further comprise a clamping element, such that the first assembly can be selectively clamped to the elongate rod at any location the user selects. In still other aspects, it is contemplated that the first assembly **40** can be selectively attached to the elongate rod at any location by other conventional attachment methods. Thus, the first assembly can be offset along the longitudinal axis of the elongate rod **20** a predetermined distance from the distal end **24** of the rod.

[0058] Similarly, in various other aspects, it is contemplated that the second assembly **80** can be placed, in addition to the proximal end **22** of the elongate rod, at any one of a plurality of locations along the length of the elongate rod. In one exemplary aspect, the elongate rod **20** can define a plurality of mounting bores spaced along the length of the elongate rod, such that the second assembly can be selectively bolted to the elongate rod at a desired one of the plurality of mounting bores. In another aspect, the second assembly can further comprise a clamping element, such that the second assembly can be selectively clamped to the elongate rod at any location the user selects. In still other aspects, it is contemplated that the second assembly **40** can be selectively attached to the elongate rod at any location by other conventional attachment methods. Thus, the second assembly can be offset along the longitudinal axis of the elongate rod **20** a predetermined distance from the proximal end of the rod.

[0059] In still another aspect, the device **10** can further comprise at least one cushioning grip **180**, illustrated in FIG. **9**. The at least one cushioning grip can be formed from a soft cushioning material, for example and without limitation, foam. The at least one cushioning grip can have a substantially tubular shape configured to fit over the elongate rod **20**. In one aspect, the at least one cushioning grip can have an inner diameter that is substantially the same as the diameter of the elongate rod, and the at least one cushioning grip **180** can be adhered to the elongate rod using conventional adhesives. In another aspect, the at least one cushioning grip can be formed with a slit in a longitudinal direction through the thickness of one side of the at least one cushioning grip so that the at least one cushioning grip **180** can easily be placed over the elongate rod, at any location along the length of the elongate rod.

[0060] In yet another aspect, the exercise device **10** can further comprise a handle **200**, as illustrated in FIG. **7**, configured for selective, releasable attachment to the proximal end **22** of the elongate rod **20**. In one aspect, the handle can have a longitudinal axis that, when attached to the elongate rod, is substantially perpendicular to the longitudinal axis of the elongate rod. In another aspect, the handle can be configured to simulate the shape and feel of the end of a canoe paddle, and can be attached to the elongate rod by, for example and without limitation, a bolt, screw, or other similar restraining device. In yet another aspect, the handle can be threaded, and the proximal end **22** of the elongate rod can be complementarily threaded, such that the handle **200** can be screwed onto the proximal end **22** of the elongate rod **20**. In another aspect, for example, if a user desires resistance from only one end of the device, as in paddling a canoe, instead of attaching the second assembly to the proximal end of the elongate rod, the handle **200** can be detachably secured to the proximal end of the elongate rod. Additionally, a user can choose to alternate between selectively attaching the second assembly **80** and the handle **200** to the proximal end of the elongate rod, so that resistance can be alternatively, selectively provided from both ends of the device and then only one end.

[0061] In another aspect, as illustrated in FIG. **10**, the exercise device **10** can further comprise a first connector **210** having a proximal end and a distal end. In various aspects, the first connector can be an elastic cord, rope, wire or the like. In one aspect, the proximal end of the first connector can be selectively, releasably attached to the first assembly **40** of the exercise device. In another aspect, the distal end of the first connector can be selectively, releasably attached to a resistance source **214**, such as, for example and without limitation, a weight stack or, if the first connector **210** is an elastic cord, a stationary object, such as, for example and without limitation, a door knob, a doorjamb, a table leg, and the like. In one aspect, then, when assembled as described herein, the first connector can be movable about at least three degrees of freedom relative to the longitudinal axis of the elongate rod **20**, i.e., the first member **42** of the first assembly **40** can rotate about the longitudinal axis of the elongate rod; the second

member **44** of the first assembly can rotate about a plane bisecting the longitudinal axis of the elongate rod; and the first connector **210** can rotate within the connection bore **79** of the second member **44**.

[0062] In another aspect, the device can further comprise a second connector **212** having a proximal end and a distal end. In various aspects, the second connector can be an elastic cord, rope, wire or the like. In one aspect, the proximal end of the second connector can be selectively, releasably attached to the second assembly **80**. In another aspect, the distal end of the second connector can be selectively, releasably attached to a resistance source, as described above. Thus, in one aspect, when assembled as described herein, the second connector can be movable about at least three degrees of freedom relative to the longitudinal axis of the elongate rod **20**, i.e., the first member **42** of the second assembly **80** can rotate about the longitudinal axis of the elongate rod; the second member **44** of the second assembly can rotate about a plane bisecting the longitudinal axis of the elongate rod; and the second connector **212** can rotate within the connection bore **79** of the second member **44**. Optionally, in other aspects, the second connector **212** can be attached to the same resistance source that the first connector **210** is attached to, or alternatively, the second connector can be attached to a different resistance source than the first connector.

[0063] In one aspect, the components of the exercise device can be formed from steel, such as, for example, stainless steel. It is contemplated, as can be appreciated by one skilled in the art, that the components of the exercise device **10** can be formed from other metals, such as, for example and without limitation, aluminum, titanium and the like. It is further contemplated that the components of the exercise device can be formed from polymeric materials, including fiber-reinforced polymers, such as, for example and without limitation, fiberglass. It is further still contemplated that the elongate rod **20** can be formed from wood. It is also contemplated that the exercise device can be formed from a combination of wooden, metallic components and polymeric components.

[0064] In order to use the exercise device **10**, a user can attach the exercise device to a resistance source **214**, such as, for example and without limitation, a weight stack. In one aspect, the user can releasably attach a cable from a weight stack, as are commonly known in the art, to the first assembly **40**. In another aspect, it is contemplated that the user can position the first assembly at a desired location along the length of the elongate rod. The user can, if desired, selectively, releasably attach the handle **200** to the proximal end **22** of the elongate rod. The user can then sit, kneel or stand a distance away from the weight stack and move the device to cause the weight stack to rise repetitively, thereby providing both aerobic and anaerobic exercise. In this aspect, the user can move the device **10** in a motion similar to that used in paddling a canoe. However, the user can move the device through various other directions in the frontal, sagittal and horizontal planes.

[0065] Optionally, in another aspect, the user can releasably attach the proximal end of the first connector **210** to the first assembly **40**, and the distal end of the connector to a resistance source **214**. If the first connector is an elastic connector, the distal end of the connector can be releasably attached to a stationary resistance source, such as, for example and without limitation, the frame of a weight stack, a door knob, a doorjamb, a table leg, and the like. If the first connector **210** is a non-elastic connector, such as, for example and without limitation, a rope or wire, the distal end of the first connector can be releasably attached to a mobile resistance source, such as, for example and without limitation, a weight stack. The user can then sit, kneel or stand a distance away from the resistance source and move the device repetitively, thereby providing both aerobic and anaerobic exercise. In this aspect, the user can move the device in a motion similar to that used in paddling a canoe. Again, however, the user can move the device through various other directions in the frontal, sagittal and horizontal planes.

[0066] In various other aspects, in addition to having a first resistance source attached to the first assembly **40**, as described above, the user can attach a second resistance source to the second assembly **80**. Additionally, in another aspect, it is contemplated that the user can position the second assembly at a desired location along the length of the elongate rod. In one aspect, the second resistance source can be the same resistance source as the first resistance source. In another aspect, the user can releasably attach a cable from a weight stack, to the second assembly of the exercise device **10**. The user can then sit, kneel or stand a distance away from the weight stack and move the device to cause the weight stack to rise repetitively, thereby providing both aerobic and anaerobic exercise. In this aspect, the user can move the device **10** in a motion similar to that used in paddling a kayak. However, the user can move the device through various other directions in the frontal, sagittal and horizontal planes.

[0067] In yet another aspect, the user can releasably attach the proximal end of the second connector **212** to the second assembly **80**, and the distal end of the connector to a second resistance source. If the second connector is an elastic connector, the distal end of the connector can be releasably attached to a stationary resistance source, such as, for example and without limitation, the frame of a weight stack, a door knob, a door jamb, a table leg, and the like. If the second connector is a non-elastic connector, such as, for example and without limitation, a rope or wire, the distal end of the connector can be releasably attached to a mobile resistance source, such as, for example and without limitation, a weight stack. The user can then sit, kneel or stand a distance away from the resistance source and move the device repetitively, thereby providing both aerobic and anaerobic exercise. In this aspect, the user can move the device **10** in a motion similar to that used in paddling a kayak. Again, however, the user can move the device through various other directions in the frontal, sagittal and horizontal planes.

[0068] Although several embodiments of the invention have been disclosed in the foregoing specification, it is understood by those skilled in the art that many modifications and other embodiments of the invention will come to mind to which the invention pertains, having the benefit of the teaching presented in the foregoing description and associated drawings. It is thus understood that the invention is not limited to the specific embodiments disclosed herein above, and that many modifications and other embodiments are intended to be included within the scope of the appended claims.

[0069] Moreover, although specific terms are employed herein, as well as in the claims that follow, they are used only in a generic and descriptive sense, and not for the purposes of limiting the described invention, nor the claims that follow.

What is claimed is:

1. An exercise device comprising:

an elongate rod having a longitudinal axis, a proximal end and an opposed distal end;

a first assembly comprising a first member and a second member, wherein the first member of the first assembly is rotatably coupled to the second member of the first assembly, and wherein the second member of the first assembly is configured for releasable attachment to a resistance source; and

a means for operatively coupling the first assembly to the elongate rod such that the second member of the first assembly is rotatable about at least two degrees of freedom relative to the longitudinal axis of the elongate rod.

2. The exercise device of claim **1**, wherein the means for operatively coupling the first assembly to the elongate rod comprises operatively coupling the first assembly to a distal end of the elongate rod.

3. The exercise device of claim **1**, wherein the second member of the first assembly is configured to rotate about the longitudinal axis of the elongate rod and in a plane that bisects the longitudinal axis of the elongate rod.

4. The exercise device of claim **1**, wherein the first member of the first assembly is configured to rotate about the longitudinal axis of the elongate rod.

5. The exercise device of claim **1**, further comprising:

a second assembly comprising a first member and a second member, wherein the first member of the second assembly is rotatably coupled to the second member of the second assembly, and wherein the second member of the second assembly is configured for releasable attachment to a resistance source; and

a means for operatively coupling the second assembly to the elongate rod such that the second member of the second assembly is rotatable about at least two degrees of freedom relative to the longitudinal axis of the elongate rod.

6. The exercise device of claim **4**, wherein the means for operatively coupling the second assembly to the elongate rod comprises operatively coupling the second assembly to a proximal end of the elongate rod.

7. The exercise device of claim **5**, wherein the second member of the second assembly is configured to rotate about the longitudinal axis of the elongate rod and in a plane that bisects the longitudinal axis of the elongate rod.

8. The exercise device of claim **5**, wherein the first member of the second assembly is configured to rotate about the longitudinal axis of the elongate rod.

9. The exercise device of claim **1**, further comprising a handle having a longitudinal axis, wherein the handle is configured to be attached to the proximal end of the elongate rod, and wherein the longitudinal axis of the handle is substantially perpendicular to the longitudinal axis of the elongate rod.

10. The exercise device of claim **1**, wherein the elongate rod is comprised of a plurality of segments that are selectively detachable from each other.

11. The exercise device of claim **1**, further comprising a first connector configured for releasable attachment therebetween the first assembly and a resistance source.

12. The exercise device of claim **11**, further comprising a means for operatively coupling the first connector to the first assembly such that the first connector is movable about at least three degrees of freedom relative to the longitudinal axis of the elongate rod.

13. The exercise device of claim **11**, wherein the first connector is an elastic cord.

14. The exercise device of claim **11**, wherein the first connector is a cable.

15. The exercise device of claim **5**, further comprising a second connector configured for releasable attachment therebetween the second assembly and a resistance source.

16. The exercise device of claim **15**, further comprising a means for operatively coupling the second connector to the second assembly such that the second connector is movable about at least three degrees of freedom relative to the longitudinal axis of the elongate rod.

17. The exercise device of claim **15**, wherein the second connector is an elastic cord.

18. An exercise device comprising:

an elongate rod having a longitudinal axis, a proximal end and an opposed distal end;

a first assembly comprising a first ball and socket interconnection comprising a first ball member and a first socket member and having at least three degrees of freedom, wherein the first socket member is attached to the distal end of the elongate rod, and wherein the first socket member is adapted to receive the first ball member such that when the first ball member is received in the first socket member it is capable of pivotal and rotational movement within the socket; and

a second member fixedly attached to the first ball member.

19. The exercise device of claim **18**, further comprising:

a second assembly comprising a second ball and socket interconnection comprising a second ball member and a second socket member and having at least three degrees of freedom, wherein the second socket member is attached to the proximal end of the elongate rod, and wherein the second socket member is adapted to receive the second ball member such that when the second ball member is received in the second socket member it is capable of pivotal and rotational movement within the socket; and

a second ring fixedly attached to the second ball member.

20. An exercise system for use with a resistance source comprising:

an elongate rod having a longitudinal axis, a proximal end and an opposed distal end;

a first assembly comprising a first member and a second member, wherein the first member of the first assembly is rotatably coupled to the second member of the first assembly, and wherein the second member of the first assembly is configured for releasable attachment to the resistance source; and

a means for operatively coupling the first assembly to a distal end of the elongate rod such that the second member of the first assembly is rotatable about at least two degrees of freedom relative to the longitudinal axis of the elongate rod.

a first connector configured to releasably attach the first assembly to the resistance source.

21. The exercise system of claim **20**, wherein the second member of the first assembly is configured to rotate in a plane that bisects the longitudinal axis of the elongate rod.

22. The exercise device of claim **20**, wherein the first member of the first assembly is configured to rotate about the longitudinal axis of the elongate rod.

23. The exercise system of claim **20**, further comprising:

a second assembly comprising a first member and a second member, wherein the first member of the second assembly is rotatably coupled to the second member of the

second assembly, and wherein the second member of the second assembly is configured for releasable attachment to the resistance source; and

a means for operatively coupling the second assembly to a proximal end of the elongate rod such that the second member of the second assembly is rotatable about at least two degrees of freedom relative to the longitudinal axis of the elongate rod.

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