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### Grip device for cable-connected exercise devices

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#### Abstract

An exercise grip device is disclosed having a main body formed from two detachable hemispheres, wherein said two detachable hemispheres comprise an upper hemisphere and a lower hemisphere. The main body of the exercise grip device forms a rounded shape. The exercise grip device further comprises an internal cavity in said main body with an upper vertical channel connecting said internal cavity through the upper hemisphere to an exterior area. A horizontal channel is included, recessing from an outer surface of said upper hemisphere to an opposite outer surface of said upper hemisphere. The horizontal channel extends through the upper hemisphere. The exercise grip device also includes a retaining ring removably disposed in said internal cavity. The retaining ring vertically extends upward in said upper vertical channel. A removable securement pin is included, extending through the horizontal channel and through the retaining ring.

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## Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS (1) This application claims priority under 35 U.S.C. § 119(e) of U.S. Provisional Patent Application Ser. No. 63/437,305, filed Jan. 5, 2023, and entitled “GRIP DEVICE FOR WEIGHTED CABLE EXERCISE DEVICES”, which in hereby incorporated in its entirety by reference.

### FIELD OF THE INVENTION

(1) The present invention relates to exercise equipment. More specifically, the following relates to a grip device for weight training, particularly cable-based machines and equipment, and cable-based weight machines.

### BACKGROUND

(2) Weighted cable devices are common in most gyms and fitness clubs and are provided with a number of weight stacks which allow for different levels of weight to be selected by moving a locking pin. This locking pin is connected in a manner that a cable can pull it, and through various pulleys, the other end has a grip device for the cable. Gyms will often have a selection of grip devices which are available for use by many different people, which can lead to an undesirable scenario of the available grip devices carrying various germs and bacteria from many different people.

(3) Furthermore, the grip selections commonly available at gyms are often not user customizable and may be of an undesirable sub-optimal grip configuration.

- (4) Current grip elements include bars that can include handles, ankle straps, and various bars, such as straight bars, lap bars, and curl bars, among others. Typically, these attachments have a cushioned handle area where a user grips onto, which may be both unergonomic and unsanitary, as many people may use the bars and the foam cushions can trap bacteria. Further, if no cushion is available, user's may end up with blisters if they are not careful about their grip on a metal bar.
- (5) Thus, a need exists in the market for a removable ball grip device capable of withstanding pulling force created by weights or tension created by workout equipment a user is engaged with.

#### SUMMARY OF THE INVENTION

(6) The invention disclosed herein provides an exercise grip device. The exercise grip device comprises a main body formed from two detachable hemispheres, wherein said two detachable hemispheres comprise an upper hemisphere and a lower hemisphere. The main body of the exercise grip device forms a rounded shape. The exercise grip device further comprises an internal cavity in said main body with an upper vertical channel connecting said internal cavity through said upper hemisphere to an exterior area. Yet further provided in the exercise grip device is a horizontal channel recessing from an outer surface of said upper hemisphere to an opposite outer surface of said upper hemisphere, wherein said horizontal channel extends through said upper hemisphere. The exercise grip device also includes a retaining ring removably disposed in said internal cavity, wherein said retaining ring vertically extends upward in said upper vertical channel. Finally, the exercise grip device provides a removable securement pin extending through said horizontal channel and through said retaining ring.

(7) It is an object of the present invention to provide a user customizable grip.

(8) It is yet another object of the present invention is to provide a compact grip device that can be easily carried to and from a gym or fitness facility.

(9) It is a further object to provide a grip that is easily connectable to commonly available weighted cable machines.

(10) The drawings and specific descriptions of the drawings, as well as any specific or alternative embodiments discussed, are intended to be read in conjunction with the entirety of this disclosure. The invention may be embodied in many different forms and should not be construed as being limited to the embodiments set forth herein; rather, these embodiments are provided by way of illustration only and so that this disclosure will be thorough, complete, and fully convey understanding to those skilled in the art. The above and yet other objects and advantages of the present invention will become apparent from the hereinafter set forth Brief Description of the Drawings, Detailed Description of the Invention, and Claims appended herewith.

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## Description

### BRIEF DESCRIPTION OF THE DRAWINGS

(1) FIG. 1 illustrates a side view of an exercise grip device.

(2) FIG. 2 illustrates a side view of the exercise grip device, as shown in FIG. 1, with internal cavity shown in phantom containing a connection ring.

(3) FIG. 3 illustrates a side view of the exercise grip device, as shown in FIG. 1, with internal cavity shown in phantom containing a connection ring with moveable distance shown in hatching.

(4) FIG. 4 illustrates an alternative side view of the grip device, as shown in FIG. 3, with moveable distance shown in hatching.

(5) FIG. 5A illustrates a side view of a connection element with carabiner.

(6) FIG. 5B illustrates a front view of a cable stop of the connection element.

(7) FIG. 5C illustrates a perspective view of the carabiner.

(8) FIG. 6A illustrates is a top view of an exercise grip device.

(9) FIG. 6B illustrates an isometric top view of the exercise grip device of FIG. 6A.

- (10) FIG. 6C illustrates an isometric bottom view of the exercise grip device of FIG. 6A.
- (11) FIG. 6D illustrates an isometric top view of the exercise grip device of FIG. 6A.
- (12) FIG. 7A illustrates an isometric cut-away view of the exercise grip device of FIG. 6A with small screw inserted.
- (13) FIG. 7B illustrates an isometric cut-away view of the exercise grip device of FIG. 6A with entire pin inserted.
- (14) FIG. 7C illustrates an isometric cut-away view of the exercise grip device of FIG. 6A with the larger pin inserted.
- (15) FIG. 8A illustrates an isometric cut-away view of the top portion of the exercise grip device of FIG. 6A.
- (16) FIG. 8B illustrates an isometric cut-away view of the bottom portion of the exercise grip device of FIG. 6A.
- (17) FIG. 8C illustrates an isometric cut-away view of the exercise grip device of FIG. 6A.
- (18) FIG. 9A illustrates a conceptual view of a user engaged with a cable machine with cords connecting to the ball grip.
- (19) FIG. 9B illustrates a conceptual view of a user engaged with crossover cable equipment with cords connecting to the ball grip.
- (20) FIG. 9C illustrates a conceptual view of a user engaged with a cable machine with cords connecting to the ball grip.
- (21) FIG. 9D illustrates a conceptual view of a user on a stepper with upper body cords connecting to the ball grip.

#### DETAILED DESCRIPTION OF THE INVENTION

- (22) The invention herein provides a grip element for exercise machinery and equipment that solves the problems above with current exercise handles and bars.
- (23) As stated above, weighted cable devices are common in most gyms and fitness clubs and are provided with a number of weight stacks which allow for different levels of weight to be selected by moving a locking pin. This locking pin is connected in a manner that a cable can pull it, and through various pulleys, the other end has a grip device for the cable. Gyms will often have a selection of grip devices which are available for use by many different people, which can lead to an undesirable scenario of the available grip devices carrying various germs and bacteria from many different people.
- (24) The grip selections commonly available at gyms are often not user customizable and may be of an undesirable sub-optimal grip configuration.
- (25) Current grip elements include bars that can include handles, ankle straps, and various bars, such as straight bars, lap bars, and curl bars, among others. Typically, these attachments have a cushioned handle area where a user grips onto, which may be both unergonomic and unsanitary, as many people may use the bars and the foam cushions can trap bacteria. Further, if no cushion is available, user's may end up with blisters if they are not careful about their grip on a metal bar.
- (26) Traditional grips, whether on weights or cable machines, can sometimes strain the wrists, hands, or forearms due to their rigid and linear design. An ergonomic ball, with its spherical shape, can adapt better to the natural curvature of the hand, reducing strain and enhancing comfort. Further, traditional grip training often relies on tools like grippers or bar grips.
- (27) The current invention solves these problems by providing a removable ball grip device capable of withstanding pulling force created by weights or tension created by workout equipment a user is engaged with. An ergonomic ball offers a more dynamic and varied form of grip training, beneficial for sports and activities where grip strength and control are crucial.
- (28) The ball can be designed with different textures, sizes, and materials to cater to various preferences and needs. This customization can make it a versatile tool for a wide audience, from athletes to the elderly. These different designs and textures may be interchanged to the preference of the user. Both the top and bottom, also known as the first half and second half, are interchangeable,

allowing for a uniquely customizable experience.

(29) Using a ball grip requires more muscle activation in the hands, forearms, and even the upper arms. This is due to the need for greater stabilization and control, as the round shape doesn't allow for a static grip like a bar or handle. Gripping a ball requires more intricate muscle coordination, which can enhance neural connections between the hands and the brain. This is beneficial not just for physical strength but also for motor skills.

(30) This type of grip can be used in various exercises, potentially replacing traditional handles or even dumbbells. It adds a new dimension to cable machine exercises, free weight exercises, and even bodyweight movements. In physical therapy and rehabilitation, an ergonomic ball can be used to improve grip strength, coordination, and dexterity. It may also be useful in recovery exercises post-injury or surgery, especially in the hands, wrists, and arms.

(31) Further, for people with joint issues or arthritis, a ball grip is safer and more comfortable, reducing the risk of exacerbating these conditions. This makes exercise more accessible to a broader range of individuals.

(32) The grip device for cable-connected exercise devices of the present invention may be used to provide a user customizable grip, provide a compact grip device that can be easily carried to and from a gym or fitness facility, and provide a grip that is easily connectable to commonly available weighted cable machines. This apparatus and system are particularly shown in FIGS. 1-9D.

(33) FIG. 1 illustrates a side view of an exercise grip device **100**. FIG. 2 illustrates a side view of the exercise grip device **100**, as shown in FIG. 1, with internal cavity **116** shown in phantom containing a retaining ring **108**. The grip device **100** as shown is generally spherical, but can be of different shapes. The device **100** has two halves **102/104**, including a first half **102** and a second half **104**. In some embodiments, these halves have a rubberized outer surface. The halves **102/104** may be metal covered in rubber, or a rubber like material, for example, the halves **102/104** may also be a plastic/rubber material. When assembled, the two halves **102/104** create an interior channel **116** which is open on one half **102** but does not go through the other half **104** and is thus not a through-hole such that its depth is less than the radius/height of the half **104** whereas the channel **114** portion on the upper half **102** extends all the way through. Within this channel **116** is a retaining ring **108**, which is elongated and may be oval in shape. Through this ring **108** is a pin **106** which in some embodiments passes through the upper half **102**. The lower half **104** may be removeable from the upper half **102** so that different colors or grip textures/materials or combinations thereof can be selected. Front **112** and rear **110** flaps are provided to keep the ring **108** within the channel **116** or above the channel **116**, depending on the desired configuration. The ring **108** can be clipped to a carabiner, such as those shown in FIGS. 5A and 5C, a hook, or other securing device, such as those commonly used in weighted cable exercise devices. When under tension, the retaining ring **108** is pulled out of the channel **116** and is stopped by the pin **106** to bear the weight on the cable. As shown, the depth of the channel **116** is greater than the height of the ring **108** such that the ring can be fully stored within the diameter of the grip device ball **100**.

(34) FIG. 3 illustrates a side view of the exercise grip device **100**, with internal cavity **116** shown in phantom containing a connection ring **108** with moveable distance shown in hatching. FIG. 3 shows additional details on how the ring **108** moves, depending on if it is loaded or not. The embodiments shown in FIGS. 3 and 4 do not include the flaps installed. FIG. 4 illustrates an alternative side view of the grip device **100**, with moveable distance shown in hatching. FIG. 4 shows additional details on the through pin **106**. In some embodiments, as shown, the pin **106** goes through the horizontal channel **114**, which is a through-hole in the upper half **102** of the grip device **100**.

(35) FIG. 5A illustrates a side view of a connection element with carabiner. FIG. 5B illustrates a front view of a cable stop of the connection element. FIG. 5C illustrates a perspective view of the carabiner.

(36) FIG. 6A illustrates is a top view of an exercise grip device. FIG. 6B illustrates an isometric top

view of the exercise grip device. FIG. 6C illustrates an isometric bottom view of the exercise grip device. FIG. 6D illustrates an isometric top view of the exercise grip device.

(37) FIG. 7A illustrates an isometric cut-away view of the exercise grip device of FIG. 6A with small screw inserted. FIG. 7B illustrates an isometric cut-away view of the exercise grip device with entire pin inserted. FIG. 7C illustrates an isometric cut-away view of the exercise grip device with the larger pin inserted.

(38) FIG. 8A illustrates an isometric cut-away view of the top portion of the exercise grip device. FIG. 8B illustrates an isometric cut-away view of the bottom portion of the exercise grip device. FIG. 8C illustrates an isometric cut-away view of the exercise grip device.

(39) FIG. 9A illustrates a conceptual view of a user engaged with a cable machine with cords connecting to the ball grip. FIG. 9B illustrates a conceptual view of a user engaged with crossover cable equipment with cords connecting to the ball grip. FIG. 9C illustrates a conceptual view of a user engaged with a cable machine with cords connecting to the ball grip. FIG. 9D illustrates a conceptual view of a user on a stepper with upper body cords connecting to the ball grip.

(40) In an exemplary embodiment, an exercise grip device **100** is provided. The exercise grip device **100** comprises a main body **118** formed from two detachable hemispheres **102/104**, wherein the two detachable hemispheres comprise an upper hemisphere **102** and a lower hemisphere **104**. The main body **118** generally forms a rounded shape. The grip device **100** also includes an internal cavity **120** in the main body **100** with an upper vertical channel **116** connecting the internal cavity **120** through the upper hemisphere **102** to an exterior area **122**. As may be seen in FIGS. 7A-7C, a horizontal channel **114** is also present, recessing from an outer surface **124** of the upper hemisphere **102** to an opposite outer surface **124** of the upper hemisphere **102**. The horizontal channel **114** extends through the upper hemisphere **102**. A retaining ring **108** is included and removably disposed in the internal cavity **120**, wherein the retaining ring **108** vertically extends upward in the upper vertical channel **116**. The grip device **100** also includes a removable securement pin **106** extending through the horizontal channel **114** and through the retaining ring **108**.

(41) In some embodiments, as may be appreciated in FIGS. 8A-8B, the upper hemisphere **102** includes a circular recessed cavity **126** at a lower open area **128** with internal threading **130** on the circumferential interior side **132** of a sidewall **134** of the circular recessed cavity **126**. The lower hemisphere **104** includes a cylindrical protrusion **136** at an upper area **138** with external threading **140** on sidewalls **142** of the cylindrical protrusion **136**, and an offset **144** between an outer body wall **146** of the lower hemisphere **104** and the cylindrical protrusion **136** of a distance complementary to a depth of the sidewall **134** of the upper hemisphere **102**. The cylindrical protrusion **136** have a geometry and dimensions complementary to the circular recessed cavity **126** of the upper hemisphere **102**, whereby once engaged with the upper hemisphere **102** the cylindrical protrusion **136** recesses up into the circular recessed cavity **126** and the sidewalls **134** of the circular recess cavity **126** abut a top surface **144a** of the offset **144**, thereby forming a flush shape, as shown in FIG. 8C.

(42) In some embodiments, as seen in FIGS. 7A-7C, the removable securement pin **106** comprises a two-part construction having a first part **106a** and a second part **106b**. The first part **106a** defining a pin with a neck **148** at one end, and an open threaded cavity **150** at a distal end for receiving a second part **106b** of the two-part securement pin. The second part **106b** of the two-part securement pin defines a threaded screw **106c** configured to rotatably recess into the open threaded cavity **150** of the first part **106a** thereby forming a secured fitment whereby the pin **106** is no longer capable of sliding out of the horizontal channel **114**.

(43) In some embodiments, a carabiner **152** is included and clipped to the retaining ring **108**, thereby connecting the retaining ring **108** to a cord **202** of an exercise equipment **200**. In some embodiments, the system further includes a flap **110** traversing the upper vertical channel **116** at the exterior area **124** providing further containment for the retaining ring **108**. In some embodiments, the rounded shape of the grip device forms a spherical body, as may be appreciated from the

figures. In some embodiments, the main body **118** is configured to a size calibrated to fit into a hand of a user. In some embodiments, the upper hemisphere **102** includes an outer rubberized surface **154**. In some embodiments, lower hemisphere **104** includes an outer rubberized surface **156**.

(44) While there has been shown and described above the preferred embodiment of the instant invention it is to be appreciated that the invention may be embodied otherwise than is herein specifically shown and described and that certain changes may be made in the form and arrangement of the parts without departing from the underlying ideas or principles of this invention as set forth in the Claims appended herewith.

## Claims

1. An exercise grip device, comprising: a main body formed from two detachable hemispheres, wherein said two detachable hemispheres comprise an upper hemisphere and a lower hemisphere; said main body forming a rounded shape; an internal cavity in said main body with an upper vertical channel connecting said internal cavity through said upper hemisphere to an exterior area; a horizontal channel recessing from an outer surface of said upper hemisphere to an opposite outer surface of said upper hemisphere, wherein said horizontal channel extends through said upper hemisphere; a retaining ring removably disposed in said internal cavity, wherein said retaining ring vertically extends upward in said upper vertical channel; and a removable securement pin extending through said horizontal channel and through said retaining ring.
2. The exercise grip device, as recited in claim 1, further comprising: said upper hemisphere including a circular recessed cavity at a lower open area with internal threading on the circumferential interior side of a sidewall of said circular recessed cavity; said lower hemisphere including a cylindrical protrusion at an upper area with external threading on sidewalls of said cylindrical protrusion, and an offset between an outer body wall of said lower hemisphere and said cylindrical protrusion a distance complementary to a depth of said sidewall of said upper hemisphere; and said cylindrical protrusion having a geometry and dimensions complementary to said circular recessed cavity of said upper hemisphere, whereby once engaged with said upper hemisphere said cylindrical protrusion recesses up into said circular recessed cavity and said sidewalls of said circular recess cavity abut a top surface of said offset, thereby forming a flush shape.
3. The exercise grip device, as recited in claim 1, wherein: said removable securement pin comprises a two-part construction having a first part and a second part; said first part defining a pin with a neck at one end, and an open threaded cavity at a distal end for receiving a second part of said two-part securement pin; and said second part of said two-part securement pin defines a threaded screw configured to rotatably recess into said open threaded cavity of said first part thereby forming a secured fitment whereby said pin is no longer capable of sliding out of said horizontal channel.
4. The exercise grip device, as recited in claim 1, further comprising: a carabiner clipped to said retaining ring, thereby connecting said retaining ring to a cord of an exercise equipment.
5. The exercise grip device, as recited in claim 1, further comprising: a flap traversing said upper vertical channel at said exterior area providing further containment for said retaining ring.
6. The exercise grip device, as recited in claim 1, wherein said rounded shape forms a spherical body.
7. The exercise grip device, as recited in claim 1, wherein said main body is configured to a size calibrated to fit into a hand of a user.
8. The exercise grip device, as recited in claim 1, wherein said upper hemisphere includes an outer rubberized surface.



9. The exercise grip device, as recited in claim 1, wherein said lower hemisphere includes an outer rubberized surface.

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