DOOR-FRAME MOUNTED EXERCISE STRAP

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Abstract

The present invention provides a door-frame-mountable exercise strap, which includes a strap having a first connecting end and a second end, and a plurality of anchors. Said first connecting end is adapted to be connected to a piece of exercise equipment and the plurality of anchors are spaced along the exercise strap between said first connecting end and said second end.

An exercise device is secured to the connecting end of the strap. The exercise device includes a plurality of elastic resistance tubes, each of said resistance tubes having a first end and a second clasp end. The first end of each of the resistance tubes is secured to the first connecting end of the strap. The second clasp-end of each of the resistance tubes is secured to a clasp, and each of said clasps is releasably attachable to an exercise handle.
DOOR-FRAME MOUNTED EXERCISE STRAP

FIELD OF THE INVENTION

[0001] The present invention relates to an exercise strap that can be adjustable secured in a door-frame. In particular, the device includes a strap containing a plurality of anchors spaced along its length for variably securing the strap in a closed door.

BACKGROUND OF THE INVENTION

[0002] Door-frame mountable exercise devices are a common means to provide a user with a versatile, relatively compact, portable and affordable piece of exercise equipment. Common devices are generally either an adjustable exercise bar, or an exercise strap that is secured to the door or door-frame, anchoring the device in place. Once the device is anchored in place, the user can conduct a variety of exercises using various positions, or possible attachments.

[0003] These devices can be useful in a variety of exercise routines, which are often dependent on the height of the exercise device. For instance, a strap fixed at the top portion of the door-frame is often more useful for upper-body and other workouts performed while standing. Whereas, a strap mounted at or near the floor can be useful for sit-ups exercises. Quick adjustability, so that the exercise device can accommodate a variety of positions and workouts, has been a constant goal for door-frame mountable exercise equipment.

[0004] However, one obstacle for such strap-based devices is that the exercise strap must be able to support a substantial load, while also providing for easy adjustment of the strap when a new position is desired. The device must be secured well, but also easily removed and adjusted.

[0005] Prior inventions, such as U.S. Pat. Nos. 4,909,505 and 8,007,413 and United States Publication Nos. 2003/0158024 and 2007/0173383 disclose the use of a door anchor to solve the problem of securing the strap in place. Such straps are secured in place when a door is closed on the strap. The strap has two ends. One end that attaches to the exercise equipment, and the other end has an anchor. The door anchor is generally some form of bulbous obstruction so that, when the door is closed on the strap, the strap cannot slip between the door-frame and the door, and is thus held securely. The strap is placed over the top or underneath the door, such that the exercise-end extends in one direction towards the user, and the anchor-end extends in the opposite direction. When the door is closed, the strap is secured between the top of the door and the door frame (or between the bottom of the door and the floor), with the anchor preventing the strap from slipping when force is applied to the exercise-end of the strap. These devices are not necessarily adjustable.

[0006] In order to achieve adjustability, similar devices and others have often employed a strap that has multiple connection points for the exercise-end. For example, see U.S. Pat. Nos. 6,322,483 and 8,007,413 and United States Publication No. 2003/0158024. Other straps have simply employed standard adjustable buckles that allow the straps length to be adjusted, such as United States Publication No. 2007/0173383, or a combination of both adjustable buckles, and multiple connection points.

[0007] The present invention achieves quick adjustability by providing multiple anchors spaced apart, so that by selecting a different anchor the length of strap on the exercise-end is easily varied.

SUMMARY OF THE INVENTION

[0008] According to the present invention, an exercise strap is provided wherein one end of said strap includes a connection point for a piece of exercise equipment such as elastic tubing and the strap includes, throughout a portion of its length, a plurality of spaced bulbous anchors for variably securing the strap within a closed door.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 illustrates one embodiment of the exercise device of the present invention;

[0010] FIG. 2 illustrates an interior view of one embodiment of the anchor portion of the exercise strap of the present invention;

[0011] FIG. 3 illustrates the anchor-portion of the strap of the present invention placed over the top of a standard door;

[0012] FIG. 4 illustrates the connecting end of the exercise strap of the present invention while the exercise strap is secured in a closed door.

[0013] FIG. 5 illustrates the anchoring portion of the exercise strap of the present invention while the exercise strap is secured in a closed door.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0014] An exercise device (10) is designed to be secured in door-frame. In the preferred embodiment, shown in FIGS. 1-3, the exercise device is comprised of a strap (20) containing a plurality of anchors (30) which prevent slippage when the strap (20) is secured in a door-frame. Strap (20) is attached to at least one of resistance tubes (40), which are in-turn releasably secured to exercise handle (50).

[0015] As shown in FIG. 2, in the preferred embodiment, at each anchor (30) strap (20) includes an additional fabric layer (31) stitched to strap (20), thereby creating pocket (32). A solid bulbous obstruction (33) is sealed within pocket (32) and thereby secured between the strap (20) and fabric layer (31). It should be understood that said anchor (30) can be made by any means that increases the width of the strap at each anchor (30) such that said anchor (30) cannot fit between a door and a door-frame when a door is closed on the strap (20). Other alternatives may include any resilient solid object secured to the strap at each anchor, or simply using multiple layers of fabric to create portions of the strap that are adequately thick enough to prevent slippage of the strap (20) when a door is closed on the strap (20).

[0016] To begin using the exercise device, the user must first secure the strap (20) using door (60), as shown in FIGS. 3-5.

[0017] The user places the strap (20) over the top of the door (63), such that the connecting-end (21) of the strap extends in one direction on the user-side of the door (61) where the user will conduct the exercise activity, and a portion of the strap containing at least one of the anchors (30) is on the opposite anchor-side (62) of the door. The door (60) is then closed, securing the strap in place between the door and door frame. The anchor (30a) nearest the door on the anchoring-side (62) of the door, is forced against the anchoring-side (62) of the
door when pressure is applied to the connecting end (21) of the strap by the user, thereby preventing further slippage of strap (20) between the door and door-frame. It should be noted that this can also be achieved by securing the strap (20) between the bottom of the door and the floor, provided the width of the gap beneath the door is smaller than the diameter of the anchors used.

[0018] The nearest anchor (30a) on the anchor-side (62) of the door provides a stopper, which prevents the strap (20) from sliding through between the door and door-frame. By selecting where the strap (30) is placed over the door, the user can select which anchor (30) will be the nearest anchor (30a) that is engaged when the door is closed. Accordingly, the user can determine the length of the exercise strap (20) available on the user-side (61) of the door.

[0019] In the preferred embodiment, each anchor is given a corresponding number or identification (36), such that instructions can be provided for a variety of workouts by directing the user to select the correspondingly appropriate anchor for the exercise to be done.

[0020] Additionally, in the preferred embodiment, the strap (20) has a connecting end (21) for the exercise portion of the device, and the strap has a warning (25) on the opposite end, warning others not to open the door. The warning (25) is visible on the anchor-side (61) of the door when the exercise device (10) is in use, alerting a person approaching the anchor-side (61) of the door that the exercise device is in use. The warning (25) serves to help prevent another from inadvertently opening the door while the user is using the device.

[0021] In the preferred embodiment shown in FIG. 1 a plurality of resistance tubes (40) are fixed to the connecting-end (21) of the exercise strap (20), and the plurality of resistance tubes (40) each have a different tension strength. One end of each of the resistance tubes (40) is fixed to the connecting-end (21) of the exercise strap (20), and the other end of each tube terminates in a clasp (45), and is referred to as the clasp-end (41). The clasp (45) can be any secure connecting means, such as a standard spring-loaded lobster-claw clasp or carabiner. The clasp (45) can be releasably attached to a variety of standard exercise handles (50) to accommodate numerous possible exercises, such as for example, a rope as shown in the drawings, a traditional handle, or a rigid bar.

[0022] The user can decide which and how many of the resistance tubes (40) to attach to the exercise handle (50), thereby controlling the level of resistance. The user can attach all of the resistance tubes (40) to handle (50) simultaneously for maximum resistance, or singularly attach the tube with the lowest resistance for minimum resistance, or the user can employ any combination in between.

[0023] A variety of workouts call for the exercise handle (50) to be used at different heights and angles. For example, over-head standing exercises, will require very little length. In such exercise it is useful for the exercise handle (50) to be located near the anchor-point (30a) at the top of the door. However a “push-down” standing exercise, such as a standard triceps push-down, may require the exercise device (10) to extend from the anchor-point (30a) at the top of the door down to the exercise handle (50), which, at resting position, should rest further down the door.

[0024] Similarly, sitting exercises that require a “pulling-down” motion will require the exercise device (10) to extend from the anchor-point (30a) at the top of the door to the exercise handle (40) which, at resting position, should rest at least half-way down the door. Alternatively, some sitting exercises require a horizontal pulling motion, such as seated “rowing” exercises, and will require that the strap is anchored at the bottom of the door, with the handle resting near the anchor point (30a) at the bottom of the door.

What is claimed is:

1. A door-frame-mountable exercise strap, including a strap having a first connecting end and a second end and a plurality of anchors; wherein said first connecting end is adapted to be connected to a piece of exercise equipment and said plurality of anchors are spaced along the exercise strap between said first connecting end and said second end, each of said anchors being separated from the next closest anchor by a minimum distance of 4 cm; and wherein each of said anchors is of adequate thickness, such that the anchor cannot fit between a door and a door-frame when the door is closed on the exercise strap.

2. A door-frame-mountable exercise strap as set forth in claim 1 wherein each of said anchors comprises a bulbous solid object secured to said strap.

3. A door-frame-mountable exercise strap as set forth in claim 1 wherein each of said anchors has its own respective corresponding identification.

4. A door-frame-mountable exercise strap as set forth in claim 1 wherein the second end of said strap includes a warning such that others are alerted that the exercise device is in use, and the door should not be opened.

5. A door-frame-mountable exercise strap as set forth in claim 1 wherein said exercise device includes a plurality of elastic resistance tubes, each of said resistance tubes having a first end and a second clasp end; said first end of each of the resistance tubes secured to the first connecting end of said strap, and the second clasp-end of each of the resistance tubes is secured to a clasp; wherein each of said clasps is releasably attachable to an exercise handle.

6. A door-frame-mountable exercise strap as set forth in claim 5 wherein each of said elastic resistance tubes has a different resistance strength, such that by selecting which and how many of said resistance tubes are attached to the exercise handle, a user can vary the resistance provided by the exercise device.

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