US 20110111929A1

(19) **United States**

(12) **Patent Application Publication**

Allison et al.

(10) **Pub. No.: US 2011/0111929 A1**

(43) **Pub. Date: May 12, 2011**

(54) **COMBINATION KETTLE BELL AND DUMBBELL**

(76) Inventors: **Michael R. Allison**, Santa Barbara, CA (US); **Kasper Allison**, Santa Barbara, CA (US)

(21) Appl. No.: **13/009,343**

(22) Filed: **Jan. 19, 2011**

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/455,158, filed on Jun. 1, 2009.

(60) Provisional application No. 61/133,704, filed on Jul. 2, 2008.

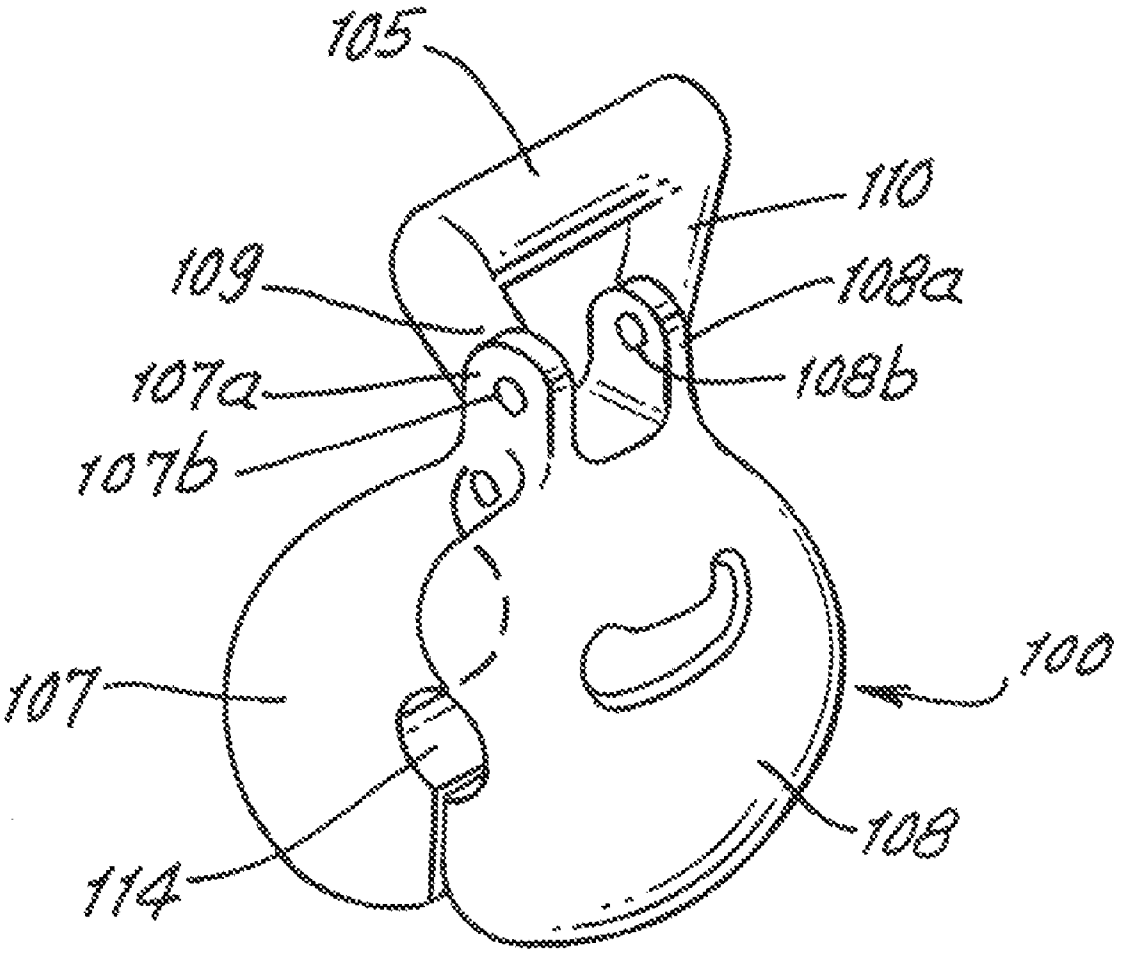
Publication Classification

(51) **Int. Cl.**
A63B 21/072 (2006.01)

(52) **U.S. Cl.** **482/108**; 482/93

(57) **ABSTRACT**

For use with a dumbbell having a transverse connection or connections between two weights, a support structure comprising an elongated handle bar, and at least two jaw members capable of providing releasable connection to a weight, when said weight is present, said weight comprising a transverse connection or connections between two weights. The releasable connection capable of being locked in a closed position by a clamp mechanism.



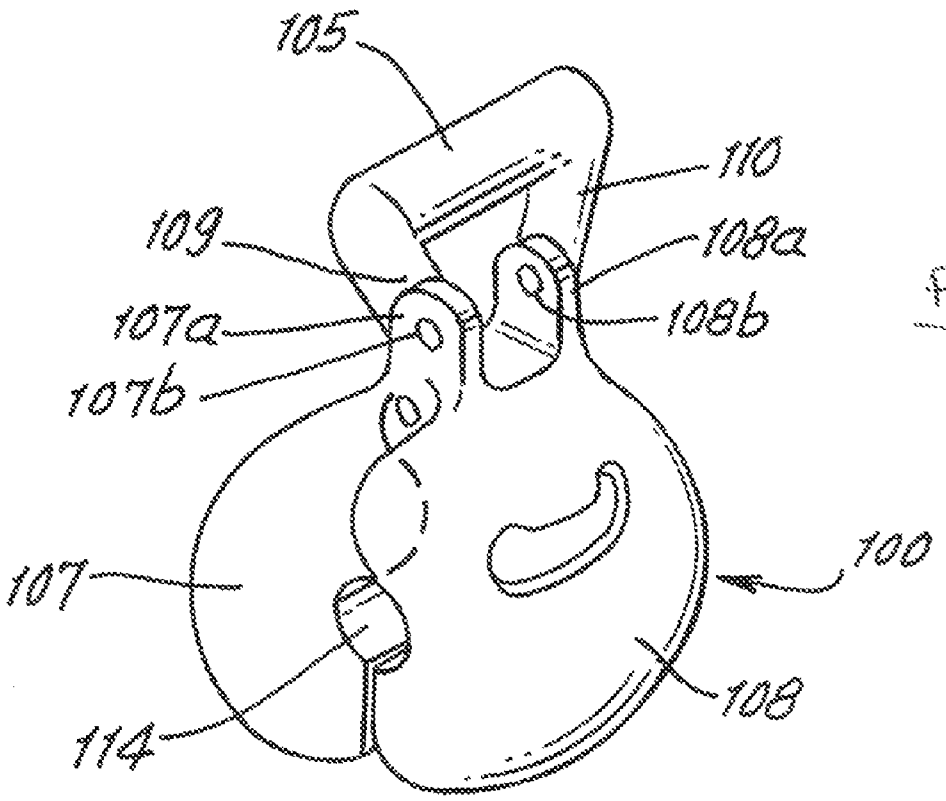


Fig. 1

FIG. 3

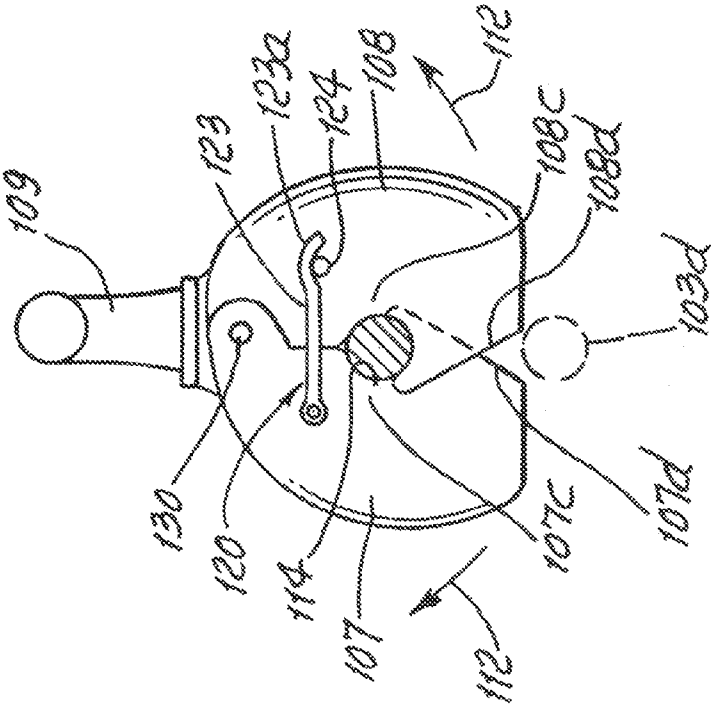
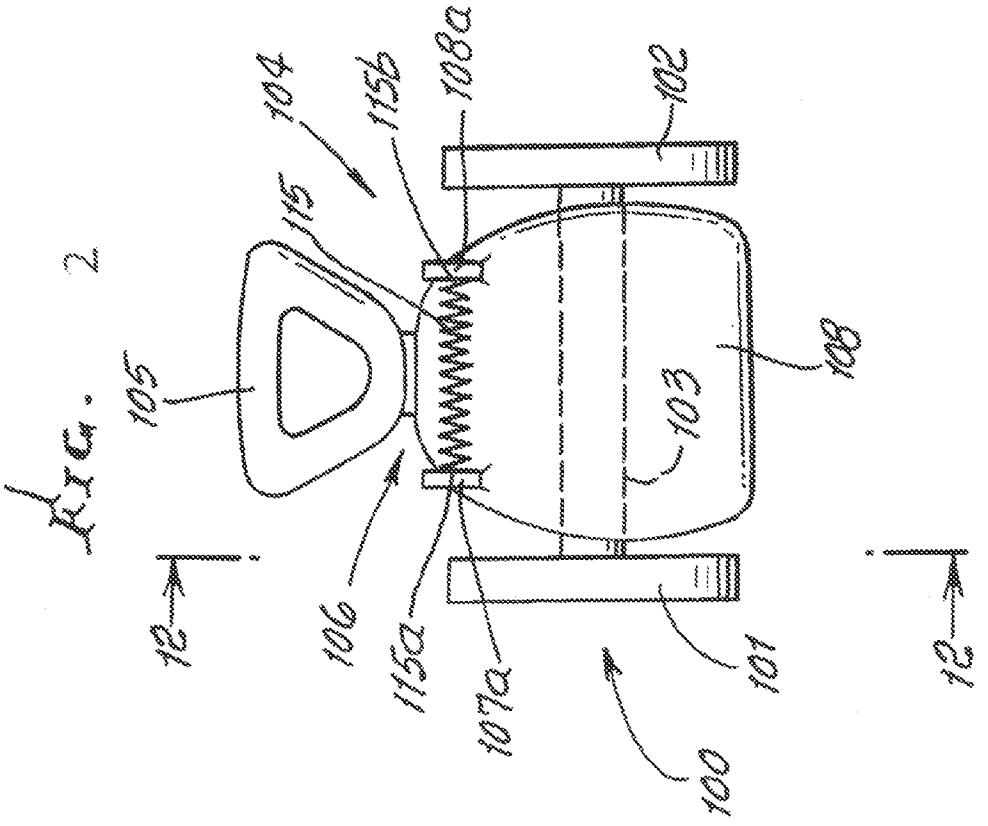

109
123
123a
124
108
112
108c
108d
103d
130
120
114
107
112
107c
107d

FIG. 2


104
115b
108a
102
115
105
108
103
12
106
115a
107a
101
100
12

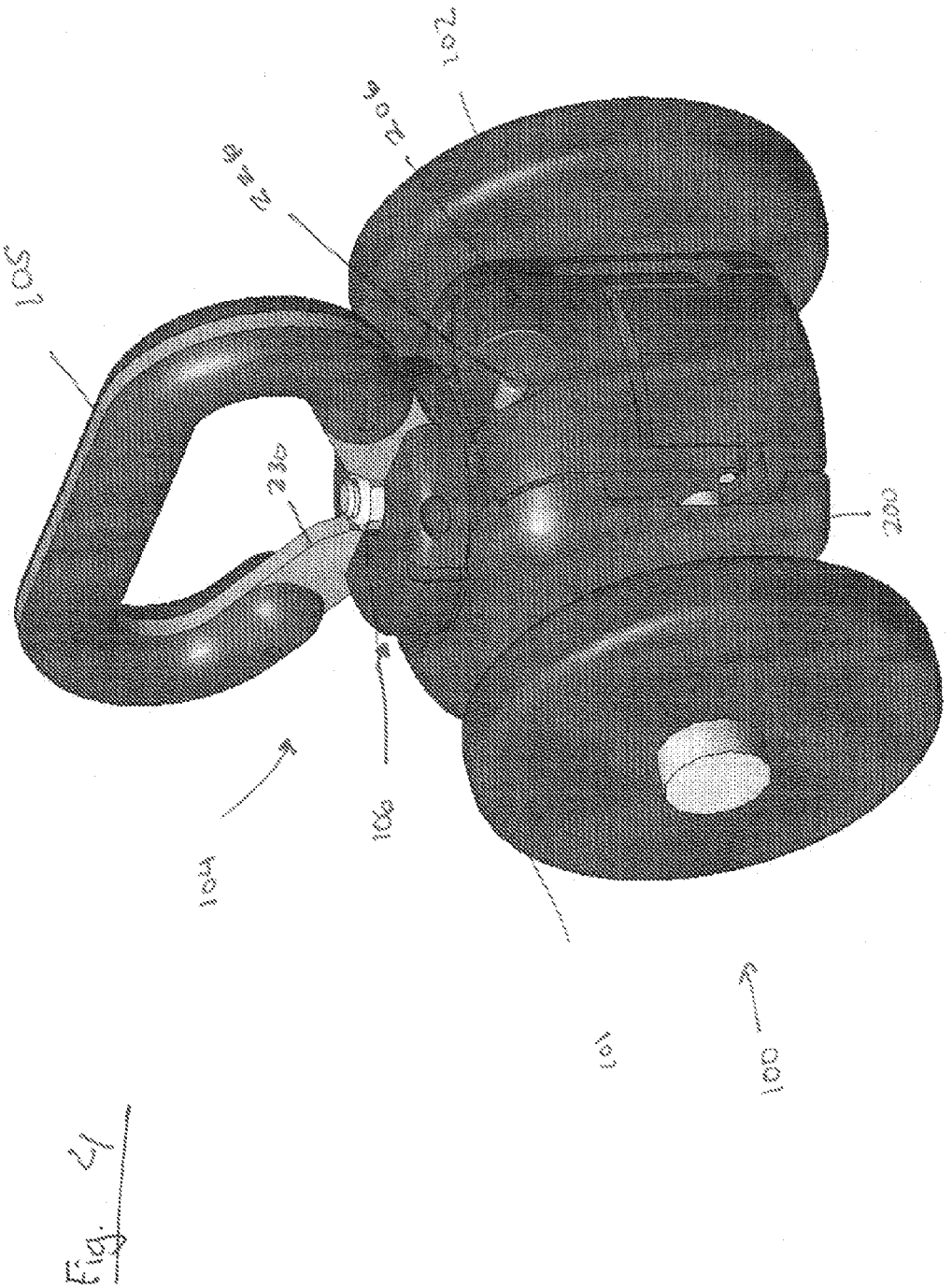


Fig. 1

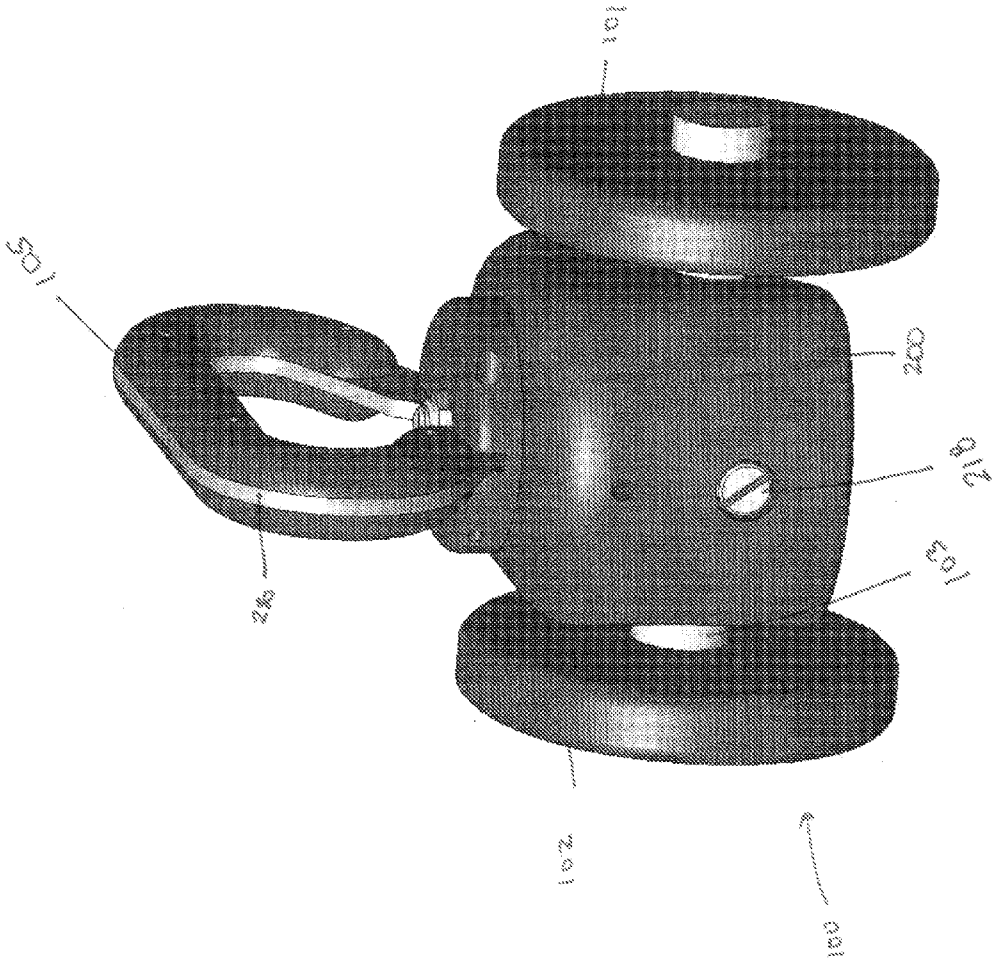


Fig. 5

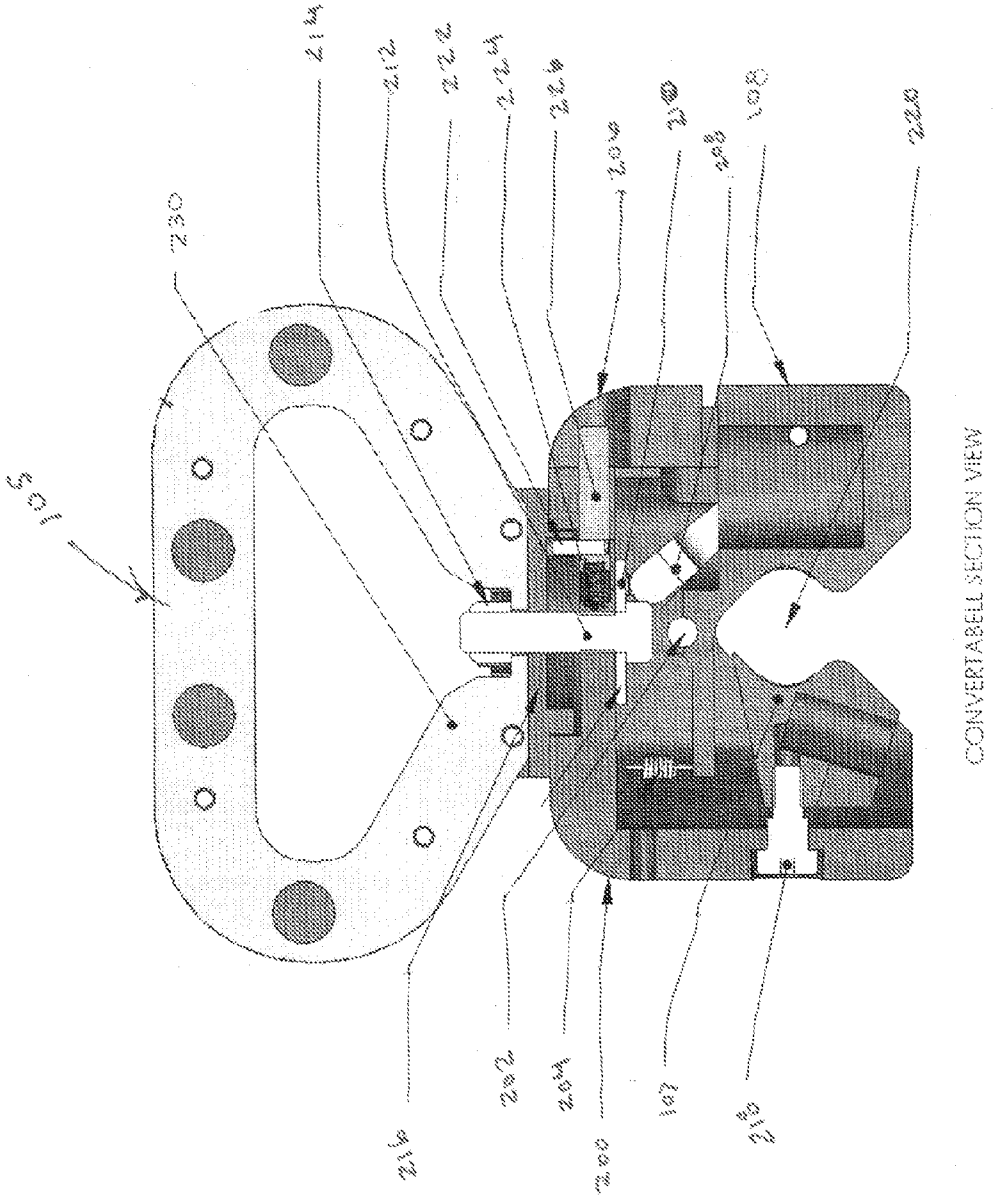


Fig. 6

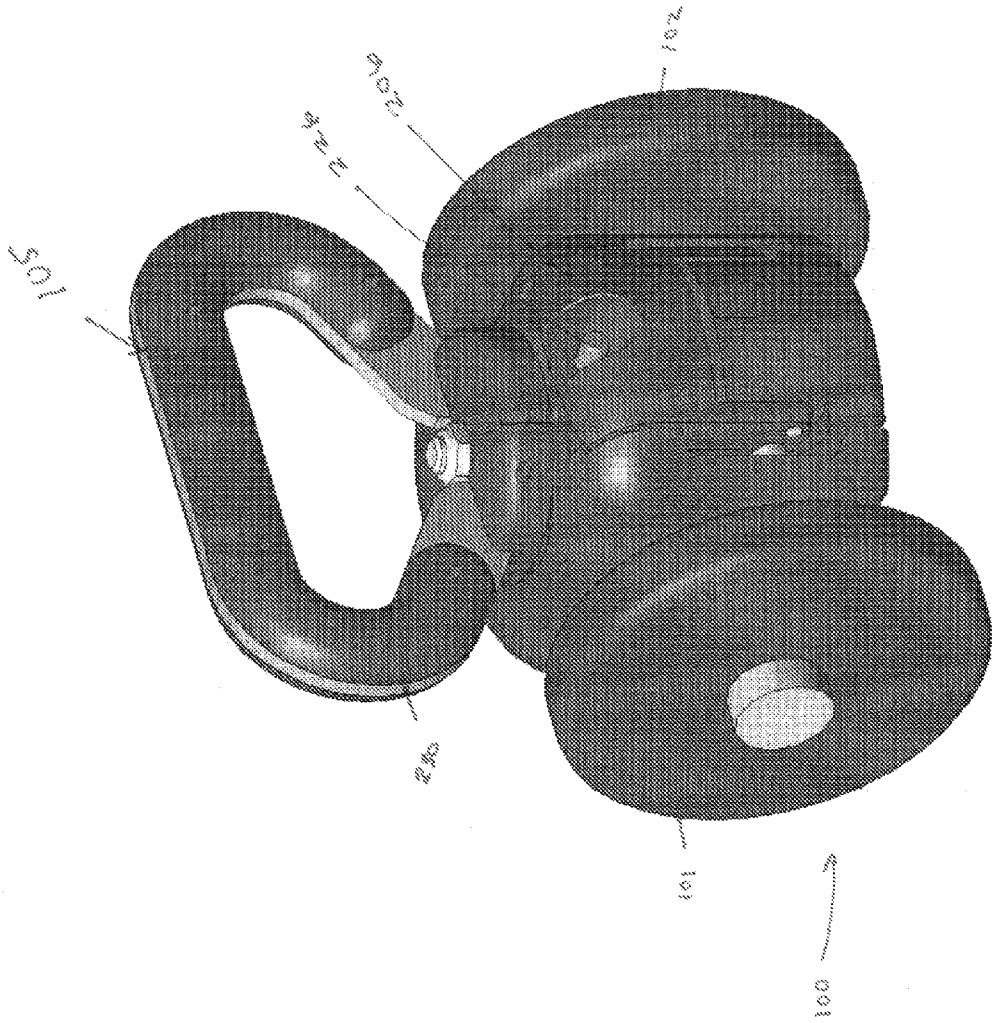


FIG. 5

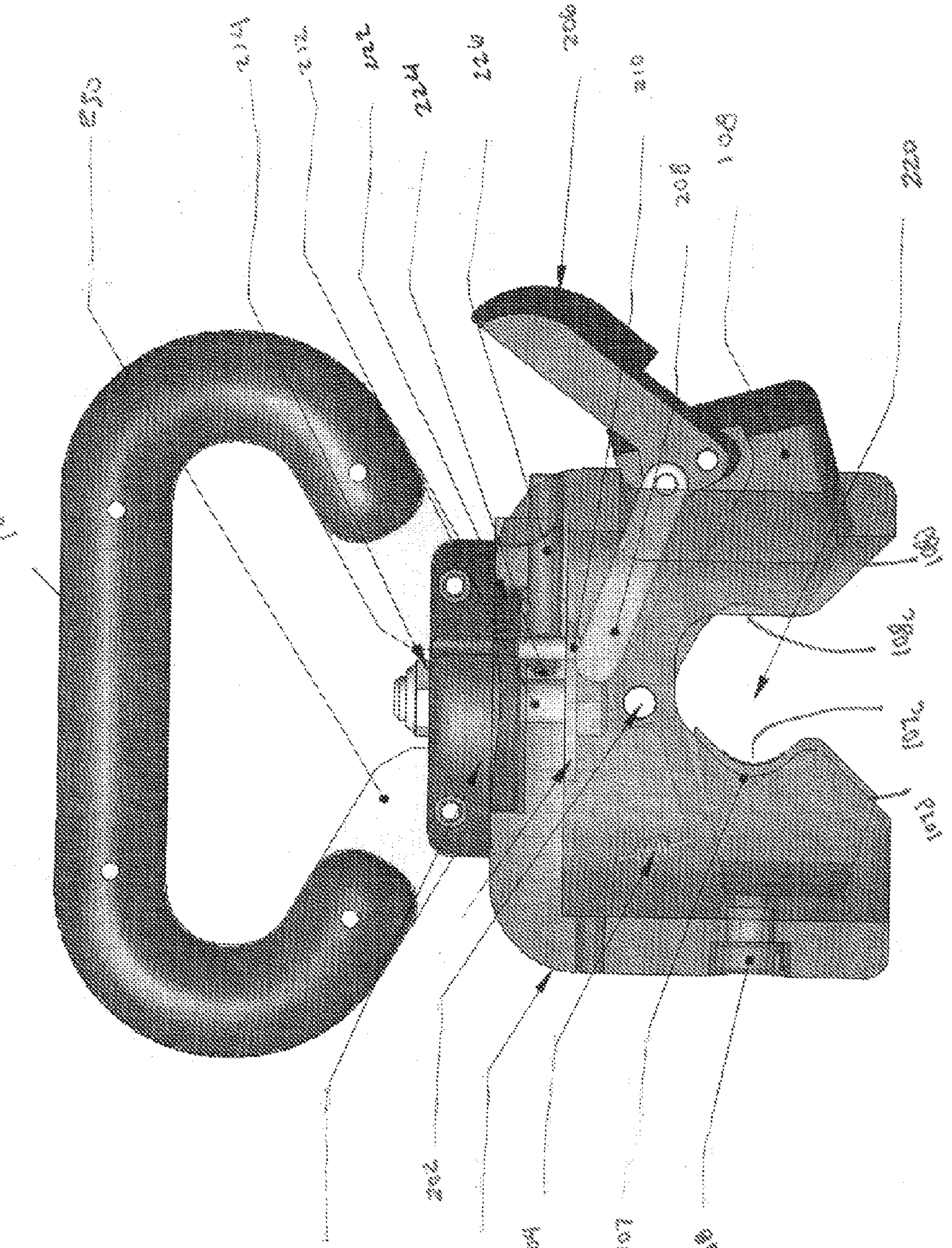


Fig. 8

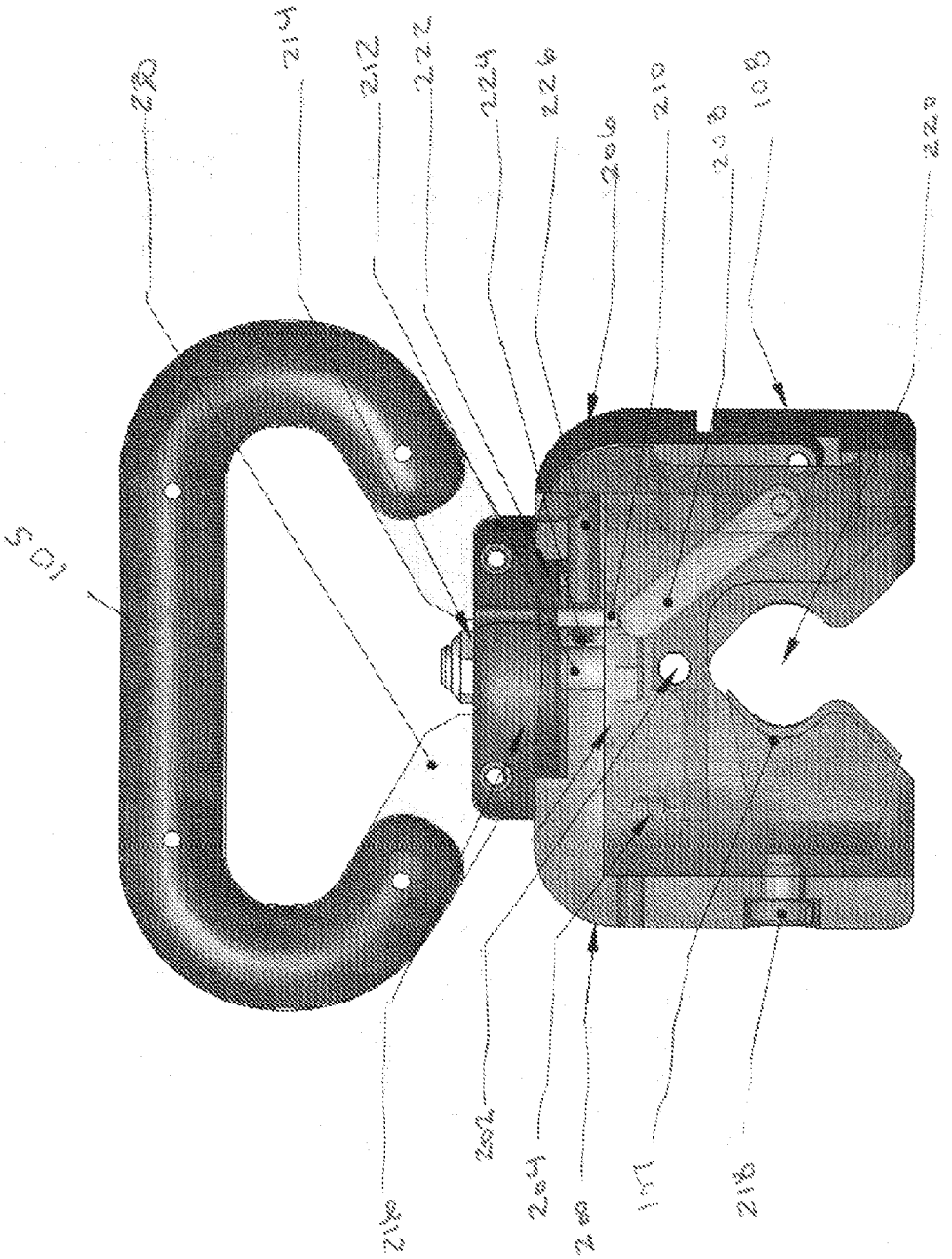


Fig. 9

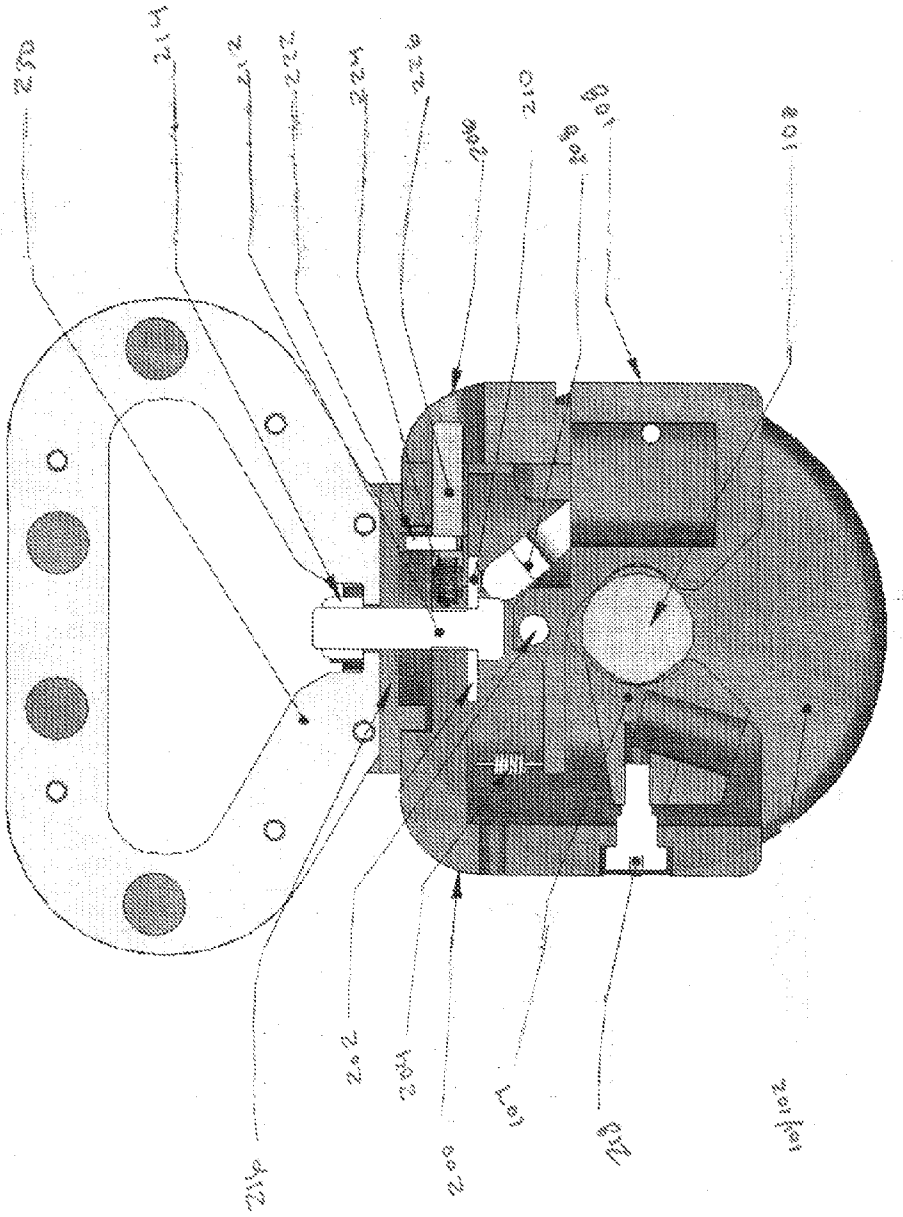


Fig. 10

COMBINATION KETTLE BELL AND DUMBBELL

[0001] This application is a continuation in part of application Ser. No. 12/455,158, filed Jun. 1, 2009, which claims priority from Provisional application Ser. No. 61/133,704, filed Jun. 26, 2008 and Ser. No. 60/936,501, filed Jun. 19, 2007.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to handle attachments as disclosed herein to an existing dumbbell, to create a new type of dumbbell with handle structure improving over what is referred to as a kettlebell, (or) a new structural design over dumbbell altogether that will function both as a dumbbell and also what is referred to herein as a kettlebell.

[0003] There is need for improvements in handle supported dumbbell structures facilitating their use and enhancement in connection with exercising, and also in design configurations enhancing safety.

SUMMARY OF THE INVENTION

[0004] It is a major object of the invention to provide improvements as referred to. Basically, the invention is embodied in a handle for holding weight comprising an elongated handle bar and at least two jaw members capable of providing releasable connection to a weight, when the weight is present. The weight comprises a transverse connection or connections between two weights. The jaw members are capable of being locked, by a clamp mechanism, in a closed position while releasably connected to said transverse connection or connections.

[0005] In one embodiment, the means referred to comprises jaw members having two holders that embrace and grasp the connection or connections in response to relative pivoting of one or both of the members. Further, a spring loaded clamp arm may be provided functioning as an over the center latch to retain or lock the holders in the grasping position. Also, a spring or springs may be provided for urging the two members toward or apart from one another

[0006] Another object includes provision of tightenable joints at opposite ends of the bar whereby the angularity of the weights may be adjusted relative to the handle bar.

[0007] Another object includes a tightenable jaw adjustment to allow for different sizes of bars.

[0008] Further, the handle may be rotatable both locking into a rotated position and being freely rotatable.

[0009] These and other objects and advantages of the invention, as well as the details of an illustrative embodiment, will be more fully understood from the following specification and drawings, in which:

DRAWING DESCRIPTION

[0010] FIG. **1** as a perspective view of a clam-shell type holder connectable to an arm between two weights;

[0011] FIG. **2** is a frontal view of the FIG. **10** device; showing a torsion spring;

[0012] FIG. **3** is an end view taken on lines **12-12** of FIG. **11**;

[0013] FIG. **4** is another perspective view of a clam-shell type holder connectable to an arm between two weights;

[0014] FIG. **5** is another perspective view of the holder of FIG. **4**;

[0015] FIG. **6** is a section view of the holder of FIGS. **4** & **5**;

[0016] FIG. **7** is a perspective view of the holder of FIG. **4** with the handle rotated;

[0017] FIG. **8** is a section view of the holder of FIGS. **4** and **5** with the clamp arm released;

[0018] FIG. **9** is a transparent view of the holder of FIGS. **4** and **5**; and

[0019] FIG. **10** is the same view as FIG. **9** but also showing the dumbbell in place.

DETAILED DESCRIPTION

[0020] The contents of application Ser. No. 12/455,158 are incorporated by reference herein. FIG. **1** is a perspective view of a design for a dumbbell that will function both as a standard dumbbell, and also as what is commonly referred to as a Kettlebell. In FIGS. **1-3**, a dumbbell is shown at **100**, with weights **101** and **102** at opposite ends of connection rod **103**. The support structure **104** includes a transversely elongated handle bar **105** supporting means **106** associated with the connection or connections **103** that provides releasable connection to the weights. The cross sectional shape of the upper handle **105** may be straight, curved, square, rectangular, triangular or of other shape. The width of the handle between divergent arms **109**, **110** may be sized to accommodate a variety of hand sizes and user applications. The width may be wide enough to accommodate two hands side by side holding the handle simultaneously. The diameter of the handle may be sized to accommodate a variety of manual grip sizes. The height of the handle away from the dumbbell axis may be of height, and substantial, so as to accommodate different uses or applications, as for example hand gripping of either arm **109**, **110**. Handle and arm corners may then be fileted. The handle attachment may be made of metal, plastic, leather, synthetic material or some other strong, lightweight material. The shape of the handle attachment may be straight, curved, square, rectangular, triangular or of some other shape to best match or accommodate to the shape and weight position of the dumbbell being attached to.

[0021] As shown, such means **106** comprises two clam-shell members **107** and **108** operatively pivotably connected, as at **107***a* and **108***a* to the bar **105**, as via angled arms **109** and **110**. The lower ends of those arms are pivotally connected to spaced apart lugs **107***b* and **108***b* projecting upwardly from the members **107** and **108**.

[0022] The members **107** and **108** have two holders **107***c* and **108***c* that embrace and grasp the connection rod **103** in response to relative pivoting of one or both of the members, as about transverse pivot axis **130**. When the members pivot away from the rod **103**, the rod and the weights are released.

[0023] There are angled cam surfaces **107***d* and **108***d* on the two members, to engage rod **103** and effect the described relative pivoting i.e. spreading of the clam-shell members, (see arrows **112**) in response to downward displacement of the members toward the rod **103**, as in its broken line position **103***d* in FIG. **12**. After the rod enters the zone **114** between the members, the latter pivot back toward one another, as shown in FIGS. **10** and **12**, to grasp and hold the rod **103**, for dumbbell use.

[0024] These views demonstrate how the handle may easily attach to an existing dumbbell, as by a hinge with a locking/tightening system that wraps around and locks the existing

dumbbell handle inside of clasps. A torsion spring **115** is provided and located to yieldably urge the members toward their positions as seen in FIGS. **10** and **12**. That spring is shown as having ends **115***a* and **115***b* attached to the lugs, to resist lug pivoting with the members. The spring locks the members in rod grasping position, as shown in FIGS. **10** and **12**. A positive safety lock may be provided, as shown at **120** in FIG. **12**, in the form of a link **123** pivoted to member **107**, and having a turned end **123***a* that fits down over a pin **124** on member **108**.

[0025] This torsion spring system may also squeeze the dumbbell handle, forming a tight grip, or it may permit the dumbbell handle to rotate, depending on the application and size of the dumbbell handle. The transverse width of the hinge/locking system may be such as to accommodate to an existing dumbbell handle. It may incorporate a single hinge/lock or more than one hinge/lock. The safety locking system may be comprised of a clamp, screw, hook, clasp, push pin, Velcro, strap, buckle, or a combination thereof. The handle unit may be comprised of a single attachment located at the center of the dumbbell bar, or two separate attachments with hinges that attach to the dumbbell at each end of the dumbbell bar. Handle unit designs will typically have safety clasps or locking clamps that help secure the handle to the bar of the dumbbell. Such safety clasps or locking clamps may be made of a secure, high strength material (i.e. Nylon webbing, Velcro, plastic, or metal). The handle, if rotatable, rotates through a pre-established range of motion, for example allowing the handle to rotate 180 degrees, such rotation would be such as to provide either free rotational movement throughout the complete range of motion, or it would provide specific positions in which to lock the handle, such as 0 degrees, 45 degrees, 90 degrees and 135 degrees. Handle rotation enables the user to perform a wider variety of exercises, with more applications, than either a stand alone dumbbell or kettlebell. FIG. **2** apparatus has a transverse connection or connections **103** between two weights; a transversely elongated handle or bar **105**; and means providing releasable connection or connections to the weights, as via releasable clasp structure **107**, **108**.

[0026] A slot or handle **126** on member **108** permits easy manual pulling of member **108** away from member **107**, disengaging the attachment of the clam-shell members to the dumbbell rod **103**.

[0027] In the figures the same reference numbers will be used herein for the same or similar features with the understanding that the description above applies to this embodiment, as well as the embodiments described below.

[0028] Referring now to FIGS. **4-10** showing a form of the apparatus, a dumbbell is shown at **100**, with weights **101** and **102** at opposite ends of connection rod **103**. The support structure **104** includes a transversely elongated handle bar **105** supporting means **106** associated with the connection or connections **103** that provides releasable connection or connections to the weights, as via releasable clasp structure. As shown, such means **106** comprises a main housing **200** and two jaw members **107** and **108** which are connected to the main housing **200**. In some embodiments, the adjustable jaw **107** can only translate in one direction (horizontal in FIG. **8**). The adjustable jaw **107** can move in this direction to accommodate different connection rod **103** diameters. Adjustable jaw **107** may be adjusted by an adjustment mechanism **218** accessible from outside the main housing **200**. Adjustment mechanism **218** may be any suitable mechanism which allows adjustable movement of adjustable jaw **107** to accommodate different connection rod **103** diameters. One such mechanism includes a screw. When such a screw is rotated the adjustable jaw **107** would also move.

[0029] The members **107** and **108** have two holders **107***c* and **108***c* that embrace and grasp the connection rod **103** in response to relative pivoting of one or both of the members, as about a transverse pivot axis, in this case pivot shaft **202**. When the member or members pivot away from the rod **103**, the rod and the weights are released. In some embodiments the sections of **107***c* and **108***c* below the rod **103** may overlap each other when the members **107**, **108** are in the closed position. However, in other embodiments, the sections of **107***c* and **108***c* below the rod **103** may only close enough to leave a gap smaller than the diameter of rod **103** when the members **107**, **108** are in the closed position.

[0030] There are angled cam surfaces **107***d* and **108***d* on the two members **107**, **108** to facilitate placement of the rod **103** into rod shaft **220**. To engage rod **103**, rod **103** must be placed in the rod shaft **220**. The pivoting jaw **108** of main housing **200** is operated by a clamp **206**. When clamp **206** is in the open position, as shown in FIG. **8**, pivoting jaw **108** pivots away from adjustable jaw **107**, which allows for the apparatus to be placed over rod **103** such that rod **103** is in rod shaft **220**. When the clamp **206** is in the open position it may rest in this open position because the clamp mechanism works like an over the center clamp. In the embodiment shown, only the pivoting jaw **108** moves when the clamp is opened and closed. One example of how the clamp mechanism may work is like that of a Vice Grip tool (alternatively known as an over the center clamp). The clamp **206** has a clamp arm **208** which is connected to the main housing **200** and a clamp arm adjustment mechanism **210**. The clamp arm **208** is approximately over the center of the rod shaft **220**. When the clamp **206** is pushed into the closed position the clamp arm **208** pivots and pushes the pivoting jaw **108** causing it to also pivot into the closed position. The pivoting jaw **108** has a pivoting jaw return spring **204** which functions to push the pivoting jaw **108** into the open position when the clamp **206** is opened. The clamp arm adjustment mechanism **210** may be used to adjust the closed position of the clamp arm **208** and therefore the closed position of the pivoting jaw **108**, in order to accommodate for different rod **103** diameters. By pushing the clamp **206**, the clamp can be placed in the closed position, as shown in FIG. **10**, locking the rod **103** and connected weights **101**, **102**, in place within the main housing **200**. When the clamp is in the closed position, because of the over the center clamp mechanism, the main housing remains locked closed so that no amount of weight placed on the connection rod **103** can force the jaws **107**, **108** into an open position, unlike mechanisms locked by torsion or tension springs which can be overcome at a particular weight.

[0031] The transverse width of the handle **105** is such as to accommodate a variety of hand sizes and user applications. Such width accommodates two hands holding the handle simultaneously. The shape of the handle attachment may be straight, curved, square, rectangular, triangular or of some other shape, to best match the shape of the dumbbell being attached to. The width of the handle itself may be such as to accommodate a variety of hand sizes and user applications, for example to accommodate two hands holding the handle simultaneously. The diameter of the handle may be small, medium, large or extra large to accommodate a variety of grip sizes. The height of the handle may be of different heights so

as to accommodate different applications. The handle may also incorporate a rotating configuration allowing the handle to rotate through a pre-established range of motion, such as 180 degrees, and the rotation provides either free rotational movement throughout the complete range of motion, or rotate to specific positions, to lock the handle, such as 0 degrees, 45 degrees, 90 degrees and 135 degrees. The rotating handle enables the user to perform a wider variety of exercises with more applications than either a stand alone dumbbell or kettlebell. The rotating configuration may include a rotation plate **216** (or turret) between said handle and said main housing **200**. The rotation plate may have a number of slots, indents, tabs, protrusions, or other features that could interact with a pin or button to engage and disengage the rotation mechanism. In one embodiment the rotation plate has indents. A handle rotation locking pin **222** is pushed into these indents by a locking pin return spring **224**, holding the handle in the current rotation position. A handle rotation release button **226** is connected to the handle rotation locking pin **222**. Pushing the handle rotations release button **226** moves the handle rotation locking pin **222** allowing the handle to rotate until another indent is reached. The handle rotation plate may have any number of indents placed. For example the handle rotation plate may have one indent placed to lock the handle at 90 degrees and leave the rest of the plate and 270 degrees of motion without indents. This allows for the user to lock in two positions and also allows the user to have the kettlebell have a free range of rotation motion for other exercises.

[0032] Main housing **200** is connected to handle **105** by handle bolt **212** and handle lock nut **214**. The main housing **200** and handle **105** may also be integral. The main housing **200** and handle **105** may also be attached using screws. Further, the handle **105** may be attached by any other fastening method. Handle **105** may be made of many suitable materials such as metal, plastic, rubber, or any combination thereof. Handle **105** can include a core or center strip **230** made of a material better suited to support the weight associates with weights **101**, **102**. Such materials can include metal such as aluminum.

We claim:

1. A handle for holding weight comprising;

an elongated handle bar;

at least two jaw members capable of providing releasable connection to a weight, when said weight is present, said weight comprising a transverse connection or connections between two weights; and

said at least two jaw members capable of being locked, by a clamp mechanism, in a closed position while releasably connected to said transverse connection or connections.

2. The structure of claim **1** wherein said bar has manually graspable length exceeding 6 inches.

3. The structure of claim **1** wherein said jaw members include pivotable joints.

4. The structure of claim **1** wherein said at least two jaw members having two holders that embrace and grasp said connection or connections in response to relative pivoting of one or both of said jaw members.

5. The structure of claim **4** wherein said clamp mechanism comprises a clamp arm and a clamp lever wherein said clamp lever is used to operate the clamp such that when said clamp lever is placed in the closed position it moves the clamp arm such that it pivots at least one of said jaw members to embrace and grasp said connection or connections.

6. The structure of claim **5** wherein said at least one of said jaw members pivoted by said clamp mechanism further comprises a spring which operates to return said jaw to an open position when said clamp mechanism is in an open position.

7. The structure of claim **1** wherein said clamp mechanism prevents said jaw members from separating or releasing said releasable connection to said weight when in said closed position.

8. The structure of claim **1** wherein said handle is capable of being rotated.

9. The structure of claim **1** wherein said closed position of said jaw members can be adjusted.

* * * * *