



US 20220054879A1

(19) **United States**

(12) **Patent Application Publication**  
**Zhang**

(10) **Pub. No.: US 2022/0054879 A1**

(43) **Pub. Date: Feb. 24, 2022**

(54) **ADJUSTABLE DUMBBELL**

(71) Applicant: **Jianguang Zhang**, Los Angeles, CA  
(US)

(72) Inventor: **Jianguang Zhang**, Los Angeles, CA  
(US)

(21) Appl. No.: **16/996,660**

(22) Filed: **Aug. 18, 2020**

**Publication Classification**

(51) **Int. Cl.**

**A63B 21/075** (2006.01)

**A63B 21/072** (2006.01)

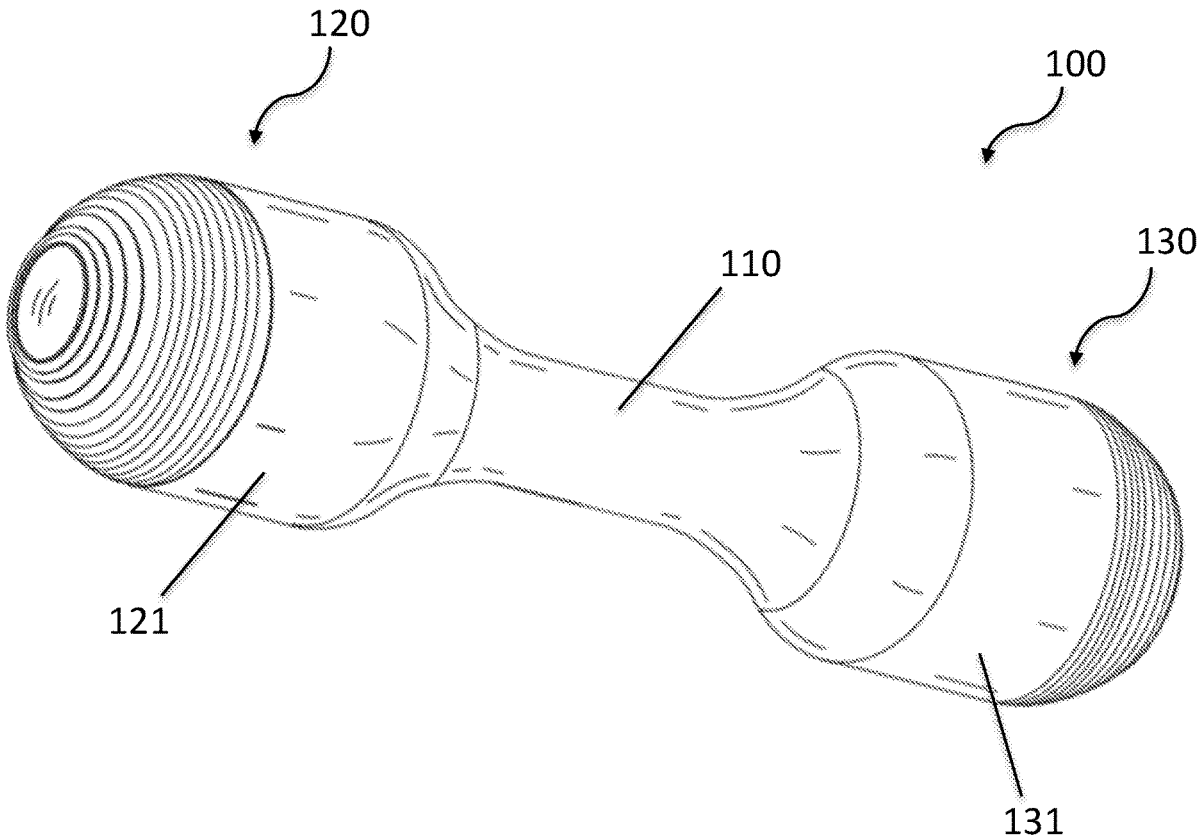
(52) **U.S. Cl.**

CPC ..... **A63B 21/075** (2013.01); **A63B 21/0728**  
(2013.01); **A63B 21/0726** (2013.01)

(57)

**ABSTRACT**

A dumbbell may include a handle, a first weighted portion and a second weighted portion, wherein the first weighted portion and the second weighted portion are located at two opposite ends of the handle. In one embodiment, the first weighted portion has a cover and a receiving space, and the receiving space has a center receiving hole and a plurality of surrounding receiving holes, each of which is configured to receive an elongated center weighted unit and one or more surrounding weighted units. Likewise, the second weighted portion has a cover and a receiving space having a center receiving hole and a plurality of surrounding receiving holes that can be used to receive each of the center and surrounding elongated weighted units. In one embodiment, the cover can be threadably engaged with the outer peripheries of the first and second weighted portions.



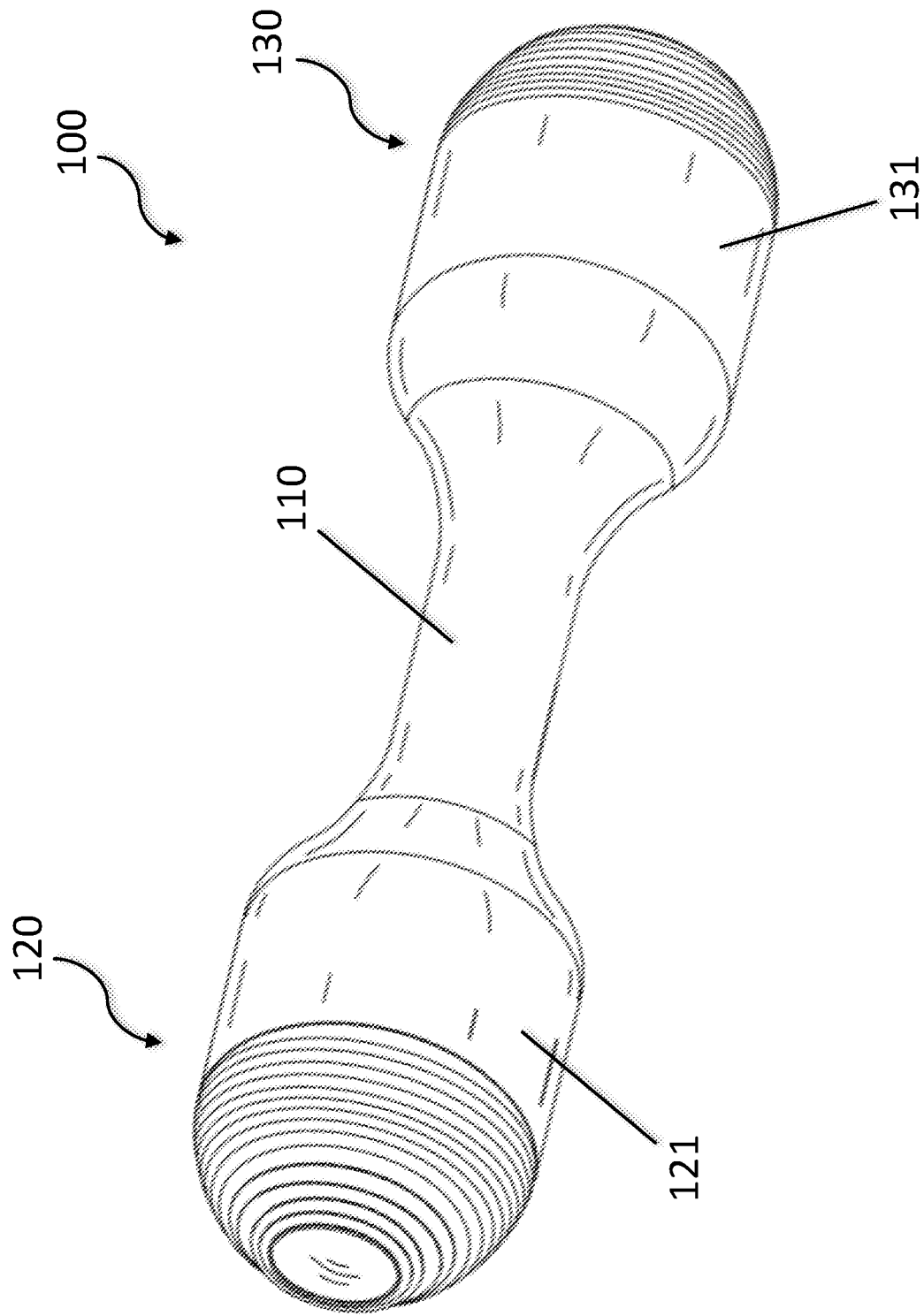


FIG. 1

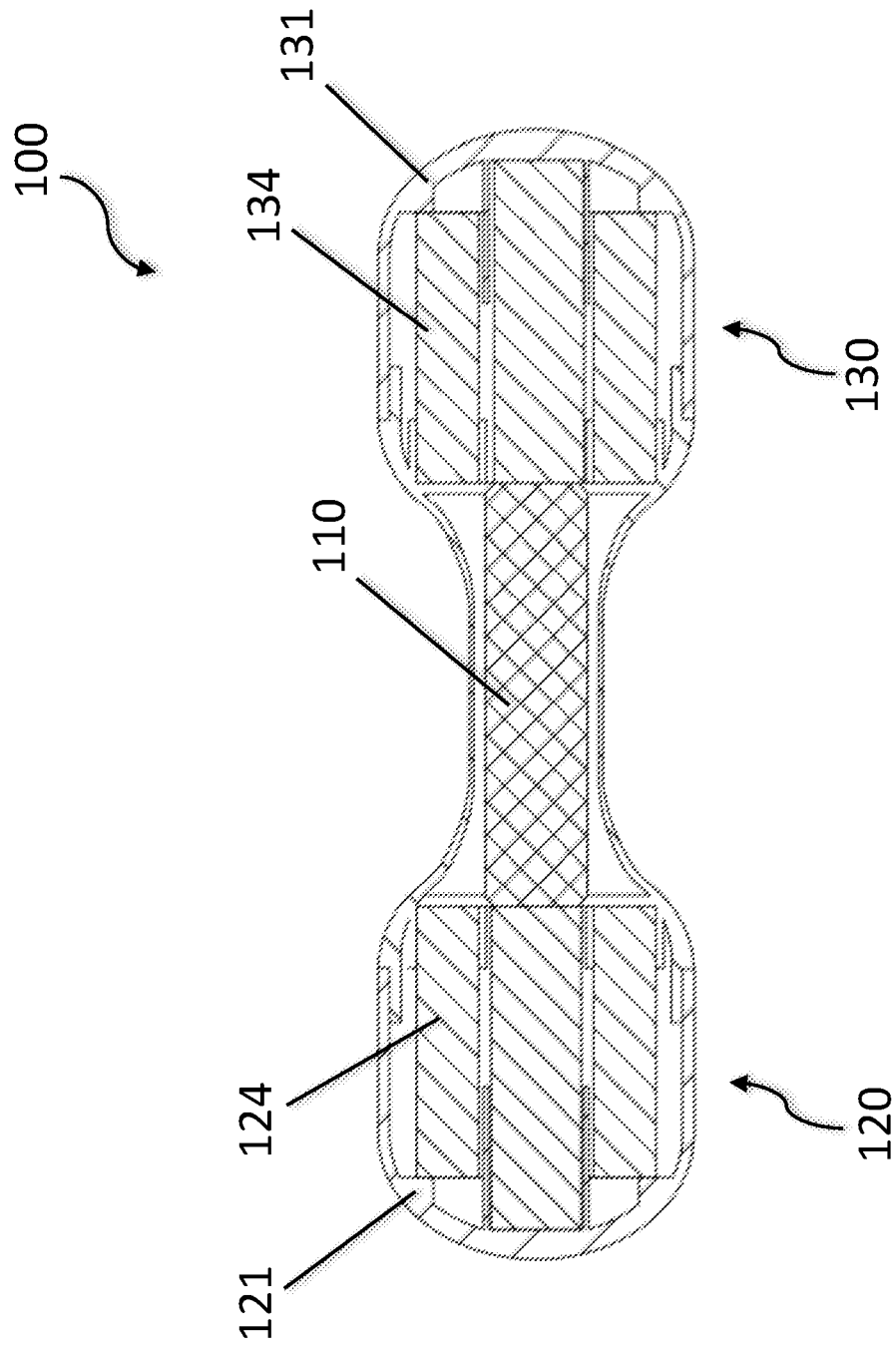


FIG. 2

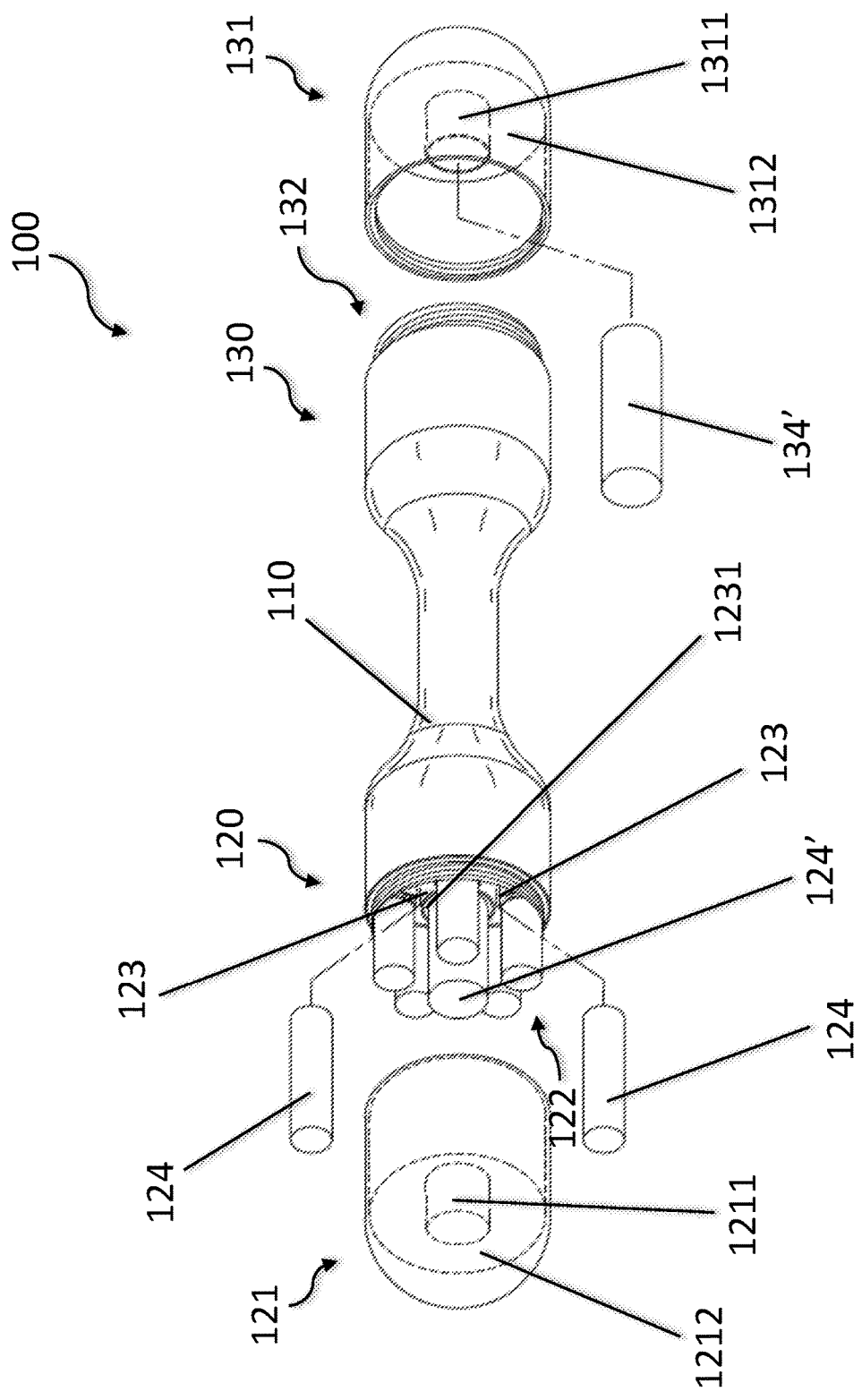


FIG. 3

## ADJUSTABLE DUMBBELL

### FIELD OF THE INVENTION

**[0001]** The present invention relates to an exercise device, and more particularly to an adjustable dumbbell that the user can easily adjust the weight of the dumbbell while exercising.

### BACKGROUND OF THE INVENTION

**[0002]** Several appliances for home or indoor gymnastics have been developed. Among various exercising appliances, dumbbell is one of the most common and economic devices used in exercising the arms. Conventionally, a dumbbell has round weights joined by a short bar, by which it is lifted or swung about in the hand for muscular exercise. This structure of dumbbell has a fixed total weight once it is made. Therefore, different scale of dumbbell shall be used for different volume of training. Furthermore, when a dumbbell drops to the floor or ground, the floor or ground may be damaged by the round weights of the dumbbell easily.

**[0003]** There are also disclosed several adjustable dumbbells which can be adjusted to increase or reduce the total weight according to a user's physical condition. One of the adjustable dumbbells generally includes a short bar having a plurality of pin holes symmetrically disposed at two opposite ends for releasably fastening different pairs of round weights by lock pins. The common disadvantage of this adjustable dumbbell is that the round weights may oscillate during exercising, causing balancing problem. Another disadvantage of this adjustable dumbbell is that the pins may be broken easily causing the round weights to drop from the short bar, and therefore, exercising accident may happen easily. Further, increase the total weight of a dumbbell simultaneously increase the total size of the dumbbell to make exercising difficult.

**[0004]** U.S. Pat. No. 6,656,093 to Chen discloses a further typical dumbbell comprising a handle which can be grasped or held by the user, a number of weight plates to be attached onto the ends of the handle for exercising or training the arms or the feet of the user, and a latch attached onto the end of the handle and/or the weighted plates for selectively or adjustably mounting or securing the weighted plates on the ends of the handle.

**[0005]** However, the latch may not be easily or quickly assembled onto the handle or the weighted plates such that the typical adjustable dumbbell may not be easily or quickly assembled or manufactured. Therefore, there remains a need for a new and improved dumbbell to overcome the problems stated above.

### SUMMARY OF THE INVENTION

**[0006]** In one aspect, a dumbbell may include a handle, a first weighted portion and a second weighted portion, wherein the first weighted portion and the second weighted portion are located at two opposite ends of the handle. It is noted that the first and second weighted portions are identical and symmetrically disposed at the opposite ends of the handle. The detailed description of the weighted portion on one side can be applied on the side.

**[0007]** In one embodiment, the first weighted portion has a cover and a receiving space, and the receiving space has a center receiving hole and a plurality of surrounding receiving holes, each of which is configured to receive an

elongated center weighted unit and one or more weighted units. Likewise, the second weighted portion has a cover and a receiving space having a center receiving hole and a plurality of surrounding receiving holes that can be used to receive each of the center and surrounding elongated weighted units. In one embodiment, the cover can be threadedly engaged with the outer peripheries of the first and second weighted portions.

**[0008]** In another embodiment, the center weighted unit may have greater weight than the surrounding weighted units. In other embodiments, each surrounding weighted unit may have different weights, and the dumbbell itself may have certain weight without the weight units. When in use, the user may have certain numbers of the weighted units and on each side, and the cover is configured to cover the receiving space by threadedly engaging with the outer peripheries of the first/second weighted portions to prevent the weighted units from moving or falling out while the user is exercising. It is noted that the weight on each side of the first and second weighted portions and is usually the same to keep the balance of the dumbbell, however under some special training circumstances, the weight on each side might be different.

**[0009]** When the user wants to adjust the weight of the dumbbell, he/she can first remove the cover from the first/second weighted portions, add or remove the weighted units in the receiving space to adjust the weight of the dumbbell, and put the cover back again to the first/second weighted portions. It is noted that one end of the center weighted unit is received in a center receiving hole in the receiving space, and the other end thereof is received in a cover receiving space to further secure the center weighted unit. The surrounding weighted units are arranged in a circular manner surrounding the center weighted unit, corresponding to the arrangement of the center receiving hole and surrounding receiving holes. It is also noted that one end of each of the surrounding weighted units is received in the receiving hole, and the other end thereof is received in a circular receiving area in the cover. The arrangement of the weighted units on the first weighted portion is identical to that on the second weighted portion.

### BRIEF DESCRIPTION OF THE DRAWINGS

**[0010]** FIG. 1 is a schematic view of the adjustable dumbbell in the present invention.

**[0011]** FIG. 2 illustrates a cross-sectional view of the adjustable dumbbell in the present invention.

**[0012]** FIG. 3 illustrates a partial exploded view of the adjustable dumbbell in the present invention.

### DETAILED DESCRIPTION OF THE INVENTION

**[0013]** The detailed description set forth below is intended as a description of the presently exemplary device provided in accordance with aspects of the present invention and is not intended to represent the only forms in which the present invention may be prepared or utilized. It is to be understood, rather, that the same or equivalent functions and components may be accomplished by different embodiments that are also intended to be encompassed within the spirit and scope of the invention.

**[0014]** Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly

understood to one of ordinary skill in the art to which this invention belongs. Although any methods, devices and materials similar or equivalent to those described can be used in the practice or testing of the invention, the exemplary methods, devices and materials are now described.

**[0015]** All publications mentioned are incorporated by reference for the purpose of describing and disclosing, for example, the designs and methodologies that are described in the publications that might be used in connection with the presently described invention. The publications listed or discussed above, below and throughout the text are provided solely for their disclosure prior to the filing date of the present application. Nothing herein is to be construed as an admission that the inventors are not entitled to antedate such disclosure by virtue of prior invention.

**[0016]** As used in the description herein and throughout the claims that follow, the meaning of “a”, “an”, and “the” includes reference to the plural unless the context clearly dictates otherwise. Also, as used in the description herein and throughout the claims that follow, the terms “comprise or comprising”, “include or including”, “have or having”, “contain or containing” and the like are to be understood to be open-ended, i.e., to mean including but not limited to. As used in the description herein and throughout the claims that follow, the meaning of “in” includes “in” and “on” unless the context clearly dictates otherwise.

**[0017]** It will be understood that, although the terms first, second, etc. may be used herein to describe various elements, these elements should not be limited by these terms. These terms are only used to distinguish one element from another. For example, a first element could be termed a second element, and, similarly, a second element could be termed a first element, without departing from the scope of the embodiments. As used herein, the term “and/or” includes any and all combinations of one or more of the associated listed items.

**[0018]** In one aspect, as shown in FIGS. 1 to 3, a dumbbell 100 may include a handle 110, a first weighted portion 120 and a second weighted portion 130, wherein the first weighted portion 120 and the second weighted portion 130 are located at two opposite ends of the handle 110. It is noted that the first and second weighted portions 110 and 120 are identical and symmetrically disposed at the opposite ends of the handle 110. The detailed description of the weighted portion on one side can be applied on the side.

**[0019]** In one embodiment, the first weighted portion 120 has a cover 121 and a receiving space 122, and the receiving space 122 has a center receiving hole 123' and a plurality of surrounding receiving holes 123, each of which is configured to receive an elongated center weighted unit 124' and one or more surrounding weighted units 124. Likewise, the second weighted portion 130 has a cover 131 and a receiving space 132 having a center receiving hole and a plurality of surrounding receiving holes (not shown) that can be used to receive each of the center 134' and surrounding elongated weighted units (not shown). In one embodiment, the cover 121/131 can be threadedly engaged with the outer peripheries of the first/second weighted portions 120/130.

**[0020]** In another embodiment, the center weighted unit 124'/134' may have greater weight than the surrounding weighted units 124/134. In other embodiments, each surrounding weighted unit 124/134 may have different weights, and the dumbbell 100 itself may have certain weight without the weight units. When in use, the user may have certain

numbers of the weighted units 124'/134' and 124/134 on each side, and the cover 121/131 is configured to cover the receiving space 122/132 by threadedly engaging with the outer peripheries of the first/second weighted portions 120/130 to prevent the weighted units from moving or falling out while the user is exercising. It is noted that the weight on each side of the first and second weighted portions 110 and 120 is usually the same to keep the balance of the dumbbell 100, however under some special training circumstances, the weight on each side might be different.

**[0021]** When the user wants to adjust the weight of the dumbbell 100, he/she can first remove the cover 121/131 from the first/second weighted portions 120/130, add or remove the weighted units (124'/134', 124/134) in the receiving space 122/132 to adjust the weight of the dumbbell 100, and put the cover 121/131 back again to the first/second weighted portions 120/130. It is noted that, as shown in FIG. 3, one end of the center weighted unit 124' is removably received in a center receiving hole 123' in the receiving space 122, and the other end thereof is removably received in a cover receiving space 1211 to further secure the center weighted unit 124'. The surrounding weighted units 124 are arranged in a circular manner surrounding the center weighted unit 124', corresponding to the arrangement of the center receiving hole 123' and surrounding receiving holes 123. It is also noted that one end of each of the surrounding weighted units 124 is removably received in the receiving hole 123, and the other end thereof is removably received in a circular receiving area 1212 in the cover 121. The arrangement of the weighted units (124', 124) on the first weighted portion 120 is identical to that on the second weighted portion 130.

**[0022]** Having described the invention by the description and illustrations above, it should be understood that these are exemplary of the invention and are not to be considered as limiting. Accordingly, the invention is not to be considered as limited by the foregoing description, but includes any equivalent.

What is claimed is:

1. A dumbbell comprising a handle, a first weighted portion and a second weighted portion, and the first weighted portion and the second weighted portion are located at two opposite ends of the handle,

wherein the first weighted portion has a cover and a receiving space, and the receiving space has a center receiving hole and a plurality of surrounding receiving holes; said center receiving hole is configured to receive an elongated center weighted unit and the surrounding receiving holes are configured to receive one or more surrounding weighted units;

wherein the second weighted portion has a cover and a receiving space, and the receiving space has a center receiving hole and a plurality of surrounding receiving holes; said center receiving hole is configured to receive an elongated center weighted unit and the surrounding receiving holes are configured to receive one or more surrounding weighted units, and the weight of the dumbbell can be adjusted by adding or removing the weighted units.

2. The dumbbell of claim 1, wherein the cover is threadedly engaged with an outer peripheries of each of the first and second weighted portions.

3. The dumbbell of claim 1, wherein the center weighted unit is heavier than the surrounding weighted units.

4. The dumbbell of claim 1, wherein each of the surrounding weighted units may have different weights.

5. The dumbbell of claim 1, wherein one end of the center weighted unit is removably received in a center receiving hole in the receiving space, and the other end thereof is removably received in a cover receiving space to further secure the center weighted unit.

6. The dumbbell of claim 1, wherein the surrounding weighted units are arranged in a circular manner surrounding the center weighted unit, corresponding to the arrangement of the center receiving hole and surrounding receiving holes.

7. The dumbbell of claim 1, wherein one end of each of the surrounding weighted units is removably received in the receiving hole, and the other end thereof is removably received in a circular receiving area in the cover.

8. The dumbbell of claim 6, wherein one end of each of the surrounding weighted units is removably received in the receiving hole, and the other end thereof is removably received in a circular receiving area in the cover.

\* \* \* \* \*