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1 **WEIGHT PLATE**

2 **CROSS REFERENCE TO RELATED APPLICATIONS**

3 **[0001]** The present application claims priority under the Paris Convention to US
4 Application Number 61/655,247, filed June 4, 2012, the entire contents of which are
5 incorporated herein by reference.

6 **FIELD OF THE INVENTION**

7 **[0002]** The present invention relates to exercise equipment and, specifically, weight
8 training equipment. In particular, the invention relates to a device that is configured for use
9 as both a weight plate and a kettlebell.

10 **BACKGROUND OF THE INVENTION**

11 **[0003]** In the field of weight training, various types of equipment are known for offering
12 the required resistance for strengthening muscles. Ubiquitous in gymnasias are weight plates
13 that are configured to be mounted on bars. Such plates are generally annular-shaped
14 objects comprising a disc having a central aperture for receiving the bar. Typically, weight
15 plates are provided on opposite ends of the bar and the plates are then preferably locked in
16 position with clamps or collars and the like. The combination of a bar and the associated
17 weights is commonly referred to as a barbell. Weight plates are typically provided according
18 to pre-set weights, allowing the user to select the desired combination of weight plates for
19 performing the desired exercise. Although weight plates have been known for many
20 decades, various improved versions continue to be proposed as exemplified by, for example,
21 US Patent numbers 6,702,723 and 7,704,196. Due to their disc shaped structure, weight
22 plates are usually mounted on a rack for storage, wherein the central aperture of the plates
23 is positioned over a hook provided on the rack.

24 **[0004]** Although weight plates may be used with a bar to form a barbell, as described
25 above, it is also known to use one or more plates without a bar for performing certain
26 resistance exercises. For example, a chain, rope or other such tethering device may be
27 connected through the central aperture of the weight plate, thus allowing the weight to be
28 lifted, pulled or dragged by the user as needed.

29 **[0005]** In addition to the well known weight plates, another type of resistance training
30 equipment that has also become common is the "kettlebell". Although kettlebells may be

provided in various shapes, they generally comprise a weight having a flat base portion and a handle at the opposite end thereof. The body of a kettlebell is generally round; however, other shapes are also known. In use, a user would typically grasp the handle of the kettlebell and perform lifting exercises such as dead lifts and the like. The flat base of the kettlebell allows the device to stand on a surface when not in use or between lifting procedures. As with weight plates, kettlebells have also been known for many decades. Nevertheless, various improvements have been proposed for this device as well, such as those taught in US Patent numbers 7,811,212 and 7,883,452.

[0006] Both weight plates and kettlebells offer unique advantages for resistance training since they allow a user to perform different types of exercises. For example, some strength training exercises that can be performed with kettlebells generally cannot be performed with weight plates and vice versa. However, due to space restrictions, gymnasiums usually provide only one of such equipment.

[0007] There exists a need for an improved device that provides the advantages of both a weight plate and a kettlebell.

SUMMARY OF THE INVENTION

[0008] In one aspect, the present invention provides an exercise device that combines features of both a weight plate and a kettlebell.

[0009] Thus, in one aspect, the invention provides a weight plate comprising: front and rear surfaces and top and bottom ends; an aperture extending between the front and rear surfaces; the top end of the weight plate including a handle; and, the bottom end comprising a flat surface.

[0010] In one aspect, the weight plate may be hollow and adapted to be filled with a material to achieve a desired weight.

[0011] In another aspect, the invention provides an exercise kit comprising at least one pair of weight plates, each of said weight plates comprising:

- front and rear surfaces and top and bottom ends;
- an aperture extending between the front and rear surfaces; the top end of the weight plate including a handle; and,
- the bottom end comprising a flat surface.

1 **[0012]** In another embodiment, the kit may include a bar that is received within the
2 apertures of the weight plates. The kit may include a plurality of weight plate pairs, of the
3 same or different sizes. The kit may also include one pair of weight plates that are hollow
4 and adapted to be filled with a material to achieve a desired weight.

5 **BRIEF DESCRIPTION OF THE DRAWINGS**

6 **[0013]** The features of the invention will become more apparent in the following detailed
7 description in which reference is made to the appended drawings wherein:

8 **[0014]** Figure 1 is a perspective view of the weight plate according to an aspect of the
9 invention.

10 **[0015]** Figures 2 and 3 are front and rear elevations, respectively, of the weight plate
11 shown in Figure 1.

12 **[0016]** Figures 4 and 5 are left and right elevations, respectively, of the weight plate
13 shown in Figure 1.

14 **[0017]** Figures 6 and 7 are top and bottom views, respectively, of the weight plate shown
15 in Figure 1.

16 **DETAILED DESCRIPTION OF THE INVENTION**

17 **[0018]** The present invention will now be described using various terms that would be
18 understood by persons skilled in the art. Such persons would comprise individuals familiar
19 with weight training devices and exercises such as personal trainers, strength conditioning
20 coaches as well as experienced users of such devices.

21 **[0019]** In the following description, the term “weight plate” will be used to describe the
22 invention. Although, as discussed herein, the invention comprises a combination of features
23 from both weight plates and kettlebells, it will be understood that the invention will be
24 referred to herein as a “weight plate” for convenience. The use of such term is not intended
25 to limit the scope of the invention in any way.

26 **[0020]** The terms “top”, “bottom”, “front” and “rear” etc., may be used to describe the
27 invention. It will be understood that such terms are used for convenience to aid in describing
28 the invention as illustrated in the accompanying figures and are not intended to limit the
29 invention to any particular orientation.

1 **[0021]** The weight plate according to an aspect of the invention is illustrated generally at
2 10 in the accompanying figures. As shown, the weight plate 10 comprises a generally disc-
3 shaped object having front 12 and rear 14 surfaces, top and bottom ends and a thickness.
4 The weight plate of the invention also includes an aperture 16, extending through the front
5 12 to rear 14 surfaces, so as to provide the weight plate with a generally annular-like shape.
6 The aperture 16 may be generally centrally located on the weight plate 10 or, as described
7 further below may be eccentrically located at a position closer to the top end of the plate 10.

8 **[0022]** In a preferred embodiment, the front a rear surfaces, 12 and 14, of the weight
9 plate 10 are generally flat so as to give the plate 10 its disc- or plate-like structure.

10 **[0023]** The aperture 16 is provided to allow the weight plate 10 to be mounted on a bar
11 as described above. The aperture 16 may be of any diameter as known in the art. Typically,
12 the diameter of the aperture 16 would be sufficient to accommodate bars that are common
13 equipment in gymnasias. However, it will be understood that the aperture 16 may also be of
14 a size that is adapted to receive a bar of any given size, such as one that is sized to be only
15 used with the weight plates of the present invention. In one aspect, the aperture 16 may be
16 reinforced with a metal ring or the like (not shown) to account for excessive wear when used
17 with a bar.

18 **[0024]** As would be understood, the generally disc-shaped structure of the weight plate
19 10 and the provision of the aperture 16, allows the plate 10 to be used in the same manner
20 as known weight plates, as described above. That is, the weight plate 10 of the present
21 invention may be mounted on bar to form a barbell or mounted on a rack for storage.

22 **[0025]** The weight plate is also provided with a handle 18. In a preferred embodiment,
23 the handle 18 is integrally formed with or permanently connected to the body of the weight
24 plate 10. It will be understood that such an orientation allows the handle 18 to be more rigid
25 and therefore would permit the user to manipulate the weight plate 10 more efficiently.
26 However, as will be understood, the handle 18 may equally be detachable or moveable (i.e.
27 pivotal). As will be understood from the present description, the handle 18 serves the
28 purpose of allowing a user to lift the device and, therefore, any handle shape or orientation
29 that accomplishes such goal would be usable in the present invention.

30 **[0026]** The body of the weight plate 10 may preferably include indents or depressions 20
31 and 22 provided on one or both the front 12 and rear 14 surfaces thereof. The indents 20,
32 22 serve to facilitate the manipulation of the weight plate 10 during use and allowing the user

1 to more easily grasp the handle 18. It will be understood the indents 20 and 22 are optional
2 as they facilitate manipulation of the weight plate 10 and do not affect the operation of the
3 device.

4 **[0027]** In a preferred embodiment, the weight plate 10 is provided with curved, convex
5 sides 24 and 26. That is, the sides 24 and 26 are preferably curved outwardly in extending
6 between the top and bottom ends of the weight plate 10. This provides the weight plate 10
7 with the aforementioned generally disc-shaped appearance. The sides 24 and 26 are also
8 preferably convex in shape extending between the front 12 and rear 14 surfaces. The shape
9 of the sides 24, 26 is primarily aesthetic in nature and it will be understood that any other
10 shape or configuration may be possible. For example, in one embodiment, the sides 24 and
11 26 may be curved from the top to bottom ends of the weight plate 10 as described above but
12 may comprise flat ends instead of the above mentioned convex shape.

13 **[0028]** The weight plate 10 of the invention may be formed of any material. For
14 example, the weight plate 10 may comprise a forged or moulded metal such as steel or the
15 like. In this embodiment, the weight plate 10 may be made in a manner similar to known
16 weight plates. Such a forged or moulded structure would include the handle 18 as
17 mentioned above. The weight plate 10 may comprise a painted outer surface or may be
18 coated with any known material such as rubber, plastic etc.

19 **[0029]** In one aspect, the weight plate 10 of the invention may comprise a hollow
20 structure that can be filled with a material to provide the desired weight. For this purpose,
21 the weight plate may be provided with at least one fill port 28, preferable at or proximate to
22 the upper end thereof. The port 28 allows for the interior of the weight plate 10 to be filled
23 with any solid or liquid material such as water, sand, or any other material that can provide
24 the desired weight. To assist in calibrating the weight of the plate 10, the weight plate 10
25 would preferably include at least one window 30 or other such visual aid to view the material
26 being filled within the plate 10. In the embodiment illustrated in the accompanying figures,
27 the weight plate 10 is shown with one window 30; however it will be understood that any
28 number of windows may be provided at different locations over the surfaces of the weight
29 place, such as the front surface 12, rear surface 14, the sides 24 and 26, or any combination
30 thereof. In a preferred embodiment, the window or windows 30 may include suitable indicia
31 31 to indicate to the user the amount or volume of material contained in the weight plate 10
32 or the amount of material being poured into the weight plate 10 as it is being filled. Such
33 indicia may preferably be used to correlate the volume of the filling material with the overall

1 weight of the plate 10. It will be understood that different indicia may be used for different
2 filling material based on the density of the filling material. Thus, one indicia may be used
3 where water is the filling material and another indicia may be used where the filling material
4 is of a greater density, such as sand or metal (e.g. lead) pellets. In one embodiment, the
5 weight plate 10 may be provided with multiple indicia to accommodate different filler
6 material. A funnel or other such device may be used to aid in the filling process. It will be
7 understood that the port 28 would be provided with an appropriate closure means or cap to
8 prevent the filling material from spilling out of the weight plate 10.

9 **[0030]** As shown in the figures, the weight plate 10 of the invention includes a base 32.
10 In a preferred embodiment of the invention, the base 32 of the weight plate 10 comprises a
11 flat surface. As would be understood, such a flat surface allows the weight plate 10 to be
12 positioned in standing position on the floor or shelf etc. Thus, the weight plate 10 of the
13 invention can be used in the same manner as kettlebell.

14 **[0031]** It is commonly known in gymnasias having barbells that an uneven floor or surface
15 results in the barbell rolling once placed on the floor. Such rolling is the result of typical weight
16 plates being disc-shaped. However, as will be apparent to persons skilled in the art, when
17 the weight plates 10 of the invention are used on a bar, the base 32 of the plates may be
18 used to rest the barbell on a surface, thereby preventing rolling of the barbell. To further
19 assist in this aspect, the aperture 16 of the weight plate 10 may be provided eccentrically, or
20 off-center and located closer to the top end thereof, that is, closer to the handle than the
21 base. More precisely, the aperture 16 according to this embodiment is positioned above the
22 center of gravity of the weight plate 10 and closer to the top end of the plate 10. As will be
23 understood such a positioning of the aperture renders the weight plate 10 "bottom heavy",
24 whereby, when mounted on a bar, the weight plate 10 will rotate about the bar, under the
25 effect of gravity, so as to orient itself with the base 32 positioned downwardly. In this way,
26 when two or more weight plates 10 are mounted on a bar, they will naturally rotate so as to
27 have their respective bases 32 positioned for placement on the ground or other surface.
28 Once the barbell is placed on the surface, the flat bases 32 would prevent its rolling. It will
29 be understood that the aforementioned orienting of the weight plate 10 can also be achieved
30 by positioning the aperture 16 centrally and by adding more weight to the bottom end of the
31 weight plate 10. Thus, it will be understood that the object of orienting the weight plates 10
32 in the manner described may be accomplished in various ways.

1 **[0032]** In another embodiment, the weight plate 10 may optionally be provided with an
2 attachment means 34, such as an eyelet, hook or the like that is, for example, formed with or
3 secured to the weight plate 10. In the embodiment illustrated, the attachment means 34 is
4 provided close to the top end of the plate 10. The attachment means 34 may be used to
5 connect the weight plate 10 to a connecting device such as a cable, chain, cord, rope or the
6 like. In one aspect, the weight plate 10 may be connected to a bungee cord or other similar
7 elastic connector. In this way, the weight plate 10 may be carried, dragged or pulled etc. so
8 as to allow for a variation in the exercise program for the user.

9 **[0033]** Kits

10 **[0034]** According to an aspect of the invention, the weight plates 10 may be provided in
11 the form of a kit. For example, such a kit may comprise any number of weight plates 10,
12 typically of different weights and/or sizes. As would be understood, in a preferred
13 embodiment, the kit would comprise weight plates that are provided in pairs so that they may
14 be used on opposite ends of a bar.

15 **[0035]** As mentioned above, the aperture 16 of the weight plate 10 may be of any size.
16 Although the aperture 16 may be sized to receive bars of a standard diameter (i.e. weight
17 bars commonly used in gyms), it would also be possible for the aperture 16 to be sized to
18 receive a specifically designed bar, namely one that is designed solely for use with the
19 weight plates 10 described herein. In this regard, the invention also encompasses kits
20 comprising any number and weights of the weight plates 10 and weight bars such as those
21 specially designed or adapted for use with the plates 10. Such bars may be of one or more
22 lengths.

23 **[0036]** The kits of the invention may also comprise one or more pairs of the fillable
24 embodiment of the weight plate 10 as discussed above. Such a kit could, for example,
25 comprise one pair of fillable weight plates 10 and one or more bars. The fillable nature of
26 the weight plate 10 would allow the user to adjust the weight of the bar to any desired value
27 thereby avoiding the need for multiple weight plates. Such kit may also include one or more
28 pairs of solid weight plates of a pre-set weight.

29 **[0037]** In a further embodiment, the kits of the invention may include one or more
30 connecting devices for connecting to the attachment 34 of the weight plate 10. As discussed
31 above various types of connecting devices may be used with the weight plates 10 of the
32 invention.

1 **[0038]** Although the invention has been described with reference to certain specific
2 embodiments, various modifications thereof will be apparent to those skilled in the art
3 without departing from the purpose and scope of the invention as outlined in the claims
4 appended hereto. Any examples provided herein are included solely for the purpose of
5 illustrating the invention and are not intended to limit the invention in any way. Any drawings
6 provided herein are solely for the purpose of illustrating various aspects of the invention and
7 are not intended to be drawn to scale or to limit the invention in any way. The disclosures of
8 all prior art recited herein are incorporated herein by reference in their entirety.

9

WE CLAIM:

1. A weight plate comprising: front and rear surfaces and top and bottom ends; an aperture extending between the front and rear surfaces; the top end of the weight plate including a handle; and, the bottom end comprising a flat surface.
2. The weight plate of claim 1, wherein the aperture is generally centrally located.
3. The weight plate of claim 1, wherein the aperture is located between the center of gravity of the weight plate and the top end.
4. The weight plate of any one of claims 1 to 3, wherein the bottom end is heavier than the top end.
5. The weight plate of any one of claims 1 to 4, wherein the front and rear surfaces are generally flat.
6. The weight plate of any one of claims 1 to 5, wherein the front and rear surfaces include indentations below the handle.
7. The weight plate of any one of claims 1 to 6, further comprising an attachment means.
8. The weight plate of any one of claims 1 to 7, wherein the weight plate comprises a hollow body and wherein the weight plate includes at least one port for filling said hollow body with a solid or liquid material.
9. The weight plate of claim 8, wherein at least one of said front and rear surfaces includes at least one window for viewing the interior of said hollow body.
10. The weight plate of claim 9, wherein the at least one window is provided with indicia for indicating a volume of the solid or liquid material within the hollow body.
11. An exercise kit comprising at least one pair of weight plates, each of said weight plates comprising:

- front and rear surfaces and top and bottom ends;
 - an aperture extending between the front and rear surfaces; the top end of the weight plate including a handle; and,
 - the bottom end comprising a flat surface.
12. The exercise kit of claim 11, further comprising a bar adapted to be inserted through the apertures of the pair of weight plates.
13. The exercise kit of claim 11 or 12, further comprising a plurality of pairs of weight plates.
14. The exercise kit of claim 13, wherein the pairs of weight plates comprise different sizes of weight plates.
15. The exercise kit of any one of claims 11 to 14, wherein the apertures of the weight plates are generally centrally located thereon.
16. The exercise kit of claim 15, wherein the apertures are located between the center of gravity of the weight plate and the top end.
17. The exercise kit of any one of claims 11 to 16, wherein the bottom ends of the weight plates are heavier than the top ends.
18. The exercise kit of any one of claims 11 to 17, wherein the front and rear surfaces of each weight plate are generally flat.
19. The exercise kit of any one of claims 11 to 18, wherein the front and rear surfaces of each weight plate include indentations below the handle.
20. The exercise kit of any one of claims 11 to 19, wherein each weight plate further comprises an attachment means.
21. The exercise kit of any one of claims 11 to 20, wherein at least one pair of the weight plates are hollow comprising hollow bodies and wherein the hollow weight plates include at least one port for filling said hollow bodies with a solid or liquid material.

22. The exercise kit of claim 21, wherein at least one of said front and rear surfaces of the hollow weight plates includes at least one window for viewing the interior of said hollow bodies.

23. The exercise kit of claim 22, wherein the at least one window is provided with indicia for indicating a volume of the solid or liquid material within the hollow bodies.

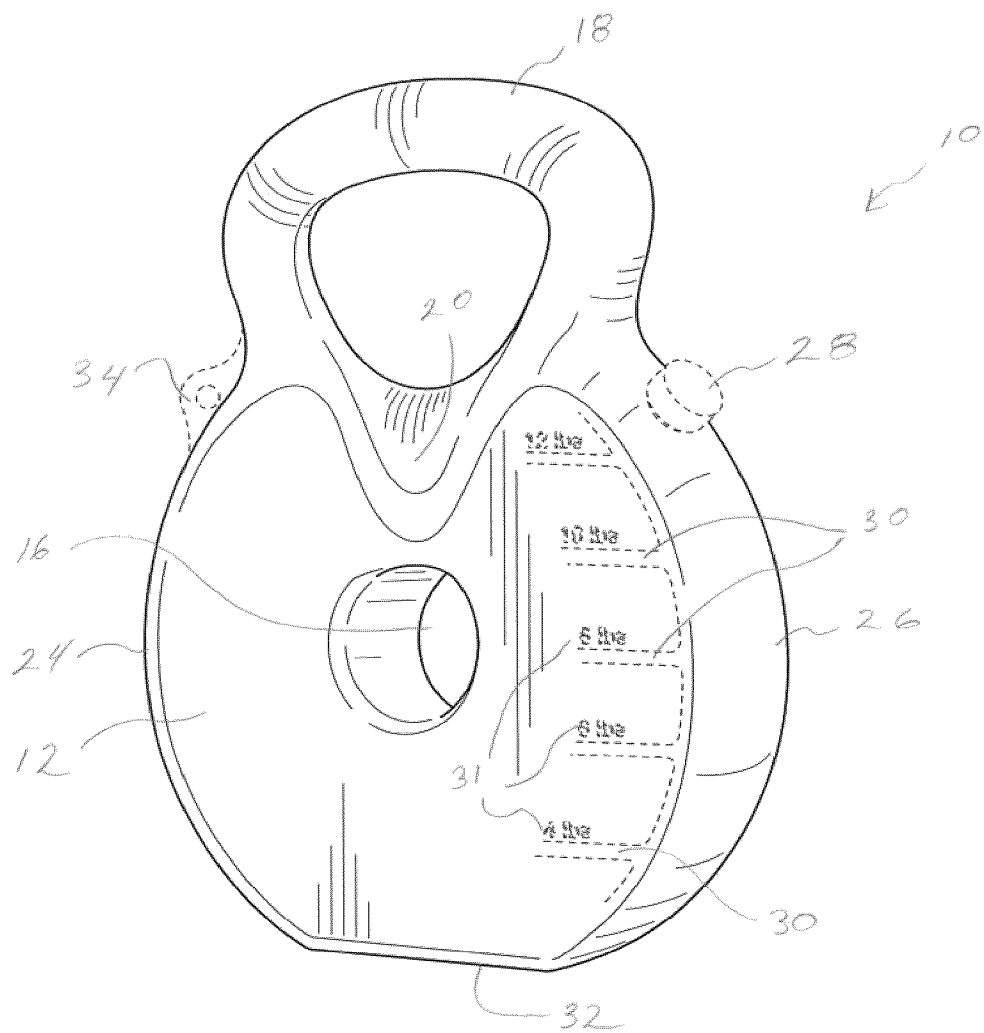
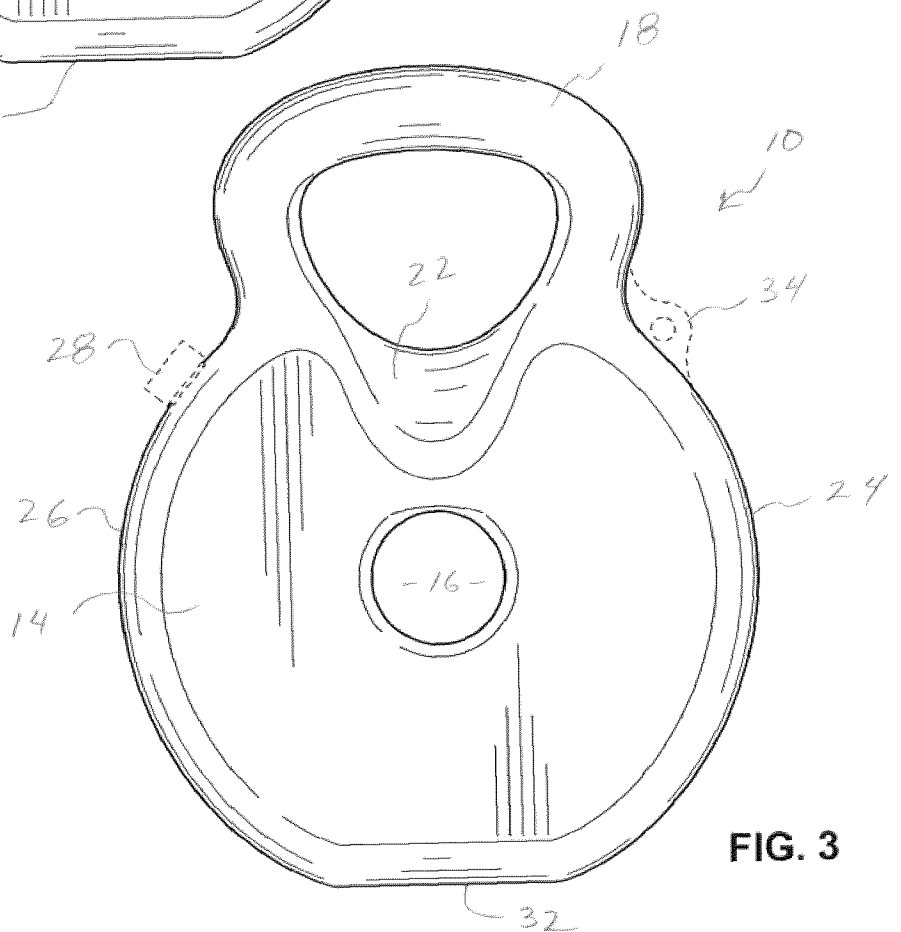
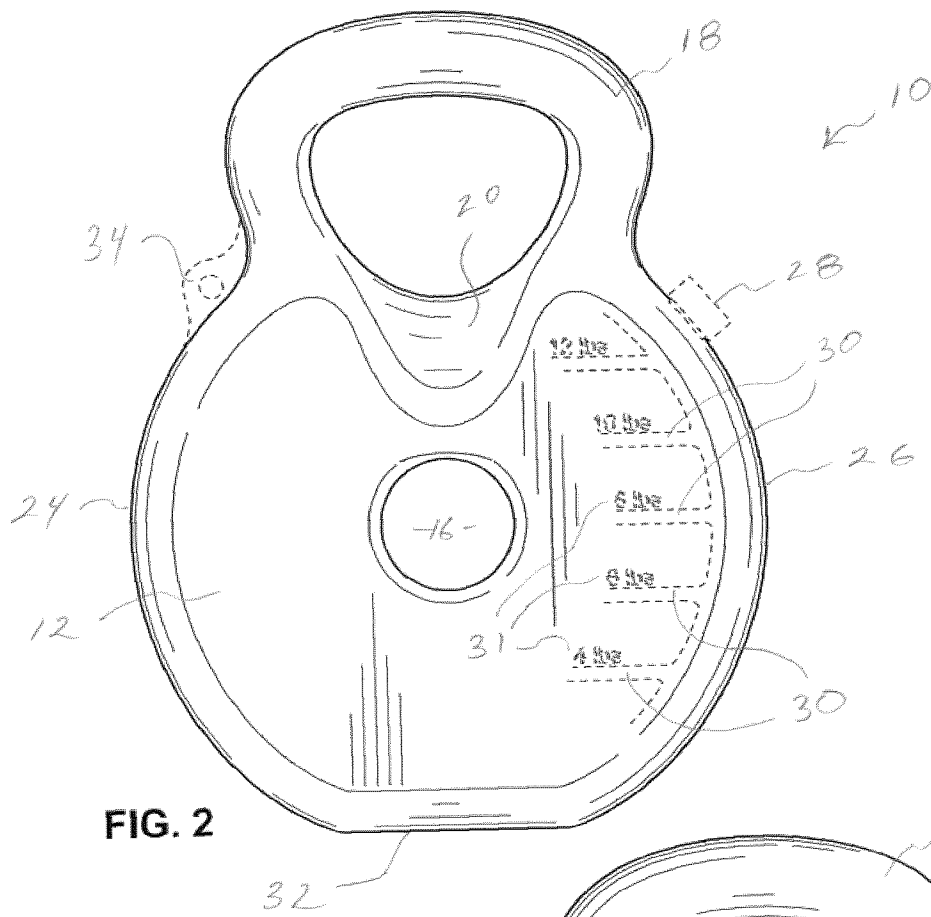


FIG. 1

2/3



3/3



FIG. 4

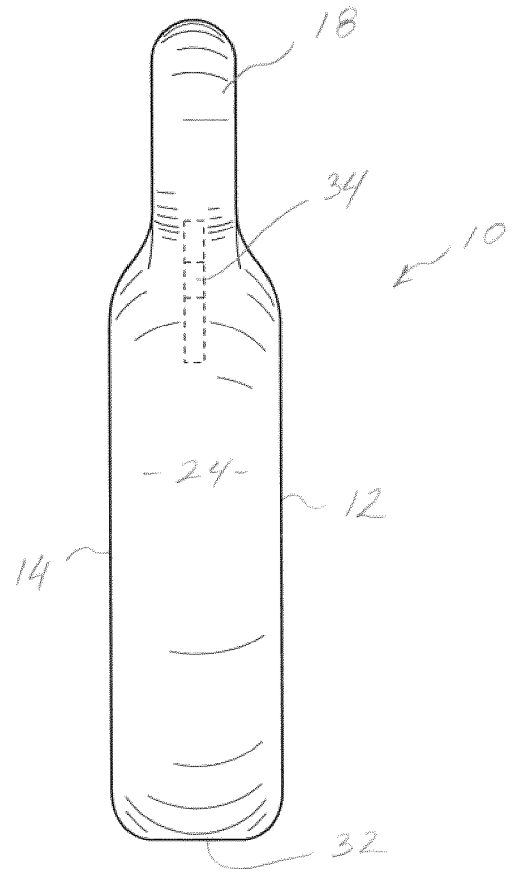


FIG. 5

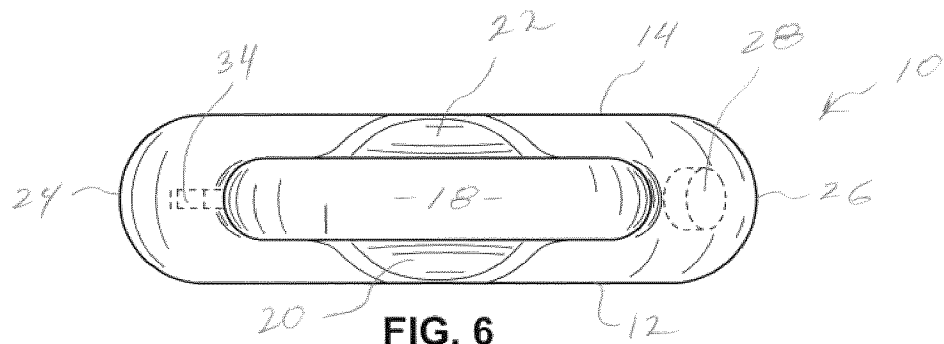


FIG. 6

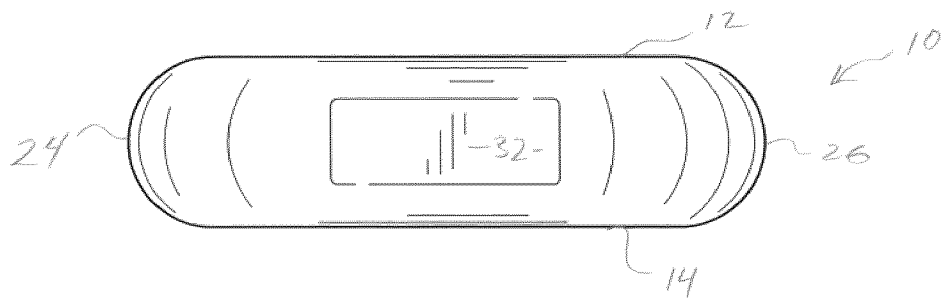


FIG. 7