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(72) Inventors; and

(71) Applicants : PERITZ, Robert [US/US]; 3525 Del Mar Heights Rd., #439, San Diego, CA 92130 (US). SHEN-KAL, Yuval [US/US]; 6540 Lusk Blvd, Suite C111, San Diego, CA 92121 (US). GRIMM, John [US/US]; 11550 Canyon Park Drive, Santee, CA 92071-4740 (US).

(74) Agent: KOHN, David, M.; Lewis Kohn & Fitzwilliam LLP, 10935 Vista Sorrento Parkway, Suite 370, San Diego, CA 92130 (US).

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(54) Title: INTEGRATED PORTABLE EXERCISE DEVICE

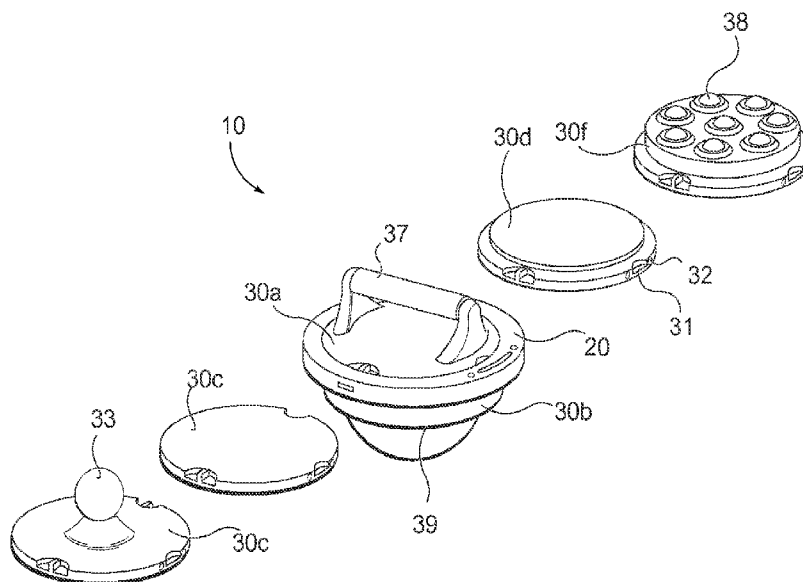


FIG. 1

(57) Abstract: The present invention provides an exercise device configured to engage multiple accessory attachments, the device comprising: a top plate; a bottom plate underneath and complementary to the top plate; and a first accessory disk releasably attached to the top plate, the first accessory disk having a member engaging a user for performing exercises, the accessory attachments capable of being configured in various combinations for allowing the user to perform different exercises targeting different muscle groups of the body, thereby to achieve a full body exercise.

INTEGRATED PORTABLE EXERCISE DEVICE

by

Robert Peritz, San Diego, CA

PRIORITY INFORMATION

This application claims priority from U.S. Prov. Pat. App. Ser. No. 61/486,013, filed on May 13, 2011, the contents of which are hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention pertains generally to a device for physical exercise, athletic training and conditioning, and rehabilitation therapy. More specifically, the present invention pertains relates to a portable exercise device having a top plate, a bottom plate underneath and complementary to the top plate, and a first accessory disk releasably attached to the top plate, the first accessory disk having a member engaging a user for performing exercises, the top plate further configured to engage multiple accessory attachments, for example a push-up bar.

BACKGROUND OF THE INVENTION

The present invention relates to portable exercise devices, and more particularly to an exercise device comprising accessory plates that can be configured in various combinations for allowing the user to perform different exercises targeting different muscle groups of the body, thereby achieving a full body exercise. A somewhat related example was proposed by Aquino,

entitled “Portable Multiple Exercise Apparatus Sets,” U.S. Pub. Pat. App. No. 2012/0083396. This patent application basically discloses incorporating disk-type devices having push-up bars or roller wheels for placement of hands, feet or knees in performing various exercises.

Further as told by Aquino, current exercise apparatus that permits a user to exercise a wide variety of muscle groups is generally massive, heavy and is intended for use in a fixed location. Various types of portable exercise apparatus are known that permit a user to perform a limited range of exercises, such as push-ups or abdominal muscle crunches, which exercise only one or a few portions of body. In order for a user to achieve a full body workout using available portable exercise apparatus, a variety of different independent types of apparatus would be required that, in total, would be bulky, heavy and not practical as being portable.

In particular, the exercise known as the push-up is a relatively easy exercise to perform in order to increase physical fitness, especially upper body strength. As a result, push-up aids, such as push-up bars, are well known in the art. However, push-up bars are often bulky and restrict the type of exercises that can be performed using solely the push-up bar. In addition, for the physically fit, conventional push-ups, even when performed using a push-up bar, can be boring to perform and require a significantly large number of repetitions before the upper body experiences exertion.

The Aquino disclosure specifically describes a portable set of exercise equipment that includes a pair of push-up units each having a base and rotatable handle mounted to the base, a pair of kneepad units, and a pair of roller wheel units having a set of ball bearings around the periphery

of the bottom surface thereof for allowing said roller wheel units to move in any direction on a floor, and on upwardly extending shaft for meeting with corresponding apertures in the face of said push-up units and said kneepad units for mounting either of such units on the roller wheel units for movement in any direction on the floor.

In another example, U.S. Pub. Pat. App. No. 2011/0166006, entitled “Core Strengthening Device and Method for Strengthening Using Same,” by Howard describes a core strengthening device that generally describes a device that can move around on the floor for various types of exercises targeting a user’s core muscle groups. An exemplary device more specifically includes a base having a first section and a second section, each section having a connection mechanism with which to connect together to form a unitary device. The device further includes a handle connected to the top surface of each of the first and second base sections, and further includes two or more load-bearing rolling devices such as ball transfers or casters connected to a bottom surface of each of the first and second base sections to enable smooth movement over a surface by a user.

[0001] Also known in the realm of core strengthening exercise is the use of an inflatable hemispherical ball; and either pushing, standing, sitting, or kneeling on same as desired by a user. U.S. Pat. No. 6,422,983, entitled “Inflatable Device and Method for Using the Device,” to Weck is one such example. Therein, Weck describes a device comprising a support platform having a first side and a second side, the second side structured for stable resting on the ground, and inflatable member affixed to and extending upwards over the first side of the platform being substantially hemispherical when inflated, and a clamp clamping the flexible member in between the clamp and

support platform to affix the flexible member to the platform such that the flexible member extends upwards over the first side.

It is with these prior innovations in mind that the present invention was conceived. Generally, the present invention seeks to improve upon prior designs while additionally including a unique device providing interchangeability and modularity of multiple exercise types.

In light of the above, it is an object of the present invention to provide the desired features described herein as well as additional advantages such as providing a user with a portable exercise device configured to engage multiple accessory attachments in various combinations for allowing the user to perform different exercises targeting different muscle groups of the body, all compiled in a single, versatile and compact exercise device. Further, the exercise device is capable of providing a user with a push-up aid and a core stability unit simultaneously.

SUMMARY OF THE INVENTION

The present invention provides an exercise device configured to engage multiple accessory attachments, the device comprising: a top plate; a bottom plate underneath and complementary to the top plate; and a first accessory disk releasably attached to the top plate, the first accessory disk having a member engaging a user for performing exercises.

In a first aspect, the present invention provides an exercise device configured to engage multiple accessory attachments wherein a second accessory disk is releasably coupled to the bottom plate, the second accessory disk having at least a first curved surface for providing a stability and core training exercise.

In a second aspect, the present invention provides an exercise device configured to engage multiple accessory attachments wherein the member engaging the user comprises a push-up bar, and further wherein the top plate is configured to rotate with respect to the bottom plate thereby allowing the user to rotate the device during an exercise via the push-up bar.

In a third aspect, the present invention provides an exercise device configured to engage multiple accessory attachments, the device comprising: a circular base plate having a raised border around a circumference thereof; and a first accessory disk configured to an interior of the circular base plate, the first accessory disk having a member engaging a user for performing exercises, wherein further the first accessory disk and the circular base plate are concentric with respect to one another.

In a fourth aspect, the present invention provides an exercise device configured to engage multiple accessory attachments, the circular base plate further comprising: a top plate including: a spring biased pin for releasably engaging and locking the first accessory disk; an aperture on an opposite side of the top plate with respect to the pin for receiving a male connector configured to the first accessory disk, the aperture and male connector assisting the engaging and locking; and a first

rounded circular grove; a bottom plate including a second rounded circular groove, the first rounded circular groove inverted with respect to the second, thereby forming a rounded circular channel; and a plurality of ball bearings configured to the rounded circular channel providing rotatability between the top base plate and the bottom base plate via the member engaging a user.

The invention can be better visualized by turning now to the following drawings wherein like elements are referenced by like numerals.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features of this invention, as well as the invention itself, both as to its structure and its operation, will be best understood from the accompanying drawings, taken in conjunction with the accompanying description, in which similar reference characters refer to similar parts, and in which:

Fig. 1 is an exploded view of a first preferred exercise device and system to include accessory parts;

Fig. 2A is a perspective illustration of a first accessory disk with push-up bar of the present invention;

Fig. 2B is an additional perspective view thereof;

Fig. 3 is a perspective view of an additional accessory disk according to the invention exercise device system;

Fig. 4A is a perspective view of a circular base plate of the present invention;

Fig. 4B is another perspective view thereof;

Fig. 4C is a cross-sectional view of the base plate taken along line 4C-4C of Fig. 4B; and

Fig. 4D is an exploded view of the base plate.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

With regard to Fig. 1, an overview of a first preferred exercise device **20**, **30a**, **30b** and accessory system **10** is illustrated. More specifically, the first preferred device comprises a base plate **20** coupled to a first accessory disk **30a** and further coupled to a second accessory disk **30b** at an underside thereof.

The second accessory disk **30b** has an inflatable hemispherical member **39** similar to a smaller sized bosu ball for providing stability type core training during a push-up. Also referring to Fig. 1, an additional (third) accessory disk **30c** provides a flat surface to engage either a hand or a foot of a user. Yet further, an additional (fourth) accessory disk **30d** provides a raised flat surface to engage either a hand or a foot of a user. Still further, an additional (fifth) accessory disk **30e** provides a ball handle **33** to engage a hand of a user. Lastly further, an additional (sixth) accessory disk **30f** provides a plurality of wheels **38** to configure to an underside of the base plate **20** for stability-type core training.

With reference to Fig. 2A, a relief **31** is provided to assist a user in attaching accessory disks **30a, 30b, 30c, 30d, 30e, 30f**. As best seen in conjunction with **Fig. 4A**, a finger of a user is inserted to relief **31** wherein a latch **23** is pulled against spring bias **23a** for pins **24** to engage holes **32**. With regard to Fig. 2B, male connectors **36** are provided on an opposite side of the disk **30a** with respect to holes **32** and relief **31**. Male connectors **36** in turn engage apertures **26** (Fig. 4B, Fig. 4C) on the top base portion **21**. Similarly, as in the case of flat disk **30c** (Fig. 3), the apertures **26** could be on the bottom base portion **22** with essentially identical structure and could be engaged by male connectors **36** on the flat disk **30c**.

Still referring to Fig. 3, an additional relief **35** is provided with extra material forming a hole **34**. The hole **34** is provided for attaching resistance type cords to the exercise device and thereby adding yet more versatility to the present invention.

Now turning to Fig. 4A, a perspective view of a circular base plate **20** of the present invention is shown. As stated, accessory disks **30a, 30b, 30c, 30d, 30e, 30f** engage the base plate by engaging latch **23** wherein compressive spring **23a** causes pin **24** to protrude in its **23a** equilibrium state. When the latch **23** is engaged by using a finger and moving such outwardly, the pins **24** will no longer protrude and a disk **30a, 30b, 30c, 30d, 30e, 30f** may be inserted. The top **21** and bottom **22** circular base plates will have the same feature **23, 23a, 24**. An additional latch **25** is also provided with two positions as selectively desired by a user. In the engaged position, latch **25** restricts plates **21, 22** from moving with respect to each other. In the disengaged position, latch **25**

allows plates **21**, **22** to move with respect to each other assisted by ball bearings **91** configured to circular channel **29**.

Rounded circular channel **29** is best seen by the cross-sectional view in Fig. 4C. Exploded view Fig. 4D illustrates how rounded circular channel **29** comprises a first circular groove **27** on the top plate **21** and a second circular groove **28** on the bottom plate **23**.

As stated, a preferred embodiment of the present invention provides for a portable exercise device **20** comprising accessory plates **30a**, **30b**, **30c**, **30d**, **30e**, **30f** that can be configured in various combinations for allowing the user to perform different exercises targeting different muscle groups of the body, thereby to achieve a full body exercise. Another preferred embodiment of the present invention provides an exercise device **20**, **30a**, **30b**, **30c**, **30d**, **30e**, **30f** that is versatile and compact for easy transport and mobility of the device. In an additional embodiment of the present invention, the top plate **21** of the exercise device may comprise a push-up bar **30a** for engaging by a user. In another embodiment of the present invention, the top plate **21** of the exercise device may rotate with respect to the bottom plate **22** via latch **25** and bearings **91**, and also via the member **33**, **37** engaging a user.

In still another preferred embodiment, a second accessory disk **30b** of the exercise device may have an inflatable hemispherical member **39** for providing stability type core training during a push-up or other exercise. In still another embodiment of the present invention, a third accessory disk **30c** may have a flat surface to engage either a hand, foot or knee of a user. Similarly a fourth

accessory disk **30d** may have a raised flat surface to engage either a hand, a foot or a knee of a user. Still further, a fifth accessory disk **30e** may have a ball handle **33** to engage a hand of a user. And, yet still further, a sixth accessory disk **30f** may have a plurality of wheels **38** configured to the underside **22** of the base plate **20** to provide a user with stability-type core training.

It will be appreciated that details of the foregoing embodiments, given for purposes of illustration, are not to be construed as limiting the scope of this invention. Although several embodiments of this invention have been described in detail above, those skilled in the art will readily appreciate that many modifications are possible in the exemplary embodiments without materially departing from the novel teachings and advantages of this invention. Accordingly, all such modifications are intended to be included within the scope of this invention, which is defined in the following claims and all equivalents thereto. Further, it is recognized that many embodiments may be conceived that do not achieve all of the advantages of some embodiments, particularly of the preferred embodiments, yet the absence of a particular advantage shall not be construed to necessarily mean that such an embodiment is outside the scope of the present invention.

CLAIMS

What is claimed is:

1. An exercise device configured to engage multiple accessory attachments, the device comprising:

a top plate; and

a bottom plate underneath and complementary to the top plate; and

a first accessory disk releasably attached to the top plate, the first accessory disk having a member engaging a user for performing exercises.

2. The exercise device configured to engage multiple accessory attachments of claim 1, further comprising a second accessory disk releasably coupled to the bottom plate, the second accessory disk having at least a first curved surface for providing a stability and core training exercise.

3. The exercise device configured to engage multiple accessory attachments of claim 1, wherein the member engaging the user comprises a push-up bar, and further wherein the top plate is configured to rotate with respect to the bottom plate thereby allowing the user to rotate the device during an exercise via the push-up bar.

4. An exercise device configured to engage multiple accessory attachments, the device comprising:

a circular base plate having a raised border around a circumference thereof; and
a first accessory disk configured to an interior of the circular base plate, the first accessory disk having a member engaging a user for performing exercises, wherein further the first accessory disk and the circular base plate are concentric with respect to one another.

5. The exercise device configured to engage multiple accessory attachments of claim 4, the circular base plate further comprising:

a top plate including:

a spring biased pin for releasably engaging and locking the first accessory disk;

an aperture on an opposite side of the top plate with respect to the pin for receiving a male connector configured to the first accessory disk, the aperture and male connector assisting the engaging and locking; and

a first rounded circular groove;

a bottom plate including a second rounded circular groove, the first rounded circular groove inverted with respect to the second, thereby forming a rounded circular channel; and

a plurality of ball bearings configured to the rounded circular channel providing rotatability between the top base plate and the bottom base plate via the member engaging a user.

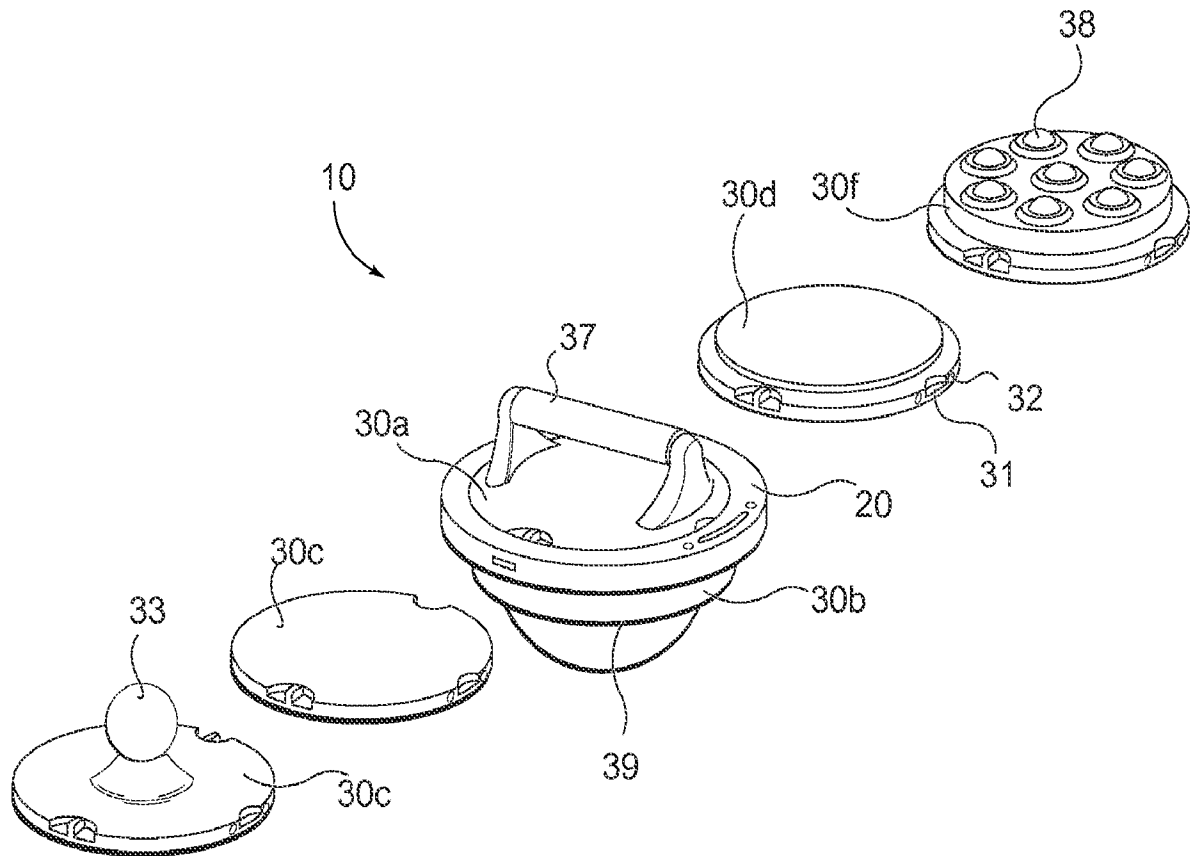


FIG. 1

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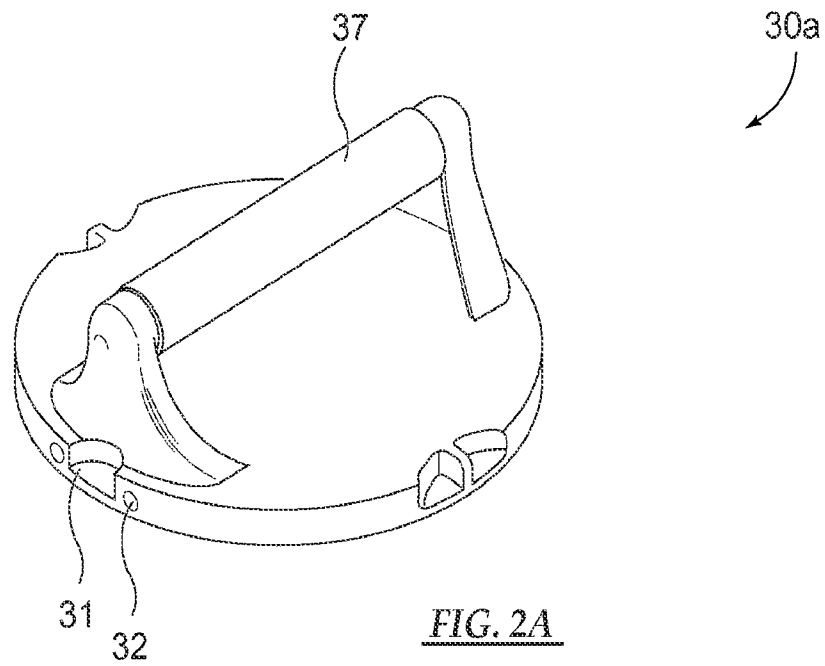


FIG. 2A

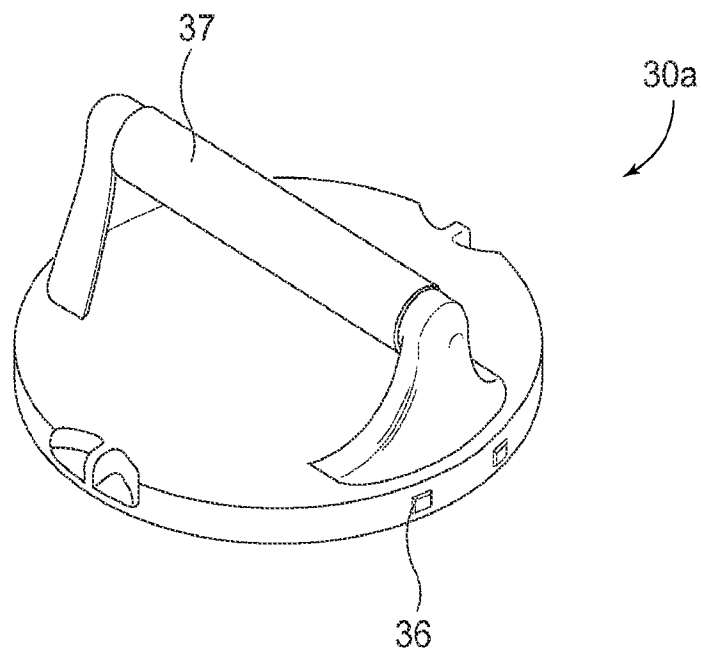


FIG. 2B

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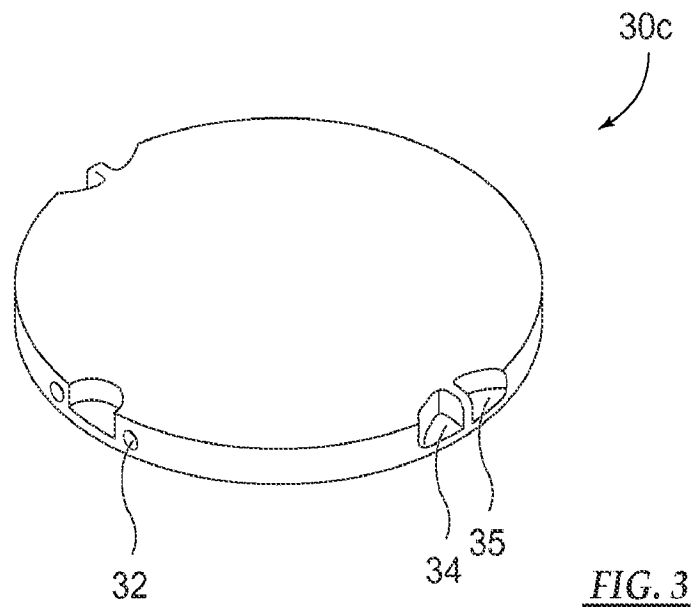


FIG. 3

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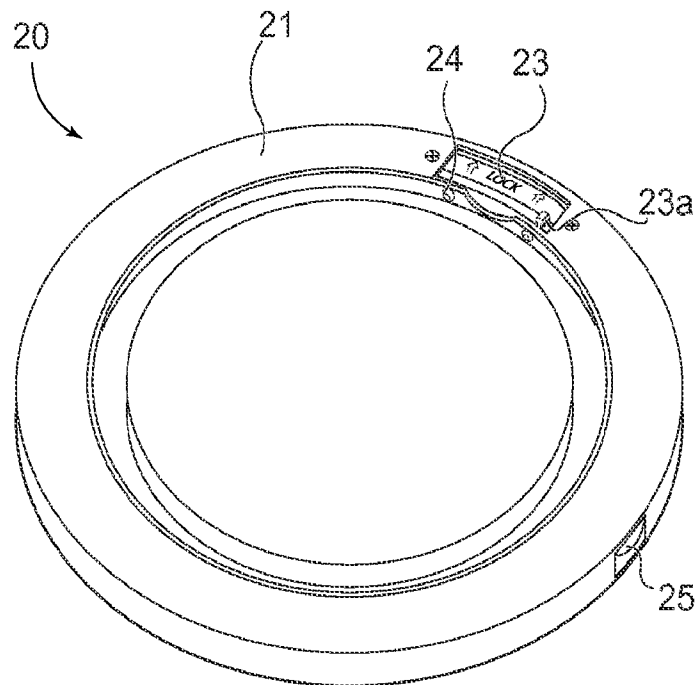


FIG. 4A

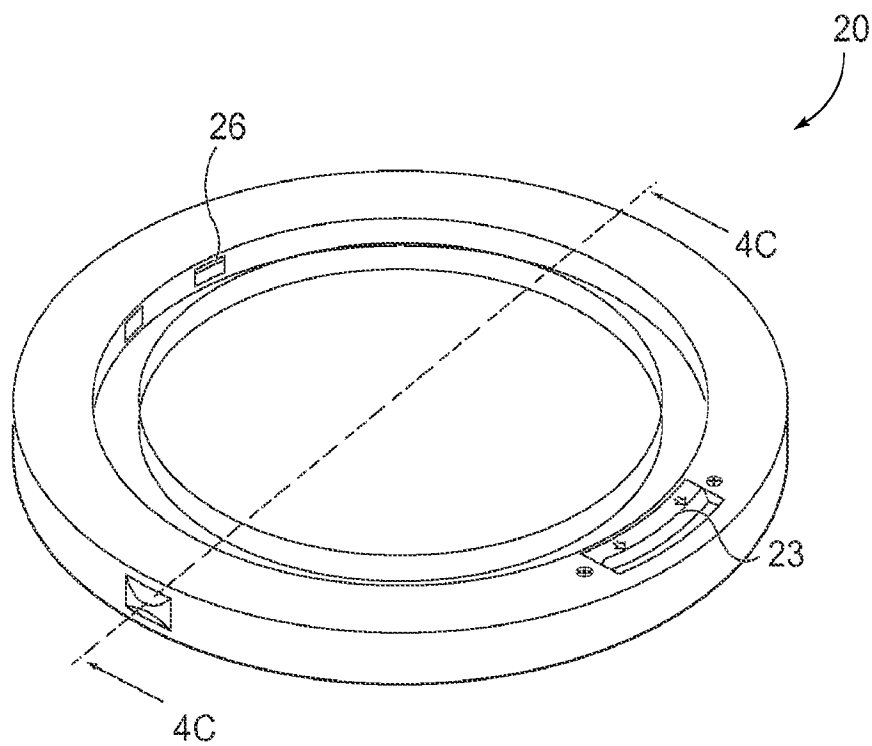


FIG. 4B

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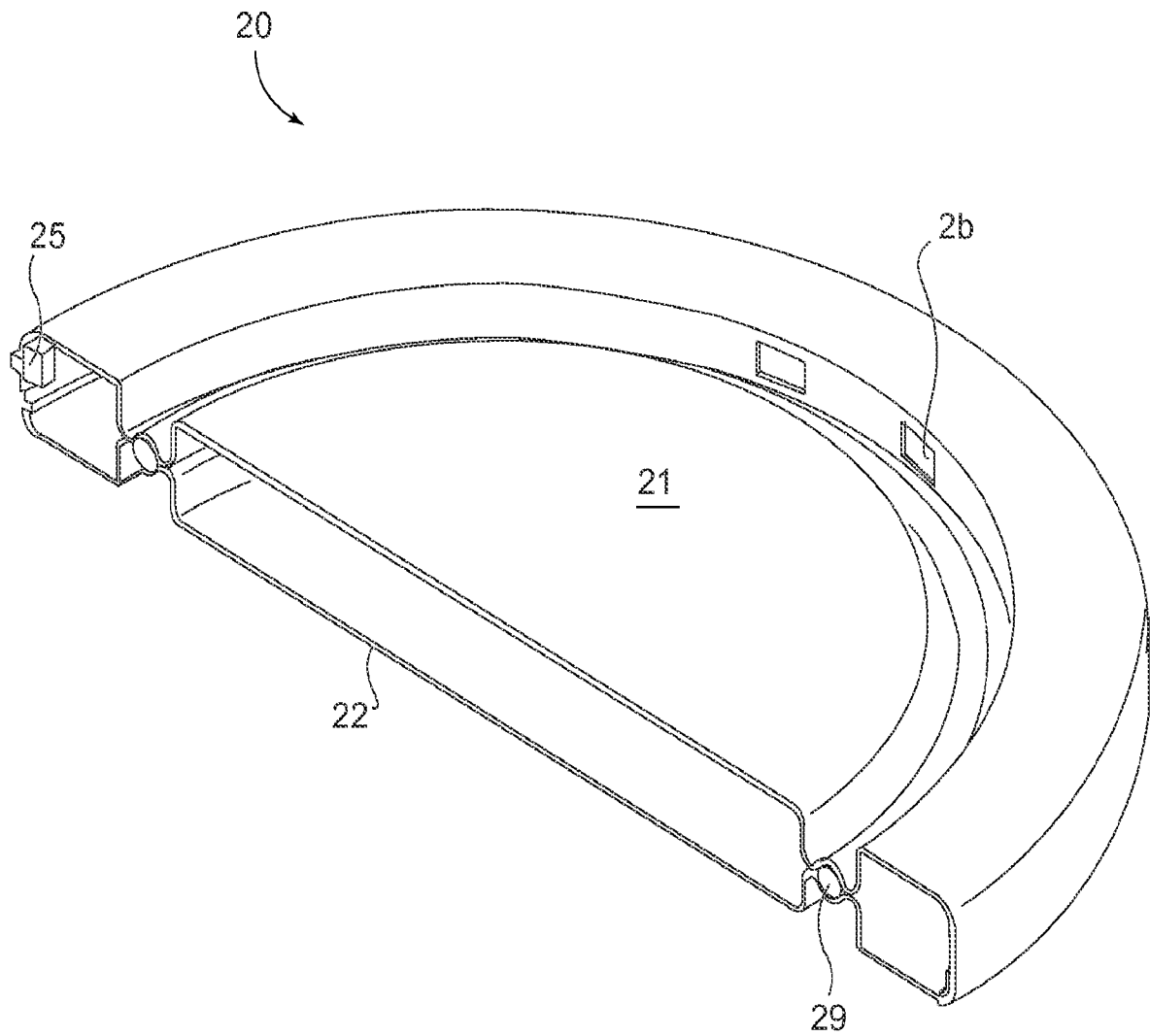


FIG. 4C

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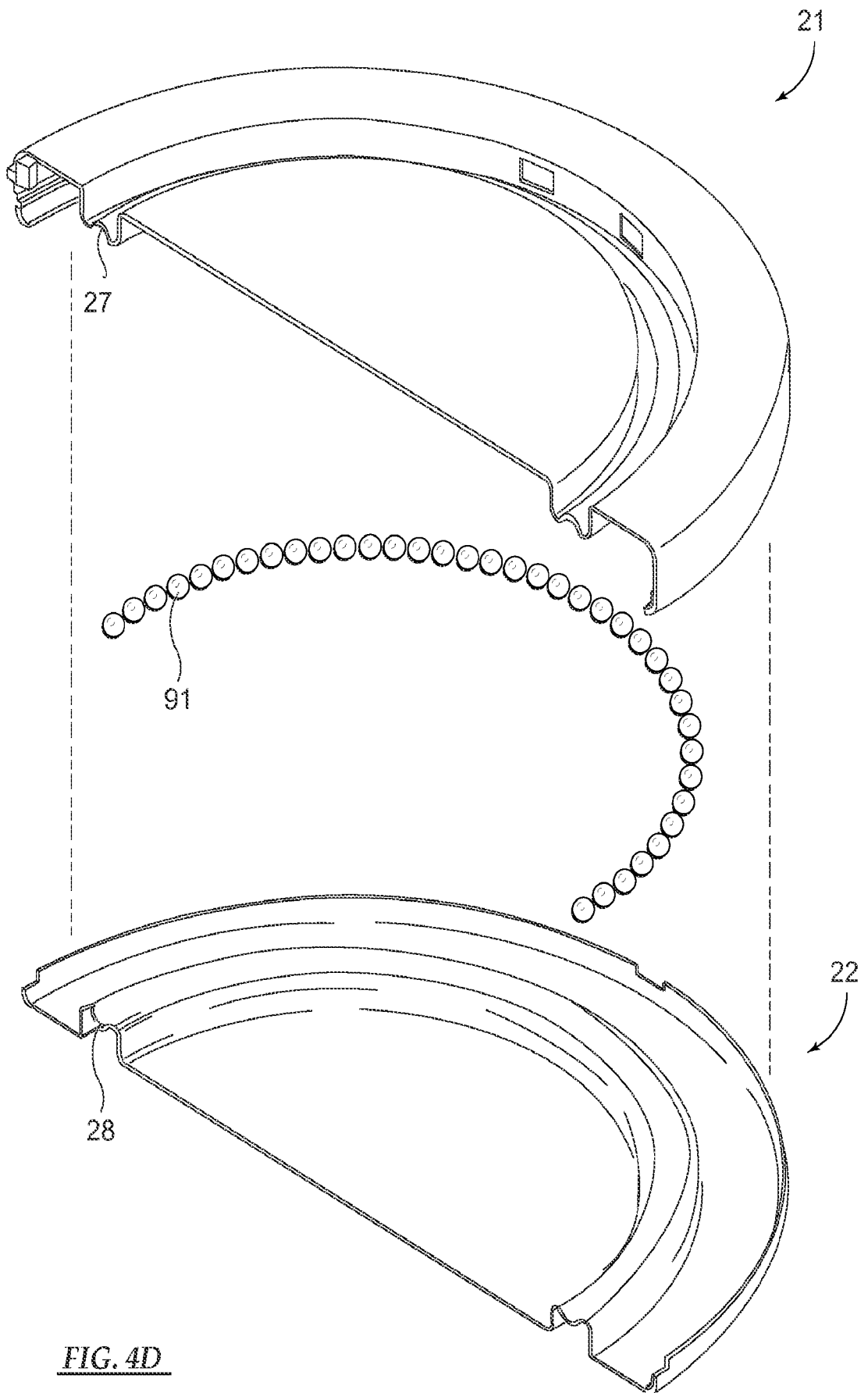


FIG. 4D

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/37836

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A63B 26/00 (2012.01)

USPC - 482/141

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 482/141

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 482/92, 93, 94, 95, 96, 131, 141

IPC(8): A63B 21/00, 21/06, 21/068 (keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST(PGPB, USPT, EPAB, JPAB); Google

Search Terms Used: push up, rotat\$4, swivel\$4, pivot\$4, exercise, lock\$3, attach\$3, connect\$3, spring, round\$2, curv\$2, arcuate, bottom, lower, base, attachment

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7,909,746 B2 (GANT) 22 March 2011 (22.03.2011) fig 2, 11, col 3, ln 4-26	1-2
X	US 2004/0023766 A1 (SLONE) fig 3, para [0021]-[0022], [0031]	1, 3
X	US 5,358,463 A (FUENTES) 25 October 1994 (25.10.1994) fig 6, 6A, 7	4
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Y		5
Y	US 2009/0186751 A1 (HAUSER et al) 23 July 2009 (23.07.2009) fig 8A, para [0041]-[0043]	5
A	US 2006/0040809 A1 (GODBOLD) 23 February 2006 (23.02.2006) fig 1, 3, abstract, para [0055]	1-3
A	US 2010/0261590 A1 (FARES) 14 October 2010 (14.10.2010) fig 1, 2, para [0047]-[0048], [0052], [0054]	1-3
A	US 4,801,140 A (Bergeron) 31 January 1989 (31.01.1989), entire reference	1-5
E	US 2011/0312478 A1 (Khubani) 22 December 2011 (22.12.2011), entire reference	1-5
E	US 8,105,218 B1 (Vayntraub) 31 January 2012 (31.01.2012), entire reference	1-5

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

25 July 2012 (25.07.2012)

Date of mailing of the international search report

27 AUG 2012

Name and mailing address of the ISA/US

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P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300

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