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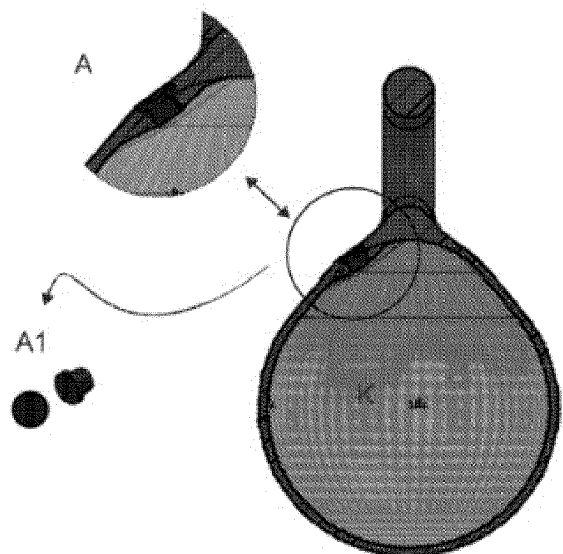
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(54) **CONFIGURATION FOR MUSCLE-STRENGTHENING EXERCISE EQUIPMENT**

(57) Configuration for muscle-strengthening exercise equipment pertaining to the field of physical activities, this equipment is to be used in muscle-strengthening exercises, more specifically intended for the performance of exercises with a device designed to offer the greatest possible comfort and functionality during use.

FIGURE 5



## Description

**[0001]** The present model refers to equipment to be used in muscle exercises to be employed in the field of physical activities, more specifically destined for the performance of exercises with a device that offers the greatest possible comfort and functionality during use.

### BACKGROUND OF THE ART -

**[0002]** Professionals in the sector are well aware of equipment called kettlebell. This device idealized with an iron ball and a handle, also made of iron, of the same material, has been used for years to develop strength, power and cardiovascular conditioning.

**[0003]** Nowadays, on the market, there are various products designed for this niche. The traditional kettlebell, however, cannot be throw because its main material is steel, not containing the flexibility of the material and the weight, the safety or the facility of propulsion for such. Throwing a hard material like iron is not advisable, either because of the damage it could cause when it hits another surface or person, or because it is not flexible for the thrower and makes it impossible for the user to swing when holding it.

**[0004]** We found some applications and grants in the INPI patent database, as reported ahead.

**[0005]** JP2007021122A - Adjustable weight kettlebell, which refers to a fully integrated conventional kettlebell for training with different weights, it is necessary to carry various kettlebells, which imposes a considerable space load and storage cost. With a hollow part, a cap is provided inside a kettle bell that can be opened and closed is fixed to a weight inlet that connects the hollow part and the external part, and liquid, sand, metal, stoned or the like is placed inside the cavity to alter the weight. Use a kettlebell characterized for what you can do.

**[0006]** US20110275494A - Collapsible Kettlebell system which provides, in at least one embodiment, a collapsible kettlebell system featuring a collapsible bladder like structure that can be filled by a liquid such as water, metal shavings or shot, sand and other appropriate substances. A handle is provided as a point of grip by the user. The handle includes an internal support structure that keeps the collapsible bladder in place. The internal support may also include a cavity for an optional/additional weight.

**[0007]** US20130337980A - A system and method for collapsing a kettlebell for storage and transport. The system uses a bladder having an inlet releasably coupled to a cap. A ring is provided around the bladder and a handle is pivotably coupled to the ring. For transport and storage, the cap may be removed from the inlet and the bladder emptied of its contents. The kettlebell may then be collapsed and the cap reattached to the inlet. The handle is rotated to a position generally parallel to the ring, decreasing the height and weight of the system by at least fifty percent. When it is desired to use the kettlebell sys-

tem for exercise, the cap is removed from the inlet and the bladder filled with a material, such as water. The cap is reattached to the inlet and the handle is rotated to a position generally orthogonal to the ring.

### STATE OF THE ART -

**[0008]** Products similar to the device reported herein can be found in the current state of the art. However, none relates to a product designed for safe utilization, with such specific and functional elements according to the market's needs, consistent with an improvement on what already exists, even considering all the documents found in conjunction.

**[0009]** And it was thinking of adding improvements to the consumer market that the applicant carried out research involving different products in order to obtain the functional benefits from each one. Firstly, a kettlebell with a free weight that can be swung by way of a handle provides a better and safer movement, since in the traditional model, there is a disadvantage that it cannot be thrown owing to the risk of injury or damage.

**[0010]** Thereafter, the idea of a medicine slam ball, which is a ball made of solid pvc with sand, that can be thrown from one place to the next. The disadvantage in this model is the grip which is limited, as the palms of the hands must remain open, reducing the amount of leverage and maneuverability that the user could exercise over the ball.

**[0011]** The last study was of a punchbag filled with water, which can be transported empty and upon receipt, the user could fill it with water for use. This device has the disadvantage of being made for martial arts, not having a handle to throw it from one place to the next. Further, it does not provide for movements closest to what a human feels when walking, running or throwing due to its structural characteristics.

**[0012]** In this sense, the patent base bears limited objects, since the constructivity of the applicant's object brings light to an advantageous variation, realized in a single body, designed for user comfort and safety, that can be filled and emptied through one point, in the upper portion of the object.

**[0013]** All the objects mentioned in the state of the art are used only with one hand at a time owing to the disadvantage of having a short handle.

### OBJECTIVES OF THE MODEL -

**[0014]** The objective of the present model is to provide, in addition to a device designed to use in exercises with safety and comfort in which the user can throw, turn, transport and perform a broad series of exercises with the object in a functional, safe and efficient manner.

**[0015]** A major advantage of the model reported lies in its constructivity that allows for leverage in the handle, which is an integral part of the body, requiring no assembly. The device enables, for example, the corkscrew hand

movement or even receipt of the object thrown as its round body structure and its rimless handle, in material, flexibility and shape that makes the model deliver safety to the user since it prevents said user from being hurt during exercises.

**[0016]** Another advantage of the device is linked to the material of which it is made because rubber is less subject to wear which may affect durability and functionality. Lastly, its weight can be adjusted for each type of user.

**[0017]** In the novel model featured here, the user has the option of holding the device with two hands at the same time having the advantage of carrying out the activities with two parallel fists, side by side, since its handle is wide enough so that this is possible and has a certain flexibility.

**[0018]** The user has the option of filling the device as he or she so wishes, with little quantity of liquid or until obtaining its full weight capacity.

**[0019]** This model features a device that was studied so as to achieve movements closest to what a human can feel in activities such as walking, running or throwing.

**[0020]** Characteristics were noted that enable us to exploit in this utility model, for example, the fact of filling a material made of pvc with water, allowing it to be thrown, without sustaining injuries.

**[0021]** Humans are malleable and we do not have fixed properties like steel. The distribution of the weight of the water, moving around the design of the product makes it closest to what a human being feels when moving.

#### DESCRIPTION OF THE DRAWINGS -

**[0022]** For a suitable and improved understanding of the utility model, it is now described below with the assistance of the accompanying drawings, explained ahead.

Figure 1 illustrates a top view of the object;

Figure 2 shows a front view of the object demonstrating the handle (D) and the body (C) of the object;

Figure 3 shows a bottom view of the object;

Figure 4 represents the object demonstrated in perspective;

Figure 5 discloses details of the spout (A), with identification of the closing pin (A1); and

Figure 6 shows the device in various sizes.

#### DETAILED DESCRIPTION -

**[0023]** According to figures 1 to 6 the utility model comprises a device for exercises (4) having monoblock structure, round (C) and rimless handle (D), wherein said structure makes the user avoid any type of accident in contact with the object during exercises.

**[0024]** In its structure, the device also has a spout (A) for inlet or outlet of liquid, in its interior (K). The object (4) can be sent to the user in its empty state and be filled and emptied as so desired by the user.

**[0025]** This novel constructive arrangement facilitates exercise for the user since the object is sent in its empty state so that it can be filled where its constructivity offers comfort in performing exercises.

#### **Claims**

1. A CONFIGURATION FOR MUSCLE-STRENGTHENING EXERCISE EQUIPMENT, to be employed in the field of physical activities, **characterized by** comprising a device (1, 2, 3, 4, 5 and 6) for exercises, with monoblock structure and round characteristic (C), with rimless handle (D), a spout (A) and closing pin (A1), hollow interior (K) that can be filled and emptied.

FIGURE 1

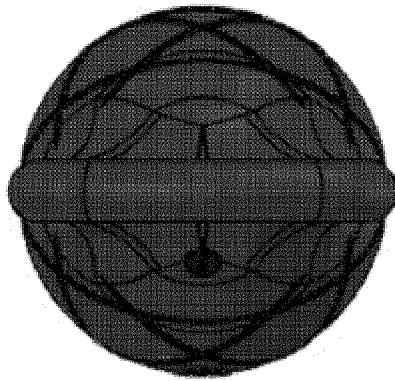


FIGURE 2

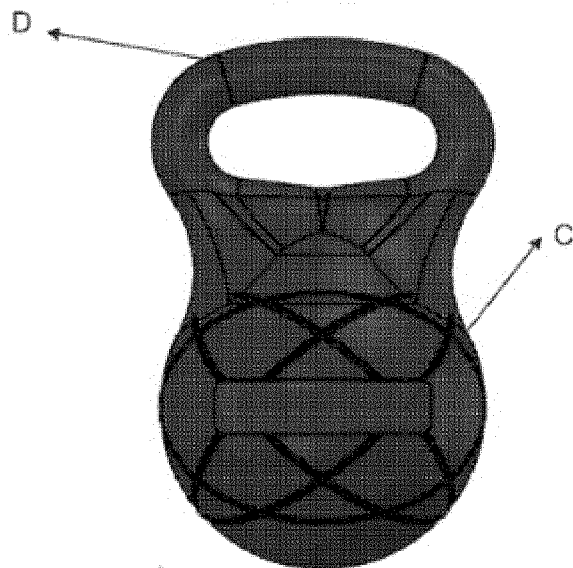


FIGURE 3

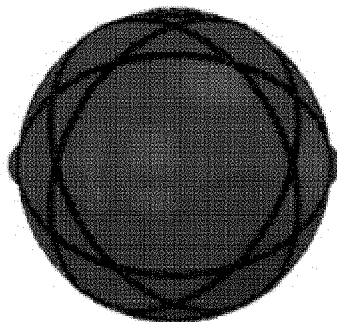


FIGURE 4

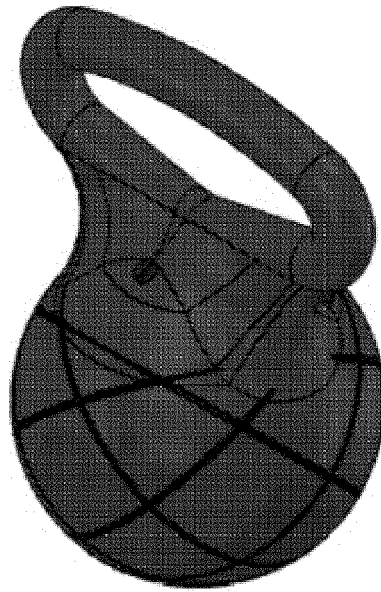


FIGURE 5

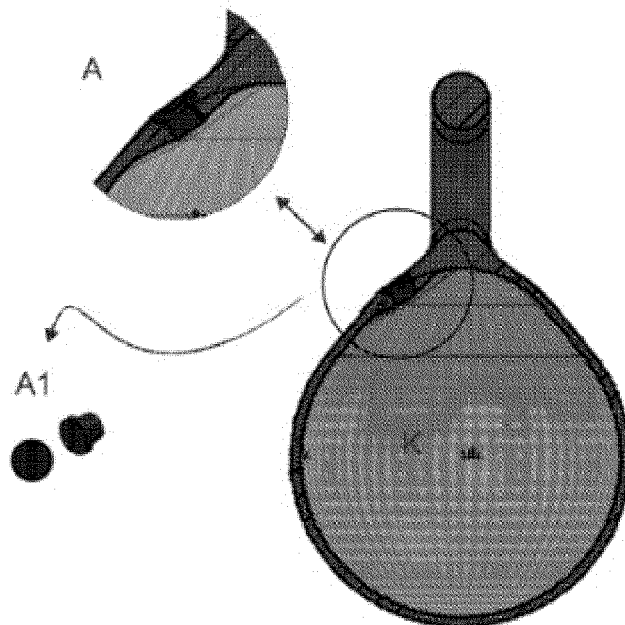
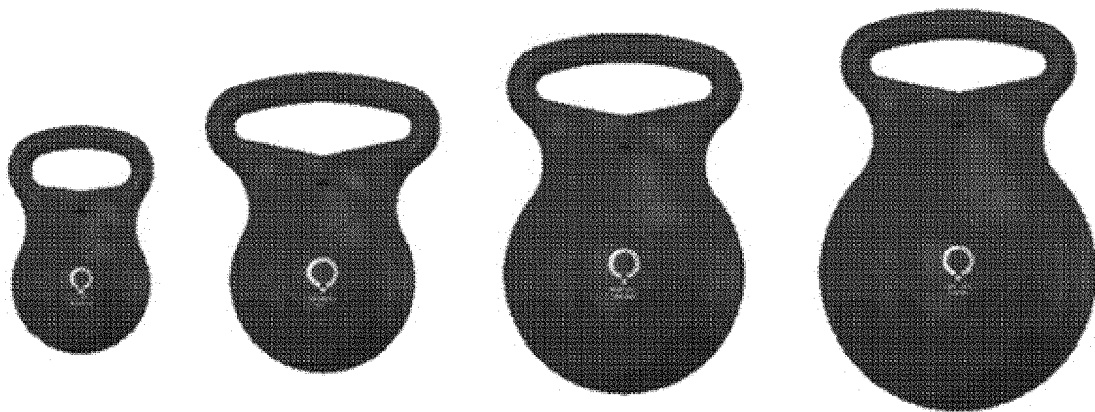


FIGURE 6



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/BR2021/050242

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: A63B21/072 (2006.01), A63B21/06 (2006.01)

CPC: A63B21/072, A63B21/0602

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)

A63B

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

Banco de Patentes do INPI-BR

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

EPODOC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2007021122 A (HARADA YOSHIYUKI) 01 February 2007 (2007-02-01) (abstract, claims and Figure 1)	1
X	CN 204891066 U (RIZHAO TONGYUAN INDUSTRY TRADE CO LTD) 23 December 2015 (2015-12-23) (see the whole document)	1
X	US 2010248910 AI (DILUGLIO ANTHONY [US]) 30 September 2010 (2010-09-30) (see the whole document)	1
X	CN 203029888 U (UNIV YANSHAN) 03 July 2013 (2013-07-03) (see the whole document)	1

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

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

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"&amp;" document member of the same patent family

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21/01/2022

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Information on patent family members

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US 2010248910 A1	2010-09-30	None	
CN 203029888 U	2013-07-03	None	



**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- JP 2007021122 A [0005]
- US 20110275494 A [0006]
- US 20130337980 A [0007]