United States Patent [19]

Evangelos

[11] **3,884,464**

[45] **May 20, 1975**

[54] **EXERCISER**

[76] Inventor: **George D. Evangelos,** 707 85th St., Miami Beach, Fla. 33139

[22] Filed: **Sept. 12, 1973**

[21] Appl. No.: **396,363**

[52] **U.S. Cl.**..... **272/79 R;** 272/84; 272/68

[51] **Int. Cl.**..... **A63b 23/00**

[58] **Field of Search**..... 272/79 R, 67, 68, 57 R, 272/84; 273/106 R

[56] **References Cited**

UNITED STATES PATENTS

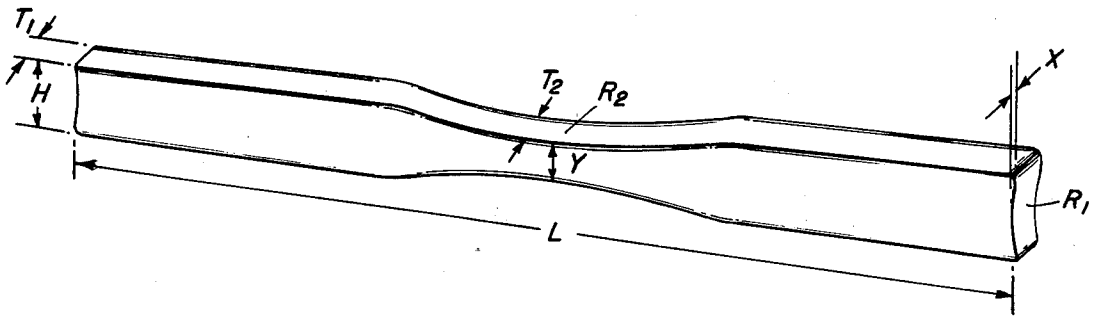
784,367	3/1905	Williams	272/84 X
3,544,106	12/1970	Barrett	272/97 R X
3,638,939	2/1972	Langly	272/97 R

Primary Examiner—Paul E. Shapiro
Attorney, Agent, or Firm—Cushman, Darby & Cushman

[57] **ABSTRACT**

An exercise device is provided with an elongated rigid shape, of such length that it may be grasped at each end by the hands of the outstretched arms of the user with the arms forming an angle of between 80° and 15° and having a central portion capable of being held within the clasp of the user's hand. The end portions are capable of being substantially held within the grasp of the partially closed hands of the user and the surface is yieldable. The device has a weight per averarge linear inch of length from 1.0 to 2.4 oz.

9 Claims, 4 Drawing Figures



	ADULT	CHILD
H =	$2\frac{1}{2}$ - $3\frac{1}{2}$"	$1\frac{3}{4}$ - 3"
L =	36 - 44"	24 - 30"
R_1 =	8 - 16"	8 - 16"
R_2 =	8 - 16"	8 - 16"
T_1 =	1 - $1\frac{1}{2}$"	$\frac{3}{4}$ - $1\frac{1}{4}$"
T_2 =	1 - $1\frac{1}{2}$"	$\frac{3}{4}$ - $1\frac{1}{4}$"
X =	$\frac{1}{4}$ - $\frac{1}{2}$"	$\frac{1}{4}$ - $\frac{1}{2}$"
Y =	$\frac{3}{4}$ - 2"	$\frac{1}{2}$ - $1\frac{1}{4}$"
WEIGHT=	1.2 - 2.4 oz./inch	1.0 - 1.6 oz./inch

Fig. 1

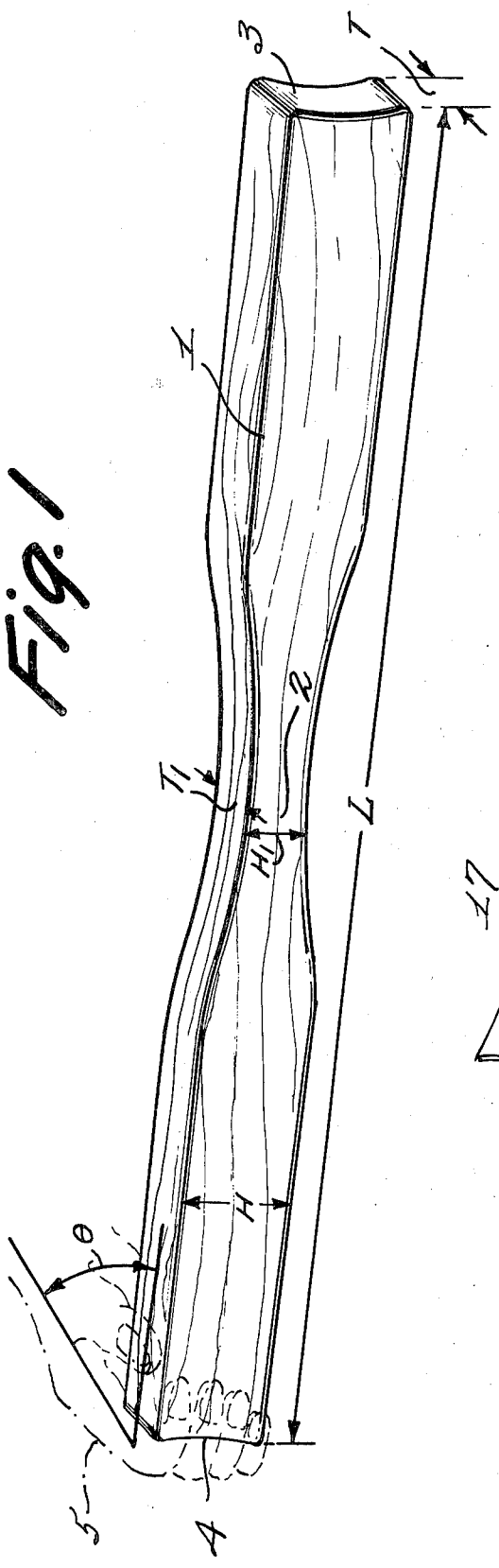


Fig. 2

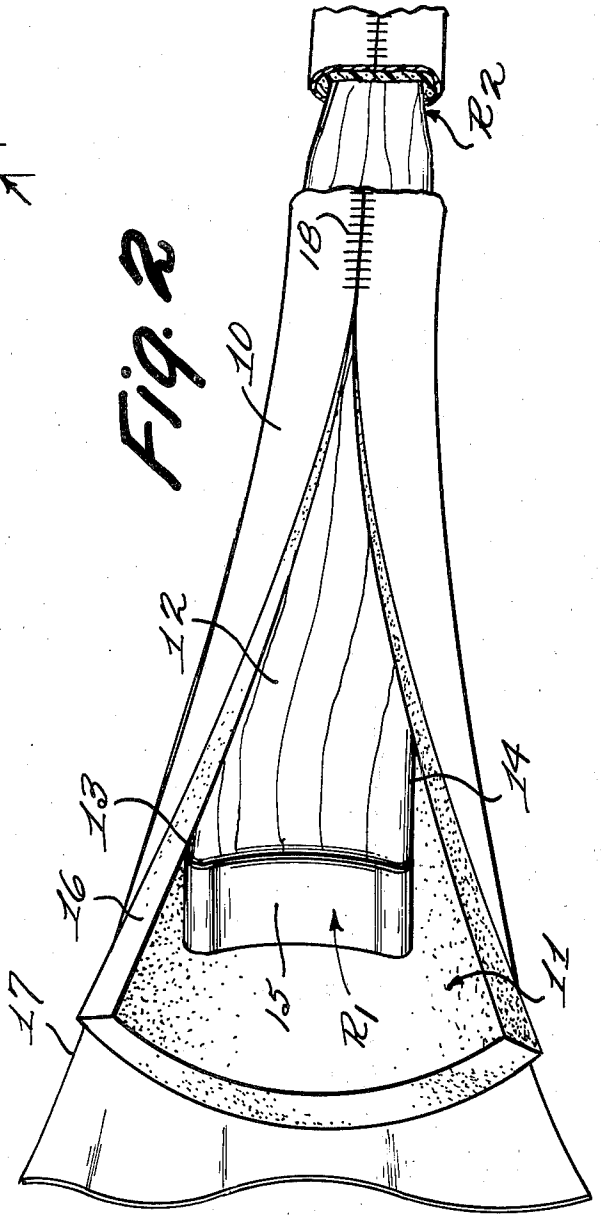


Fig. 4

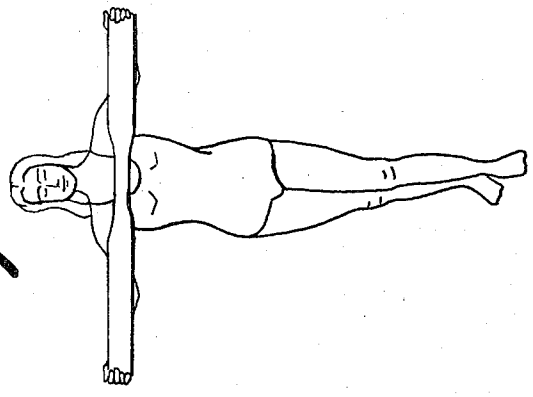
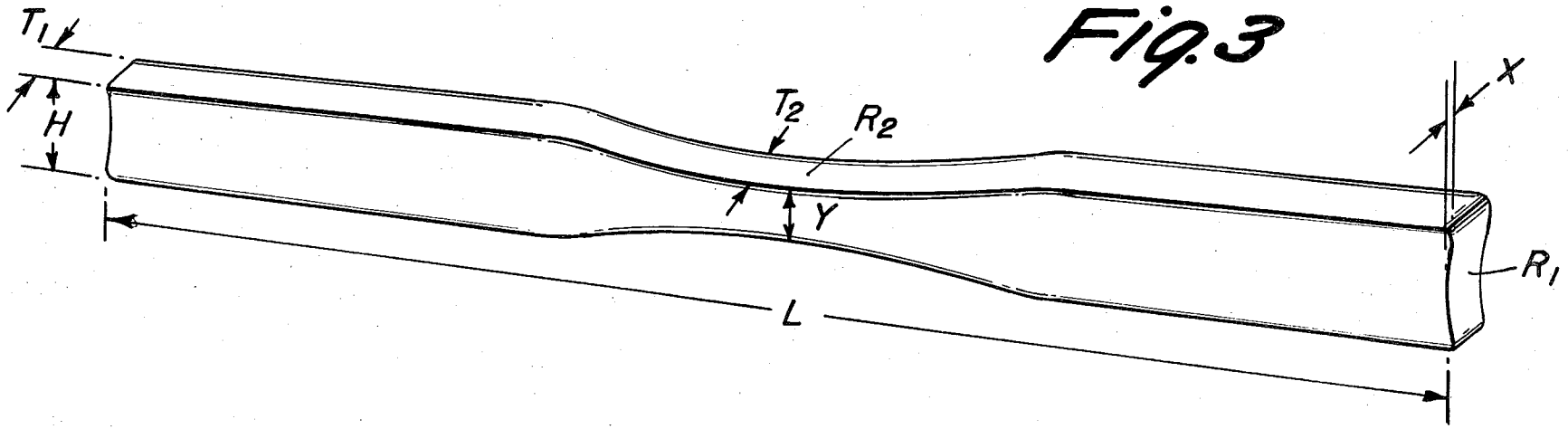


Fig. 3



	ADULT	CHILD
H =	$2\frac{1}{2}$ - $3\frac{1}{2}$"	$1\frac{3}{4}$ - 3"
L =	36 - 44"	24 - 30"
R_1 =	8 - 16"	8 - 16"
R_2 =	8 - 16"	8 - 16"
T_1 =	1 - $1\frac{1}{2}$"	$\frac{3}{4}$ - $1\frac{1}{4}$"
T_2 =	1 - $1\frac{1}{2}$"	$\frac{3}{4}$ - $1\frac{1}{4}$"
X =	$\frac{1}{4}$ - $\frac{1}{2}$"	$\frac{1}{4}$ - $\frac{1}{2}$"
Y =	$\frac{3}{4}$ - 2"	$\frac{1}{2}$ - $1\frac{1}{4}$"
WEIGHT=	1.2 - 2.4 oz./inch	1.0 - 1.6 oz./inch

EXERCISER

The present invention concerns a device for allowing efficient, beneficial human exercise. More particularly the invention concerns a device having no moving parts but of relatively specific size, weight, configuration and characteristics.

BACKGROUND OF THE INVENTION

As is well known, exercise is necessary for the well being of the human body. Much effort and research has been expended in recent years toward providing programs, methods and devices for providing more efficient utilization of exercise time and effort. Well-known programs of classical bending exercises have been developed. These bending exercises depend, primarily, on the weight of the human body, or parts thereof, for supplying the required tension in the muscles for exercise. While this form of exercise is most convenient in that no apparatus is required, bending exercises are, generally speaking, inefficient for providing full exercise for many muscles of the body. Running or jogging exercises are even less efficient for many muscles of the body, although these exercises do have beneficial effects on the cardiovascular system of the body.

In order to provide more efficient exercises, the art has proposed various devices as aids in exercising various but generally limited numbers of muscles of the body. Among such devices are barbells and like weights, but these devices severely restrict the mode and manner of exercising many muscles, as well as failing to exercise other muscles of the body. Springs, elastomeric devices and similar apparatus are also limited in this regard.

Stationary or movable wheel devices, such as bicycles, monocycles and the like provide some of the advantages of bending exercises along with some of the advantages of running or jogging exercises, but these exercises do not tension all of the important muscles of the body.

Recognizing the difficulties with traditional kinds of exercises and exercise devices, the art has attempted to provide exercises and devices wherein the tension applied to a muscle in exercising is generated by an opposed tension in another muscle. These exercises have been referred to by various names but generally they are known in the art as isometrics. For example, one may press the palms of the hands together and varying amount of force can be generated by the muscles of the arms and shoulders. This produces significant tension in those muscles and exercises thereof. No significant movement need take place during this exercise and, therefore, the exercise is appropriately known as an isometric exercise.

Each of the foregoing kinds of exercises have various advantages and disadvantages, and are practiced by individuals based on convenience and acceptability. It would be, however, most desirable to provide a device which allows the user to more efficiently perform most of these types of exercises, including bending, weight lifting, and isometrics. It would also be advantageous to provide a device which can be inexpensively manufactured, ruggedly constructed and convenient to use.

OBJECTS OF THE INVENTION

In view of the above, it is an object of the invention

to provide a device which allows the more efficient use of bending, weight lifting, and isometric exercises and which device is inexpensive, rugged and convenient to use. It is an additional object to provide a device which not only provides beneficial results to the health of the user, but also provides entertainment and amusement in its use. Other objects will be apparent from the following disclosure and claims.

BRIEF SUMMARY OF THE INVENTION

Accordingly, briefly stated, the present invention provides an exerciser device which contains no moving parts and can be constructed of very durable and rugged materials for long and hard use. The device is of sufficient weight that many weight-lifting exercises can be performed therewith and of such a configuration and character that a wide variety of increased effectiveness bending exercises can be practiced. Additionally, the configuration of the device is such that new and improved isometric exercises can be performed. The device comprises a rigid single elongated member having a length capable of being grasped at each end thereof by the hands of the outstretched arms of the user. The member has a central portion with a cross-sectional configuration so that the central portion is capable of being held within the clasp of the user's hand and end portions which are capable of being substantially held within the grasp of the partially closed hands of the user. The weight of the member is such that significant tension is placed on the arm and shoulder muscles of the user when lifting the member with one outstretched arm. The surface of the member is relatively soft and yieldable so that the member may be firmly but confortably pressed against the body of the user.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates an embodiment of the device of the present invention;

FIG. 2 illustrates a satisfactory construction of the device of FIG. 1 and the Figure shows the components thereof cut away;

FIG. 3 shows the preferred configurations of the inner core of the device; and

FIG. 4 shows a position for exercise with the device of FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

Turning now to FIG. 1, it will be seen that the device comprises a generally elongated member 1, having a central portion generally designated by 2 and end portions 3 and 4. The peripheral distance around the central portion 2 is such that it can be conveniently clasped within the hand of the user. This does not mean, however, that the hand of the user must completely circumscribe that central portion, and the intention is only that the central portion should have a cross-sectional configuration that the clasped hand of the user can firmly and securely grip that central portion of the device for control thereof. While portions 3 and 4 can be of any desired shape, it is preferred that they be concave in order to provide a configuration suitable for firmly grasping within the hand 5 (dashed lines) of the user when the hand is placed thereover. Similarly, through the specification and claims, the terms "within the grasp," "within the clasp" and "within the palm" is not intended to mean that the referenced portion is circumscribed thereby, but controllably held within the

"grasp," "clasp" and "palm." If desired, the height of the end portion H could be less than or greater than the width of a hand, but it is preferred that this height be not significantly more than twice the width of the hand of the user in order to insure that the end portions **3** and **4** may be firmly grasped by the hands of the user when exercising. Similarly, the thickness T of the device at the end portions thereof should be such that it can fit within the grasped palm of the hand of the user although here again, larger thicknesses can be used if desired. Thus, the thickness could be as much as twice the thickness which can be held within the palm of the grasped hand of the user. As noted above, the length L should be suitable for grasping within the hands of the outstretched arms of the user. The length should be such that the angle θ formed by the arms of the user with the device being held straight out is no more than 80° and preferably between 30° and 70°, e.g. about 60°. Of course, the length may be somewhat longer and the angle of the arms of the user with the device, as noted above, could be as low as 15°. The demension, e.g., height H_1 and the thickness T_1, of the central portion should be from about 0.3 to about 0.9 of the demensions H and T, discussed above in connection with the end portions. In order to provide lifting muscular tension during some exercises, it is preferred that the weight per linear inch of length L of the device be from as little as 1.0 oz. per linear inch for a child to about 1.2 and 2.4 ounces per inch for an adult (These are average weights per inch of length L, accounting for the different weight per linear in the central portion.) Although for special purposes and exercises, the total weights can, obviously vary beyond this range, e.g., total weights of from 2 ½ to 10 lbs. especially between 4 and 8 lbs., i.e., 6 lbs. The device is preferrably approximately balanced about the mid point thereof, i.e., ½ L. This provides more sure use in exercising.

While any convenient manufacture of the device may be used, FIG. **2** shows a satisfactory construction. The exerciser **10** shown cut away at **11** comprises a relatively hard, rigid and weighted core member **12** which may simply be a suitably shaped relatively hard and dense piece of wood. However, the core could be metal, plastic or ceramic (either solid, foamed or hollow) so long as the above noted configurations and conditions are met. The core is rounded slightly at the edges, as shown at **13** and **14,** to eliminate sharp corners which could cause discomfort in use. End portion **15** is preferrably concaved. While the degree of the concaveness is not critical, it is preferred that the radius thereof, R_1, be from about 4 to 25 inches, especially between about 8 and 20 inches. Similarly, the radius, R_2 of the central portion should be about 4 to 25 inches, especially about 8 to 20 inches. The core member is covered with a soft, yieldable and resilient interlayer material **16** which will allow firm but comfortable contact with the body of the user. This resilient and yieldable material may conveniently be a plastic foam material, e.g., polyurethane foam, latex foam (synthetic or natural) or felted materials. The thickness of the yieldable material is not critical and will depend to some extent on the material chosen but it should be of sufficient thickness to give a firm but resilient surface, e.g., one-fourth to 1 ½ inches thick. The yieldable material is adhered to the core in any desired manner, e.g. tacks, glue, staples, etc., or may be simply held in place by confinement within the outer covering material **17.** The outer covering material may be plastic film, woven or non-woven fabric, leather, or any other suitable abrasion resistant covering. It is preferred that a fabric coated with polyvinyl chloride plastic be used in this regard. The covering may be attached by suitable upholstering techniques, including sewing, tacking, stapling, gluing and the like, all of which is well known in the art. Alternately, suitably disposed stitching, or zippers, as illustrated at **18,** may be used if desired. Of course, the combination of the yieldable material and covering on the rigid core should still produce a finished configuration in the nature indicated by FIG. **1.**

FIG. **3** shows a preferred configuration for the rigid core. That figure also shows in tabular form suitable dimensions for the core in producing a device for both an average adult and an average child.

While the device has been illustrated as rectangular in cross-section, it may be round, square or elliptical along its length or in parts thereof or in combinations. It is only necessary that the configuration provide the foregoing capabilities for clasping and grasping the device. Also, while the illustrated construction is an upholstery construction, the device may be constructed by any desired means. For example, the entire device may be molded from plastic, e.g., with a rigid core (foamed or unfoamed) and a soft compressable outer skin.

Considering now the method of use, it can be easily appreciated that a lateral force may be exerted across many portions of the device. For example, a lateral force may be produced by attempting to constrict the outstretched arms of the user with the hands of the user grasped around the end portions of the device. FIG. **4** shows such a use of the device. By applying a tension on the muscles in such lateral force, a convenient isometric exercise may be performed. While holding the device in the same manner as indicated by FIG. **4,** the device may be simply moved behind the neck and to the shoulders of the user whereby the central portion rests on the upper spinal column of the user. In this position, a number of exercises can be performed. Thus, the device may be pressed downwardly with the arms and resisted by the back muscles to give a most advantageous exercise to the biceps, shoulders and upper back muscles. The device may be shifted to the right or the left and pressed in an isometric manner, as described above, to exercise additional back, shoulder and arm muscles. Also, while the device rests on the shoulders, the body may be twisted laterally at the waist while performing an isometric tension to give additional exercise to the waist muscles. Alternately, with the device on the shoulders behind the neck, the body may be bent from right to left at the waist with isometric pressure from the arms and shoulders to exercise waist and shoulder muscles.

With the device held in the outstretched arms over the head of the user, in isometric compression, the device may be rotated to the right or the left of the user so that the device comes to a substantially vertical position and isometric forces are applied thereto by the user. This causes stress on the back, arms and waist muscles.

The device may be clasped at one end with the right or left hand and the other end of the device placed on the front part of the corresponding right or left foot. By swinging the leg and applying isometric tension to the device by the foot and hand, very advantageous exer-

cises of the thigh muslces as well as the biceps and forearms are performed. Similarly, instead of swinging the leg, the leg may be brought vertically upward. This engages other muscles of the leg in a very advantageous manner.

The device may be held behind the user at the small of the back and grasped by the hands of the user at the ends thereof on the side opposite from the side of the device contacting the back of the user. The hands and arms may then be pressed both inwardly of the length of the device and transverse to the longitudinal length of the device to provide exceeding tension on the entire upper torso of the user. In this position, swinging and bending movements may also be accomplished.

One end of the device may be placed on the floor and the other end grasped by both hands. The user then straddles the device and sits thereon supporting his weight by the arms and legs at the same time.

Of course, the device can be simply held in any position and lifted up and down, as a weight. The device is also of such configuration that it can be twirled in the manner of a baton to give unusual exercises, bearing in mind the weight of the device. The device can be thrown, tossed and compressed in various ways to provide efficient means for yet further exercises.

The foregoing illustrates typical variations of exercises which can be carried out with the present device, but it should be understood that these illustrations merely represent but a few of a great many exercises which can be performed in exercising specific muscles in specific manners. As will also be readily apparent from the foregoing disclosure, many variations of the specific device illustrated above can be constructed following the principles fully disclosed hereinbefore. Accordingly, it is intended that these suggested devices be embraced by the spirit and scope of the following claims.

What is claimed is:

1. An exerciser device comprising a rigid, single, elongated member having no moving parts:

A. a length capable of being grasped at each end thereof by the hands of the outstretched arms of a user and the length being such that the angle formed by the arms of the user with the device being held straight out is between 80° and 15°;

B. a central portion which is capable of being held with the clasp of the user's hand;

C. end portions which are capable of being held within the grasp of partially closed hands of the user;

D. a yieldable surface whereby the said member may be firmly but confortably pressed against the body of the user; and

E. a weight per average linear inch of length of from 1.0 to 2.4 oz.

2. The exerciser device of claim **1** wherein the thickness of the device is no more than twice the thickness that can be held within the palm of the grasped hand of the user.

3. The exerciser of claim **1** wherein the weight per linear inch is from 1.2 to 2.4 oz.

4. The exerciser device of claim **1** wherein the end portions are concave.

5. The exerciser device of claim **1** wherein the central portion has dimensions of from 0.3 to 0.9 that of the dimension of the end portions.

6. The exerciser device of claim **1** wherein the device is approximately balanced at the mid point of its length.

7. The exerciser device of claim **1** having a relatively hard and rigid core, a yieldable interlayer material and an outer covering.

8. The exerciser device of claim **7** wherein the core is wood, the yieldable inter-layer is a plastic foam and the outer-layer is a plastic film.

9. The exerciser device of claim **1** wherein the said angle is between 30° and 70°.

* * * * *