United States Patent [19]

Kamp

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[54] **BELT TYPE ISOTONIC EXERCISING DEVICE**

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[73] Assignee: **Thomas J. Perri,** Pembroke Pines, Fla. ; a part interest

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[52] **U.S. Cl.** ..... **272/79 R,** 272/68, 272/DIG. 3

[51] **Int. Cl.** **A63b 21/30,** A63b 21/00

[58] **Field of Search** ..... 272/79 R, 82, 83 R, 272/67, 68

[56] **References Cited**

UNITED STATES PATENTS

3,117,781	1/1964	Vargo	272/79 R
3,119,614	1/1964	Berry	272/79 R
2,187,987	1/1940	Sherrick	272/67
3,068,003	12/1962	Portman et al.	272/79 R

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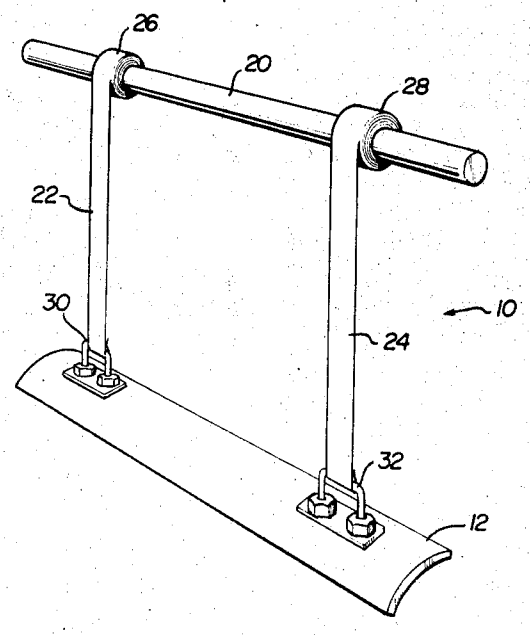
[57] **ABSTRACT**

An exercising device for carrying out isotonic exercises wherein a rod is connected to the under side of a curved base strip by a pair of flat straps, which are rolled on themselves on the rod, is gripped by a user with a material which slips, and the rod is moved away from the base strip with the straps taut. The rod rotates in the material and the straps unroll from the rod. The force required to move the rod is regulated by the strength of the friction developed which is in proportion to the grip of the user.

5 Claims, 3 Drawing Figures



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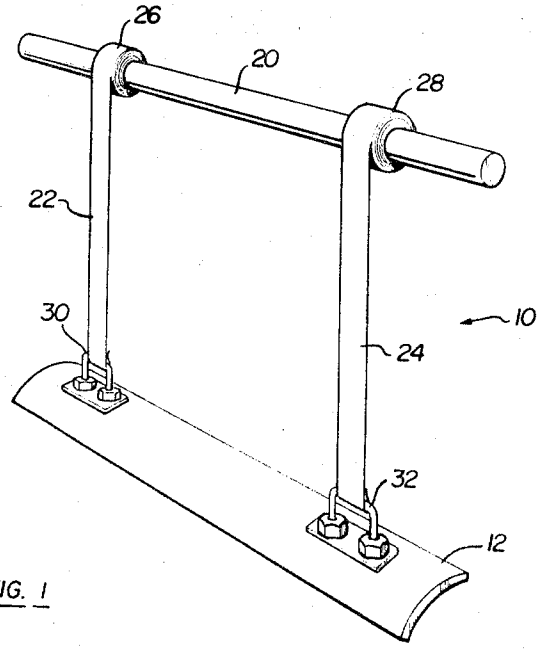


FIG. 1

FIG. 3

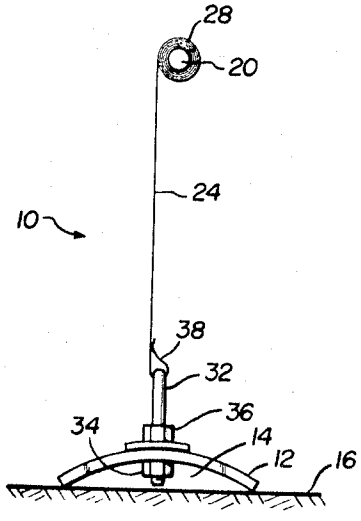
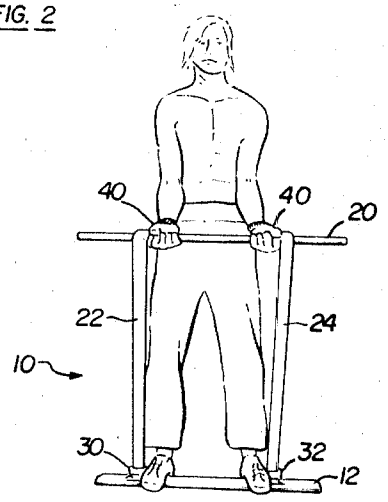


FIG. 2



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BELT TYPE ISOTONIC EXERCISING DEVICE

BACKGROUND OF THE INVENTION

Exercising with weights, although effective, involves considerable inconvenience and sometimes takes more time than is available to the person exercising. In order to exercise in the home, the person needs a set of weights which can be relatively bulky and takes up considerable space in storage. It is sometimes necessary to change the arrangement of the weights, for example, to add more weight to a bar bell or to subtract weight. This takes time and is incovenient. It is not convenient for a person to travel and take conventional weight lifting equipment with him.

For these and other reasons, it would be desirable to have a highly effective exercising device which would exercise the muscles of a person in a manner similar to weight lifting, but which would be easier to use, more portable, and take less storage space.

SUMMARY OF THE INVENTION

The present invention provides an exercising device in which the effort expended by the user in carrying out isotonic exercises is controlled by the strength of his grip on a rod which is manipulated in much the same manner as a bar bell. The rod is connected to a base strip by a pair of straps, and the user in many exercises stands on the base strip and forces the rod away from the base strip while the straps unroll from the rod. The straps are taut, and the rod rotates in the hands of the user. An important element of the apparatus is material with which the user grips the rod with a slipping grip. This material may be gloves or sleeves. As the rod rotates in the hands of the user, it slips relative to the gloves, and by controlling the strength of his grip, the user regulates the amount of effort needed to force the rod away from the base strip. The gloves are made of a material such as leather which allows the metal rod to slip with a desired degree of friction so that the grip can properly control the effort needed to carry out the exercise.

Accordingly, it is an object of the present invention to provide an isotonic exercising device which operates on a grip slippage principle and which is regulated by the grip of the user.

Another object of the invention is to provide an isotonic exercising device which is safe, convenient, and portable.

Another object of the invention is to provide an isotonic exercising device which can be used by one person without help.

A further object of the invention is to provide an exercising device in which a rod is connected to a base by straps, and including gloves with which the user grips the rod while forcing the rod away from the base to unroll the straps from the rod with the rod rotating and slipping in the gloves.

A further object of the invention is to control the slippage of the rod in the gloves by adjusting the strength of the grip of the user on the rod.

Other ojbects of this invention will appear from the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an exercising device in accordance with one embodiment of the invention;

FIG. 2 is a view showing a person carrying out an isotonic exercise with the device of FIG. 1; and

FIG. 3 is an end view of the exercising device of FIG. 1.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

AS SHOWN ON THE DRAWINGS

The exercising device **10** includes a relatively long, narrow base strip **12** which is preferably made of metal. The The base strip has its center curved upwardly to provide a space **14** under the strip **12** when the strip is resting on a surface such as the floor **16.** The base strip **12** is preferably made of metal such as steel, although other materials are possible.

A straight rod **20,** which is approximately the same length as the base strip **12,** is connected to the base strip by a pair of narrow, elongated, flat straps **22** and **24.** The rod **20** may be solid or hollow as desired. It has smooth, continuous circular surfaces. The rod **20** is preferably made of metal such as steel, although other materials are possible.

The straps **22** and **24** are spaced laterally a distance sufficient to allow the body of the user to fit between the straps as shown in FIG. **2.** The upper ends of the straps are secured to the rod as with rivets. The straps are rolled upon themselves in the manner shown at **26** and **28** so that the rod can be forced away from the base strip with the straps taut and unrolling from the rod. The lower ends of the straps are secured to fastening means **30** and **32** which are preferably U-bolts as shown. The U-bolts **30** and **32** have nuts such as **34** threaded onto the lower ends of the bolts in the space **14** beneath the base strip **12,** and the nuts and bolt ends fit appropriately in the space under the curved base strip. The bolts extend through the base strip and may have other nuts **36** threaded thereon to tighten the bolts relative to the base strips. The lower ends of the straps **22** and **24** are looped around the upper ends of the bolts **30** and **32** as shown at **38** and are stitched to the body of the straps so as to secure the straps to the bolts. The lower ends of the straps and the upper ends of the straps are spaced at the same distance so that the straps are parallel to each other.

An important element of the apparatus or device is material for gripping the rod such as a pair of gloves **40.** The gloves are worn by the user so that he can control the effort which is required to carry out isotonic exercises. The gloves are preferebly made of leather or other material which will have sufficient friction relative to the metal rod **20** to made it possible to retard rotation of the rod by gripping the rod and yet allow the rod to slip in the gloves. At least the palm side of the glove is made of this material. The straps **22** and **24** may be made of any flexible webbing material, preferably fabric. An alternative to gloves is a sleeve of leather

or the like which fits on the rod with a slip fit. A sleeve may be provided on each end of the rod.

The user is shown carrying out a curl exercise in FIG. 2. It will be understood that many other exercises can be carried out using the apparatus in the same manner as bar bells are used. In most exercises, the user stands on the base strip **12** with his feet between the bolts **30** and **32** as shown in FIG. **2,** but it is to be understood that the base strip could be hooked under a bench for exercises which are carried out in a prone position. In FIG. **2,** the straps **22** and **24** have been rolled on the rod so that at the beginning of the exercise the rod is just below waist level. The user raises the rod until the straps **22** and **24** are taut. Then the user forces the rod upwardly and allows the rod to rotate in his hands against the leather surfaces of the gloves while gripping the rod relatively hard so that considerable force is required to unroll the straps from the rolls **26** and **28,** thus allowing the rod to move upward. The amount of effort required to carry out the exercise is regulated by the strength with which the user grips the rod. Thus, the principle of the device is based on grip slippage.

Many different exercises can be carried out in a manner similar to that described above. Examples are toe raises, dead lift, upright row, press, French curl, squat, bench press and others. The device is relatively light and can be moved easily from place to place. The grip is developed with every exercise. The upward curve of the base fits the arch of the foot for comfort when barefoot, and also provides space for the fastening means. Effort is regulated by the grip, so there is no need to change weights.

Having thus described my invention, I claim: **1.** An exercising device for carrying out isotonic exercises, comprising a long and narrow base strip, a straight smooth metal rod, a pair of narrow elongated flat straps secured at one end to said rod and at the other end to said base strip and spaced uniformly at said ends to receive the body of the user between the same, said one ends of said straps being wound entirely upon themselves in rolls on said rod in which each turn of each strap except the first turn is entirely on top of the underlying turn and coextensive therewith to balance the forces on said rod, and a separate slip material for use by the user for gripping the rod, said material offering little frictional resistance to permit slipping of said rod when said rod is moved continuously away from said base with the straps taut and with the rod rotating in the material and the strap rolls unrolling from themselves and the rod, the force required to move the rod being regulated by the grip of the user, said strip having a cross-section in the form of an upwardly curved arch including a convex curved surface on the upper side of said arch to fit the foot of the user and a concave curved surface on the lower side of said arch to receive a fastening means for fastening the lower ends of the straps and said arched base strip having a dome shaped space underneath the same in which the lower ends of the strap fastening means are fixedly connected to said strip.

2. The exercising device as claimed in claim **1** in which said fastening means comprises U-bolts having nuts under said base strip in said space and extending through said base strip and above the same to provide loops having said other ends of said straps secured thereto.

3. The exercising device as claimed in claim **1** in which said base strip and said rod each consist of metal, and said straps being comprised of fabric webbing.

4. The exercising device as claimed in claim **3** in which said slip material is in the shape of gloves.

5. The exercising device as claimed in claim **4** including bolting means fastening said straps to said base strip.

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