April 9, 1963 R. NIELSEN 3,084,547

EXERCISING DEVICE

Filed Sept. 27, 1961

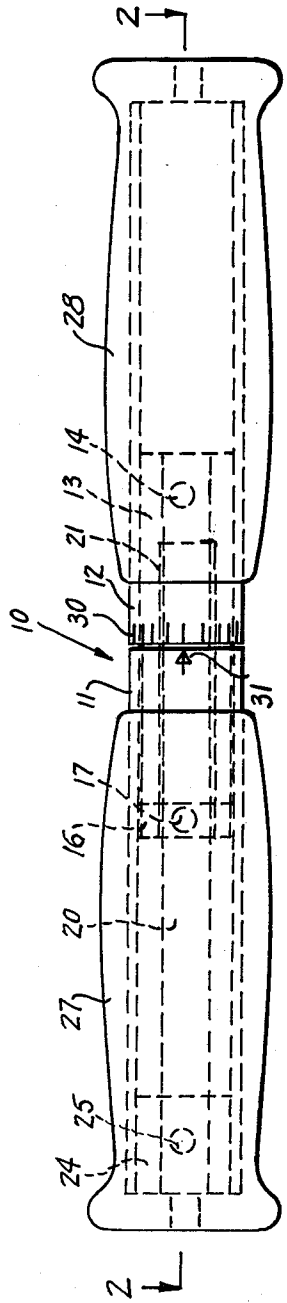

FIG. 1

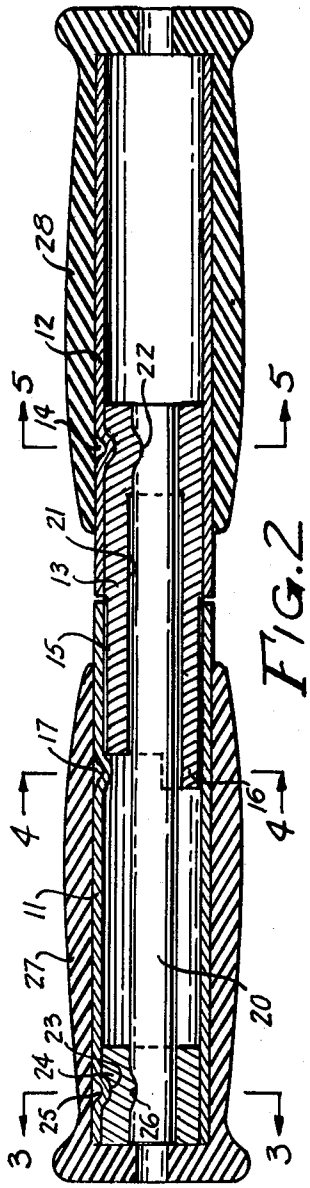

FIG. 2

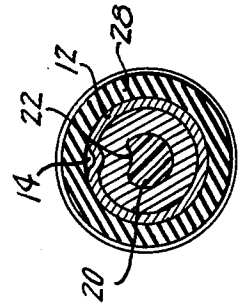

FIG. 5

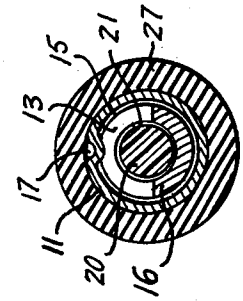

FIG. 4

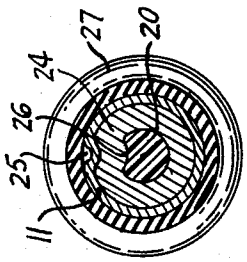

FIG. 3

INVENTOR.
RUDOLPH NIELSEN
BY
Kimmel & Crowell
ATTORNEYS.

United States Patent Office

3,084,547

Patented Apr. 9, 1963

3,084,547

EXERCISING DEVICE

Rudolph Nielsen, 709 Monroe St., Apt. 103, Rockville, Md.

Filed Sept. 27, 1961, Ser. No. 141,149

6 Claims. (Cl. 73—379)

This invention relates to an exercising device and has particular applicability to a torque bar type wrist exercising device.

A primary object of this invention is the provision of a simple device adapted to be grasped by the hands of the user and twisted, thus developing the muscles of the wrist and forearms.

An additional object of the invention is the provision of such a device provided with calibrations which will indicate the strength required for exercising and turning the torque bar a predetermined distance.

A further object of the invention is the provision, in association with such an exerciser, of stop means which will positively preclude complete rotation of the bar and consequent damage or breakage.

A further object of the invention is the provision of a device of this character wherein the torque bar per se is made of nylon or similar material having characteristics of high tensile strength.

Still another object of the invention is the provision of a device of this character which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and assemble.

Still other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawing wherein:

FIGURE 1 is a top plan view of the exercising device of the instant invention, certain concealed elements thereof being indicated by dotted lines.

FIGURE 2 is a sectional view taken substantially along the line 2—2 of FIG. 1 as viewed in the direction indicated by the arrows.

FIGURE 3 is a sectional view taken substantially along the line 3—3 of FIG. 2 as viewed in the direction indicated by the arrows.

FIGURE 4 is a sectional view taken substantially along the line 4—4 of FIG. 2 as viewed in the direction indicated by the arrows; and

FIGURE 5 is a sectional view taken substantially along the line 5—5 of FIG. 2 as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawings in detail, the device of the instant invention is generally indicated at 10 and is comprised of two aligned tubular members 11 and 12. Members 11 and 12 may be made of aluminum, although any other suitable metal or plastic may be employed, if desired. A bushing 13 is interposed between the two tubes, the bushing also being comprised of aluminum or similar suitable material and is secured to the sleeve 12 by means of an indentation 14, the bushing being relatively reduced in diameter as indicated at 15 in order that the sleeve 11 may rotate relative to the sleeve 12 about the bushing 13 in a manner and for a purpose to be described hereinafter. As best shown in FIGS. 2 and 4, an elongated semi-circular flange 16 is provided at one end of bushing 13 and, by its abutment with an indentation 17 in tube 11, precludes rotation of the tubular members 11 and 12 more than 180° relative to each other.

A torque bar 20 extends through a central bore 21 in

bushing 13 and is held securely therein by means of an indentation 22. The other end of torque bar 20 extends into a bore 23 in a bushing 24 carried at the far end of tube 11, the bushing 24 being secured to the tubular member 11 by means of an indentation 25 and to the torque bar 20 by means of an indentation 26. Torque bar 20 is preferably comprised of nylon or similar high tensile strength material which will require considerable manual effort on the part of the operator to twist.

Rubber hand grips 27 and 28 surround the tubes 11 and 12, respectively, so that when one of the grips is grasped in each hand and turned oppositely relative to each other, considerable force is required to twist the torque tube 20, and by this twisting exercise is obtained for the wrists and forearms. The tube 12 illustratively is provided with a series of graduations 30 thereon, the graduations being calibrated in eight divisions, four to the left and four to the right of zero, the divisions being preferably 18° apart for a total of 144° of torque in opposite directions. Tube 11 carries a zero point indicator 31 at its central point which is aligned with the central point of the graduations when the torque tube bar is in its normal position of rest.

While the torque bar 20 has been shown illustratively as round in cross section, it may obviously be of other configuration, if desired.

From the foregoing it will now be seen that there is herein provided an improved exercising device particularly adapted for exercise of the wrists and forearm muscles, which accomplishes all the objects of this invention, and others, including many advantages of great practical utility.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. An exercising device comprised of a pair of aligned sleeves, a bushing secured interiorly of each sleeve, a twistable nylon torque bar extending between said bushings and secured to each bushing whereby said sleeves may be twisted relative to each other.

2. An exercising device comprised of a pair of aligned sleeves, a bushing secured interiorly of each sleeve, a torque bar extending between said bushings and secured to each bushing whereby said sleeves may be twisted relative to each other, and stop means limiting the relative twisting movement of said sleeves.

3. An exercising device comprised of a pair of aligned sleeves, a bushing secured interiorly of each sleeve, a torque bar extending between said bushings and secured to each bushing whereby said sleeves may be twisted relative to each other, stop means limiting the relative twisting movement of said sleeves, and a hand grip surrounding each sleeve.

4. An exercising device comprised of a pair of aligned sleeves, a bushing secured interiorly of each sleeve, a torque bar extending between said bushings and secured to each bushing whereby said sleeves may be twisted relative to each other, stop means limiting the relative twisting movement of said sleeve, a hand grip surrounding each sleeve, calibrations on the end of one sleeve and an indicator on the adjacent aligned end of the other sleeve for indicating the degree of torque exerted on said torque bar.

5. An exercising device comprised of a pair of aligned sleeves, a bushing secured interiorly of each sleeve, a torque bar extending between said bushings and secured to each bushing whereby said sleeves may be twisted relative to each other, stop means limiting the relative twisting movement of said sleeve, a hand grip surround-

ing each sleeve, calibrations on the end of one sleeve and an indicator on the adjacent aligned end of the other sleeve for indicating the degree of torque exerted on said torque bar, said torque bar being comprised of nylon.

6. An exercising device comprised of a pair of aligned sleeves, a bushing secured interiorly of each sleeve, a torque bar extending between said bushings and secured to each bushing whereby said sleeves may be twisted relative to each other, stop means limiting the relative twisting movement of said sleeve, a hand grip surrounding each sleeve, calibrations on the end of one sleeve and an indicator on the adjacent aligned end of the other sleeve for indicating the degree of torque exerted on said torque bar, said torque bar being comprised of nylon, and said sleeves and bushings comprised of aluminum.

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