June 20, 1967 J. V. MELCHIONA 3,326,550

EXERCISING GRIP OF RESILIENT MATERIAL

Filed Aug. 5, 1963

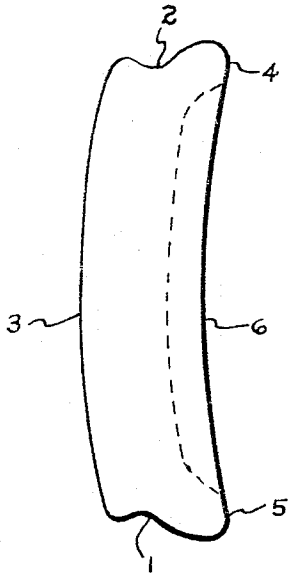


FIG. 1

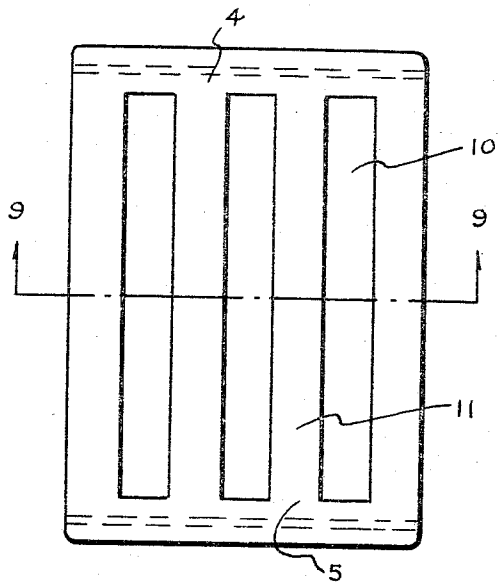


FIG. 2

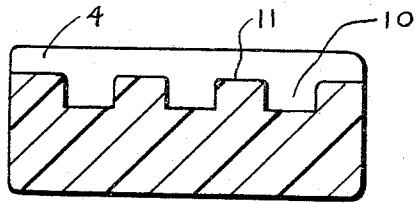


FIG. 3

INVENTOR.

James V. Melchiona

United States Patent Office

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EXERCISING GRIP OF RESILIENT MATERIAL

James V. Melchiona, 6724 Menz Lane,
Cincinnati, Ohio 45238

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This invention relates to a finger, hand and forearm, grip developing exerciser. There are many grip developing exercisers that utilize compressing of materials or pressure against springs for resistance.

The objections to these types of grip exercisers are that repeatedly squeezing them hurts the fingers because of pressure from handles or other portions of the exerciser against part of the fingers only.

I propose to show an exerciser that, when squeezed, will exert an evenly distributed pressure against the whole palm and all the fingers, which will give the user comfort the same as if he were pressing against a smooth flat surface or a round ball, and yet function in a full range movement.

The material compresses when squeezing a solid ball and becomes more dense. The fingers can move only slightly in this function. For people with arthritis and other ailments, who wish to keep the joints in the fingers flexible, full flexing movement of the fingers is needed when exercising; opening and closing the hand being the most important desired function that is required against a resistance.

I will show an exerciser that combines all of the desired features as described and also combines means to increase or decrease the degree of resistance as desired.

I take a piece of compressible material and shape it convex on one side and concave on the other. I form indentations on two opposite ends as locking means. On the concaved side I form alternate ribs and grooves.

The construction and functioning of the unit will be explained as I refer to the drawings, wherein:

FIG. 1 is a side view of my device;

FIG. 2 is a plan view showing the concave face of the device; and

FIG. 3 is a section taken on line 9—9 of FIG. 2.

The grooves **1** and **2** are the locking points for the hand. The convex side **3** is held toward the palm of the hand, the finger tips fit into the groove **2** and the flesh of the hand at the inside base of the thumb is received into the groove **1** to lock the unit in position as a slight pressure is exerted by the fingers.

As the hand closes, the two opposite ends **4** and **5** of the unit are forced toward each other till they meet, at which point the convex side **3** fits into the hand in a rounded form.

The device will resist for exercise as it is alternately bent and allowed to come back to its normal contour.

The muscles in the hand, wrist and forearm are used in this function.

The device can also be used for individual finger exercises. For this function, the device faces the palm with the concaved side **6**, the finger is placed in the groove **2** and the inside tip of the thumb locks in the groove **1** in the opposite end. The finger and thumb close toward each other bringing the ends **4** and **5** of the device to meet as the unit bends for resistance.

It is necessary to form the contour of the unit as

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shown so it will bend the right way from pressure on its opposite ends, as a straight piece could not be controlled. It is also necessary to have locking means at its opposite ends to position the device properly in the hand to start the functioning of the unit, and to allow it to be held securely while using.

FIG. 2 is a plan view of the unit showing the concave face of the device. A feature that allows the standardization of the dimensions of the unit and also the material used, and yet makes it possible to alter the degree of resistance in all same sized units, is shown by the alternating grooves **10** and ribs **11**. The depth of the grooves **10** and the width of the ribs **11** will govern the optical degree of resistance to be incorporated in the unit. The ribs compress and resist as the unit functions. The ends **4** and **5** meet and touch at the maximum resistance position of the unit in its function.

Referring again to FIG. 1, it can be realized that as the unit is held in position with the convex side **3** toward the palm and pressure is exerted to force the two ends **4** and **5** toward each other for exercise, the unit will form into a rounded shape and the surface of the unit against the palm and fingers will be smooth and the pressure evenly distributed so it can't hurt the user no matter how hard he squeezes it.

FIG. 3 is a section taken on line 9—9 of FIG. 2. The alternating grooves **10** and ribs **11** are shown. The end **4** at which location the grooves and ribs terminate is shown. It can be seen how the depth of the grooves and width of the ribs will determine the degree of resistance of the unit.

The invention is not limited to the details of construction and arrangement of parts shown in the drawing, which are merely illustrative of the preferred embodiment and capable of modifications within the scope of the appended claims.

Having thus described the invention, what is claimed is:

1. A finger, hand grip developing exerciser consisting of a flexible, resilient piece of material formed into a contoured, slightly concaved shape, indentations at the extreme ends sufficient to allow gripping and locking between the fingers and thumb, grooves and ribs formed on the one side extending longitudinally of said piece and the other side free of protrusions, the unit capable of bending until the opposite ends meet for resistance in exercising the fingers.

2. An exerciser as set forth in claim **1** characterized by the fact that the concave side is formed with alternating grooves and ribs, and the convex side solid and smooth.

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RICHARD C. PINKHAM, *Primary Examiner.*

A. W. KRAMER, *Assistant Examiner.*