United States Patent

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[54] ELASTIC TYPE EXERCISER WITH ELASTICALLY HELD HAND GRIP ASSEMBLY

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[52] **U.S. Cl.** ..... **272/82,** 272/57 R, 128/25 R

[51] **Int. Cl.** **A63b 21/00,** A63b 21/02

[58] **Field of Search** ..... 124/20; 272/82, 83 R, 79 R

[56] **References Cited**

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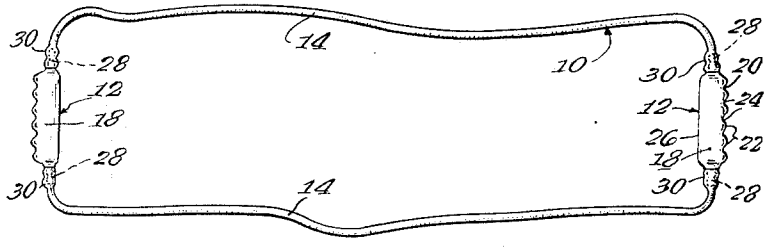
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[57] **ABSTRACT**

An exercising device having a pair of resiliently connected handles. Each handle has a gripping portion which extends through the user's hand to provide a hand-grasp during exercise, and connecting portions which are integral with and extend longitudinally from respective ends of the first portion. A pair of elastic tubes of equal lengths connect the handles and have an internal diameter less than the diameter of the connecting portions of the handles. One connecting portion of each handle is resiliently received in the end of a tube to interconnect the handles and allow flexation of the device by the user.

6 Claims, 6 Drawing Figures



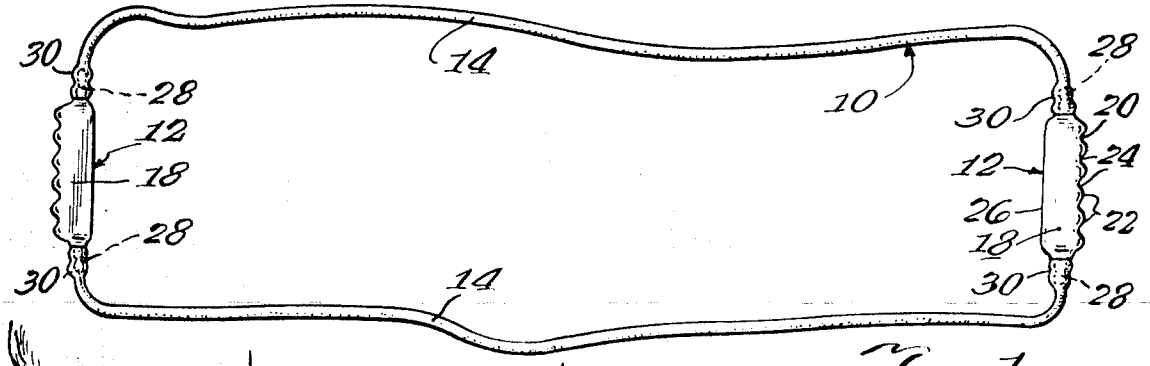


Fig. 1



Fig. 2

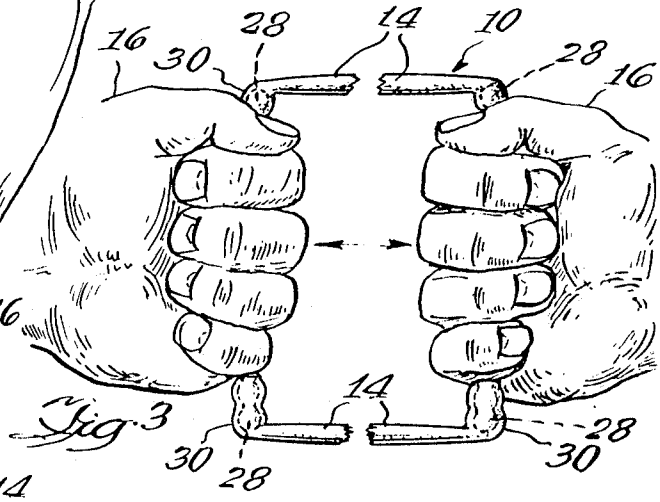


Fig. 3

Fig. 6

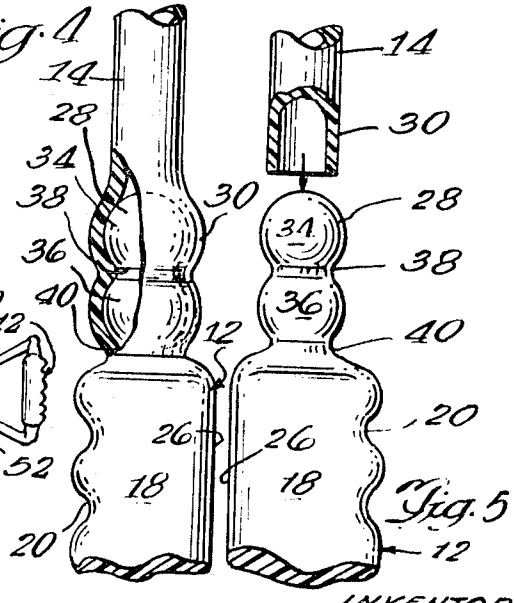


Fig. 5

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ELASTIC TYPE EXERCISER WITH ELASTICALLY HELD HAND GRIP ASSEMBLY

BACKGROUND OF THE INVENTION

This invention relates to an improved exercising device.

Before the present invention, various devices have been proposed for exercising the arm and chest muscles. In some of these devices, elastic materials have been connected to a pair of handles to permit flexation of the device for exercise. However, difficulty has been encountered in attaching the elastic material to the handles due to deterioration of the material and wear in the device with resulting severence of the connection. Moreover, the attachment has often been made through the use of additional parts which add to the cost of the device and which pose the chance of damage to the clothing or injury to the skin of a user during exercise.

SUMMARY OF THE INVENTION

One feature of the present invention is that the handles of the exercising device are connected to flexible tubes in a simplified manner and without extra or moving parts. More particularly, a pair of handles have a grip portion to provide a hand-grasp during exercise with sufficient length to extend through both sides of the hand. The handles has connecting portions which are integral with and which extend longitudinally from respective ends of the grip portion. A pair of elastic tubes of equal lengths have an internal diameter less than the diameter of the connecting portions. One connecting portion of each handle is resiliently received in opposite end portions of each tube to interconnect the handles.

A feature of the invention is that the resiliency of the tubes retain the tube ends on the connecting portions during exercise.

Another feature of the present invention is that the connecting portions are disposed to apply force to the tubes at approximately right angles to the direction of tube flexation.

The connecting portions include a plurality of contiguous knobs which are longitudinally separated from each other by lateral circumferential depressions.

Another feature of the invention is that the connected tube end portions terminate in the lateral depressions most adjacent the first handle portions to prevent slippage of the tubes from the connecting portions.

Further features will become more fully apparent in the following description of the embodiment of this invention and from the appended claims.

DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. **1** is an elevational view of one embodiment of the exercising device made according to the present invention;

FIG. **2** is a perspective view of the exercising device as flexed by the user's hands and foot;

FIG. **3** is an elevational view, partly broken away, of the exercising device in a stressed condition from flexation by a user's hands;

FIG. **4** is a fragmentary elevational view, partly broken away, on an enlarged scale showing a tube ending resiliently received on a connecting portion;

FIG. **5** is a fragmentary elevational view on an enlarged scale of the connecting portion of the handle with the tube ending unconnected; and

FIG. **6** is a diagrammatic view of the exercising device with the tubes crossed and positioned beneath a user's foot.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIGS. **1** and **3**, an exercising device, generally designated **10**, is shown with a pair of handles, designated generally **12**, interconnected by a pair of resilient tubes **14** of equal lengths. During exercise, the device **10** may be flexed by the hands **16** of a user in order to develop the chest and arm muscles.

The handles **12** have a first portion **18** to allow a hand-grasp during exercise by the user. The first portions **18** are generally round and have sufficient length to extend through both sides of the hands when grasped. On the outside, the first portions **18** are knurled, as at **20**, with alternate protrusions **22** and depressions **24**, and on the inside, the first portions **18** have a flat surface **26**.

Each of the handles **12** has a pair of connecting portions or connectors **28** which are integral with and extend longitudinally from the first portions **18**. The connecting portions **28** serve as a connection between handles **12** and the end portions **30** of tubes **14** for application of force by the handles to the tubes for flexation. Since the connectors extend longitudinally from the first portions **18**, force is applied by handles **12** at approximately right angles to the direction of flexation of the tubes **14**.

As illustrated in FIG. **5**, the connecting portions **28** have first and second knobs respectively **34** and **36** separated from each other by a lateral depression **38** which extends circumferentially around connecting portions **28**. The second knob **36** is intermediate the first knob **34**, each of the latter having a smoothly rounded end surface as seen in FIGS. **4** and **5** and which defines the end of the connecting portions **28**, and the first handle portion **18** and is separated from the first handle portion by a lateral circumferential depression **40**.

As shown in FIG. **4**, the internal diameter of tube endings **30** is less than the diameter of knobs **34** and **36**, and the knobs of connecting portions **28** are resiliently received in tube ends **30** with the end of the tubes terminating in the depressions **40** most adjacent first handle portions **18**. The greater diameter of knobs **34** and **36** expand tube endings **30** in order that the elasticity of the tubes retain end portions **30** on the connectors **28** during flexation of the device **10** by the user. Slippage of tube endings **30** from connecting portions **28** is also prevented by the termination of tubes **14** in depressions **40**, and, in a preferred embodiment, depressions **38** and **40** have a diameter greater than the internal diameter of tube endings **30** to also expand the tube ends. Since knobs **34** and **36** and first handle portions **18** are integral with each other a simplified connection between handles **12** and tubes **14** is provided with no moving parts which could tear the clothing or pinch the skin of a user.

As illustrated in FIG. **1**, the tubes **14** are interconnected to the handles **12** with each end **30** of a tube connected to one connecting portion **28** of different handles **12**, and the tubes are arranged to be substantially parallel to each other during flexation of the device for stability of the handles during exercise.

The simplified structure of the exercising device provides the user with alternate ways in which exercise may be performed. As illustrated in FIG. **6**, the handles **12** may be turned so that the tubes **14** cross at a central location **50**, and the intersecting portions of the tubes are then anchored to the floor by the user's foot **52**. As shown in FIG. **2**, the handles are pulled by the hands **16** to flex the tubes in a vertical direction and provide exercise to the arms and leg of the user.

Preferably, the tubes **14** are made from latex tubing since it is found that latex has greater resiliency and is subject to less deterioration than other flexible materials, such as rubber. In addition, when the exercising device is used for therapeutic purposes, it is found that latex withstands a greater number of clinical sterilizations without deterioration or cracking.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom as modifications will be obvious to those skilled in the art.

I claim:

1. An exercising device comprising:

a pair of handles having a gripping portion to provide a hand-grasp during exercise, said gripping portion having a sufficient length to extend through both sides of a hand when grasped, and each handle having connecting portions integral with and extending longitudinally from respective ends of said gripping portion;

and a pair of elastic tubes each having an internal diameter less than the diameter of said connecting portions, each of said tubes interconnecting the connecting portion of one handle with the connecting portion of the other handle and the interconnections between the tubes and the handles consisting of a plurality of smoothly rounded connecting knobs at each end of each handle and said knobs telescoping within the end portions of the tube.

2. The exercising device of claim 1 in which said connecting portion comprises, the outermost one of said knob of each connecting portion having an uninterrupted smoothly rounded surface defining the end of said connecting portions.

3. The exercising device of claim 2 in which said connecting tube end portions terminate in lateral depressions in the connecting portions most adjacent said gripping portions.

4. The exercising device of claim 3 in which the knobs adjacent said gripping portions are separated from the gripping portions by lateral circumferential depressions.

5. The exercising device of claim 4 in which each of said connecting portions has a first knob defining the end of the connecting portions and a second knob intermediate said first knob and gripping portions, and in which the tube ends terminate between said second knobs and gripping portions.

6. The exercising device of claim 5 in which the diameter of said lateral depressions are greater than the interior diameter of said tubes.

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