

United States Patent

[11] 3,540,724

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[21] Appl. No. 714,841
[22] Filed March 21, 1968
[45] Patented Nov. 17, 1970

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[54] **MULTI-POSITIONABLE EXERCISING DEVICE**
3 Claims, 9 Drawing Figs.

[52] U.S. Cl..... 272/63,
272/57, 272/82

[51] Int. Cl..... A63b 3/00

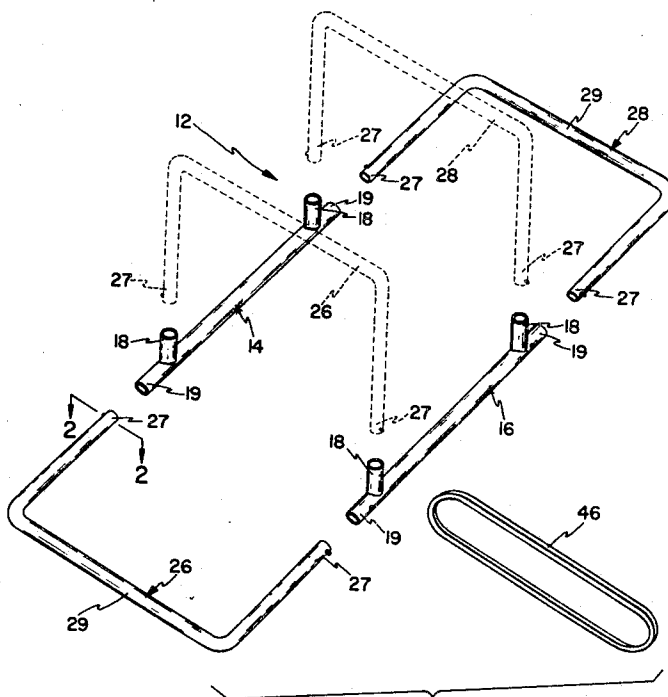
[50] Field of Search..... 272/79, 82,
62, 80, 57, 84, 60, 63, 83

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ABSTRACT: A multipositionable exercising device comprising a frame including parallel two side bars, each adapted at both ends to be jointly releasably joined to the connecting portions of a U-shaped end piece alternatively in either coplanar or angularly related relation. An endless band of resilient elastomeric material may be used with the assembled device to provide a yieldable resistance to movement of selected parts of the exercising device.



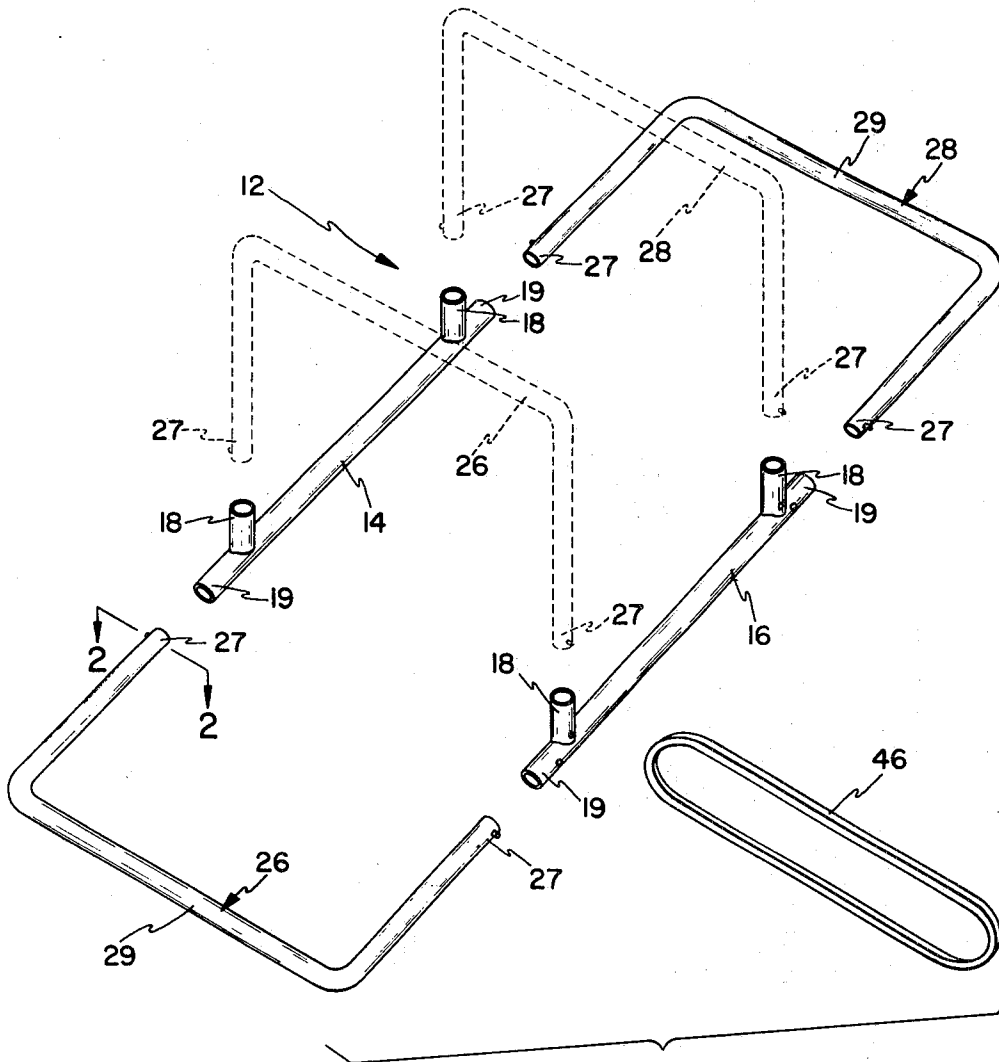


FIG. 1

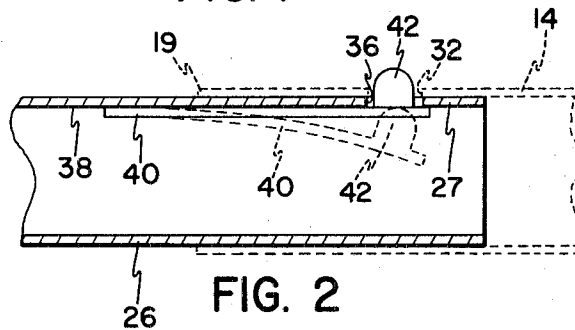


FIG. 2

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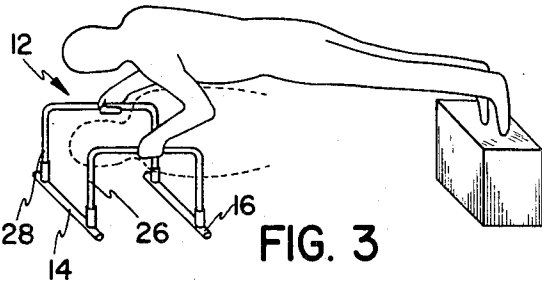


FIG. 3

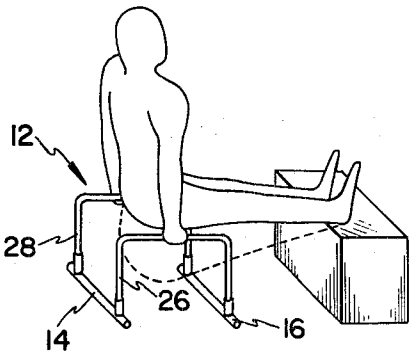


FIG. 4

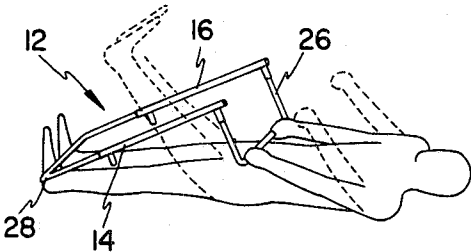


FIG. 5

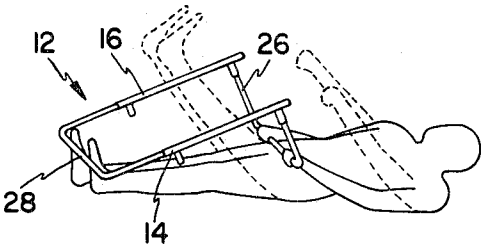


FIG. 6

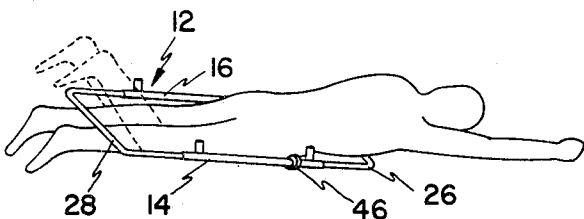


FIG. 7

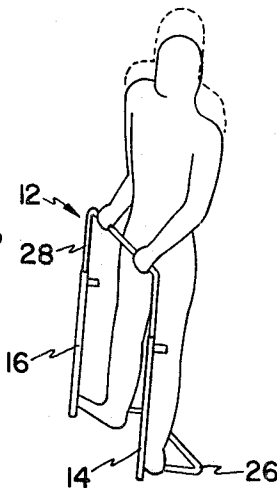


FIG. 9

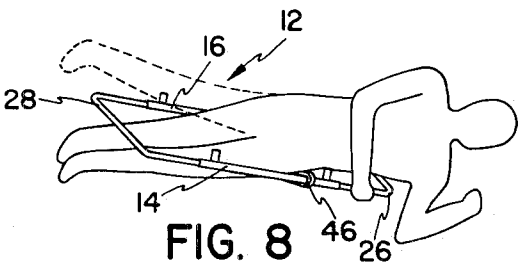


FIG. 8

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MULTI-POSITIONABLE EXERCISING DEVICE

The invention relates to a multipositionable exercising device and more particularly to an exercising device comprising an open, multipositionable frame that is variable in configuration and useful in carrying out a wide variety of exercises.

A vast variety of exercising devices are well known in the art; for example, see U.S. Pat. Nos. 1,705,745 and 3,189,347. Such devices, however, are often limited to a single given configuration, accommodate only relatively few types of exercises, are cumbersome or dangerous to use, and difficult to assemble, occupy an inordinate amount of space or are too costly for purchase by the average consumer.

It is a primary object of the present invention to provide an exercising device which alleviates or overcomes problems of the mentioned type.

In summary, the presently preferred embodiment of this invention features an open frame comprising two parallel sidebars which become part of a closed loop when assembled together with curved U-shaped end pieces. The end elements may be independently disposed within the plane or perpendicular to the plane containing the side bars. A wide variety of exercises can be performed using the device. When an endless elastomeric band is placed to encircle a selected one or more of the components of the assembled frame, additional exercises can be conducted.

Accordingly, another primary object of the invention is to provide a device with which a wide variety of exercises can be performed.

It is a further important object of the invention to provide low cost exercising device which is easy to assemble.

Another significant object of the present invention is to provide an exercising device accommodating assembly in a plurality of configurations.

These and other objects and features of the present invention will become more fully apparent from the following description and appended claims taken in conjunction with the accompanying drawings wherein:

FIG. 1 illustrates in exploded perspective the separate components of the presently preferred embodiment of the invention, alternative positions of the endpieces being indicated in dotted lines;

FIG. 2 is a longitudinal cross section taken along line 2-2 of Figure 1; and

FIGS. 3-9 schematically illustrate various representative exercises which may be performed using the presently preferred embodiment of the invention.

With reference to the FIGS., one presently preferred embodiment of the invention is frame 12 which comprises two sidebars 14 and 16, which are preferably tubular in shape and formed of rigid lightweight material such as aluminum, and at least one end element. In this instance, two end elements 26 and 28 are provided. While either sidebars or end elements may be provided with connector means, in this instance the bars 14 and 16, usually situated in parallel relation, are each provided with an angular connector and an axial connector. In this instance, the angular connector is an upwardly projecting tube-shaped connector 18 at each end and the axial connector is an axially directed connector 19 also at each end. Although each connector 18 could be situated at any desired angle, each is illustrated as being disposed essentially perpendicular to the plane containing bars 14 and 16.

End elements or crossbars 26 and 28 are likewise desirably formed of tubular, lightweight rigid material, such as aluminum, and are preferably U-shaped in configuration.

The end elements 26 and 28 are intended to comprise bridges between the sidebars and, at least at free, connecting ends 27, are so sized and shaped to be telescopically received by and removably joined to the respective free ends of the sidebars 14 and 16 alternatively at connector 18 or connector 19. Contrast the solid and dotted positions of end pieces 26 and 28 in FIG. 2. Thus, when both endpieces 26 and 28 are so joined to the sidebars in any assembled relation, a closed loop is formed. Of course, if desired, two bridges or crosspieces 26

and 28 could be simultaneously disposed respectively in adjacent connectors 18 and 19 at the fore or aft end of the sidebars. Also, three or four end or cross elements 26 and 28 could be simultaneously used to bridge between adjacent connectors 18 and 19 at the two ends of the sidebars in the manner depicted in solid and dotted lines in FIG. 1.

Figure 2 illustrates the presently preferred connector mechanism for preventing inadvertent disengagement of the telescopically joined sidebars and endpieces, once they have been appropriately joined. Since each of the joints is substantially identical, only one will be described. The connector comprises a displaceable detent latch which engages apertures in the sidebar and crosspiece.

Each terminal portion 18 and 19 of the side elements 14 and 16 is provided with an aperture 32 located a distance away from the terminal end of the sidebar. Each terminal end 27 of the endpieces 26 and 28 is likewise provided with an aperture 36 adapted to be positioned in alignment with the aperture 32 when the sidebar and the end element are telescopically engaged as shown.

The detent latch, in this instance, comprises a leaf spring 40 and a button 42. The leaf spring member 40 is permanently attached at one end to the internal surface 38 of the endpiece. The spring member 40 integrally presents an outwardly projecting button 42 which is continuously urged by spring 40 to extend loosely through the apertures 36 and 32. The button 42 has a sufficient length so that it prevents relative axial displacement of the bar 14 and the element 26 and projects outward for easy manual access by the user.

To separate the sidebar and endpiece, the button 42 on each side is depressed from the solid to the dotted position of FIG. 2 counter to the bias of the spring 40 until the button 42 is free from the aperture 32. The sidebars and endpiece are then oppositely relatively displaced until the two members separate from each other.

To join or rejoin an endpiece 26 or 28 in locked relation with the parallel sidebars 14 and 16, the sidebars are positioned as illustrated in solid lines in FIG. 1 and the endpiece is alternately positioned in the solid or dotted position of FIG. 1. The endpiece is relatively displaced toward the sidebars until the ends 27 are telescopically received within the ends 19 or the ends 18, and each button 42 is depressed by such displacement and telescopic reception. When each button is spring returned to bridge through both apertures 32 and 36, the endpiece will be locked in assembled position for use.

The frame further comprises an elastomeric cord 46 which is positionable on at least one of said sidebars and said crosspiece. For example, the cord 46 may encircle either endpiece 26 or 28 or either sidebar 14 or 16 or may externally surround both sidebars. The cord 46 provides a tension or spring force which can be used to load the frame against the body of the user, so that additional physical conditioning exercises may be conducted with the device as is illustrated in FIGS. 7 and 8.

To illustrate several of the numerous possible exercises which may be performed with the presently preferred embodiment 12 of the invention, reference is now made to FIGS. 3 through 9. In FIG. 3, the device 12 is assembled so that the end elements 26 and 28 are disposed in perpendicular relation to the sidebars 14 and 16. As illustrated, deep pushups are accommodated when the central part of the bridge 29 of each of the end elements 26 and 28 is grasped by the user and the user lifts himself and falls between the full line and dotted line positions of FIG. 3. The feet of the user may be elevated as illustrated, if desired.

With the device 12 in the same assembled condition, the user may grasp the central part of the bridge 29 of each end element 26 and 28 to assume a sitting position, as shown in FIG. 4. Exercise may be obtained by the user lowering and elevating himself between the solid and the dotted positions with or without his feet in an elevated position.

The exercising device 12 may also be assembled so that one of the end elements is situated in the plane containing the sidebars and the other end element is disposed perpendicular

to the plane containing the sidebars. The user may then grasp the perpendicular end element 26 and place his feet outside of the coplanar end element 28. Exercise is achieved when the legs and arms are raised and lowered between the full line and the dotted line positions of FIG. 5. The hands and arms may continuously resist such raising movement by downward force exerted on the perpendicular end element 26.

Similarly, with the device 12 assembled as described, feet may be located on the inside of the coplanar end element 28, as shown in FIG. 6. Exercise is achieved by raising and lowering the hands and feet between the solid and dotted positions of FIG. 6. The hands and arms may be used to pull the exercising device forward against an opposite force exerted by the feet on endpiece 28.

With the device 12 in the same assembled relation, the exercise illustrated in FIG. 9 may be practiced. The sidebars are situated in vertical position supported by the perpendicular end element 26. The user stands on the end element 26 adjacent the sidebars and grasps the end piece 26 at the bridge 29. Exercise is performed when the user successively raises up on the balls of his feet and down on his heels.

With both end elements 26 and 28 positioned in coplanar relation with the sidebars, as illustrated in FIGS. 7 and 8, additional exercises may be performed. Use of the cord 46 accommodates performance of more exercises.

For example, with reference to FIG. 7, the elastomeric cord 46 is illustrated as being disposed around both sidebars 14 and 16 so as to stretch tautly across the space therebetween. The user may lie face down with his ankles located beneath end element 28 and his body positioned over the top of the opposite end element 26 such that the last mentioned end element forms a pivot or fulcrum point. The legs may then be shifted between the solid line and dotted line positions, the elevating movement being against the recoil force exerted by the cord 46.

Similarly, in FIG. 8, the user may lie upon one side in a position similar to that of FIG. 7 relative to the exercising device. By lifting one or both legs from the full line position to the dotted line position and by slowly lowering the leg or legs against the elastomeric force of the cord 46, the leg and back muscles are exercised.

Clearly, a wide variety of exercises may be performed with the exercising device of this invention, only a few exercises having been illustrated and briefly described herein. Such ex-

ercises are, therefore, merely representative of the capabilities of the device.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is, therefore, to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore to be embraced therein.

I claim:

1. In a multipositionable exercising device; a frame having generally parallel elongated sidebar means, each end of the sidebar means comprising axially directed coupling means and coupling means directed essentially normal to the axis of sidebar means and at least two generally U-shaped crosspiece means the free ends of each crosspiece means comprising coupling means adapted to form a mating relation with the axially directed and normally directed coupling means so that each of the crosspiece means is respectively detachably fastened to adjacent free ends of the sidebar means at the selection of the user in a coplanar or generally normal relation to the sidebar means, the frame being positionable with the crosspiece means in at least three different positions to vary the arrangement of the device for different exercises being performed thereon, said sidebar means and said crosspiece means being adapted to be connected in coplanar relationship to the frame so that the crosspiece means may be engaged by the user, said sidebar means and only one of said crosspiece means being adapted to be connected in normal relation and said sidebar means and both of said crosspiece means being adapted to be connected in normal relation so as to present parallel bars for exercising.

2. In a device as defined in claim 1 wherein said frame further comprises an endless elastomeric cord, said cord encircling the parallel sidebar means and loading at least one of said means against the body of the user.

3. In a device as defined in claim 1 wherein said sidebar means and said crosspiece means are tubular, one of said means telescoping within the other of said means, and wherein said coupling means comprises displaceable detent latching structure carried by the coupling means so as to releasably connect the sidebar means and crosspiece means together.

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