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(54) **STRENGTHENING AND FLEXIBILITY
DEVICE**

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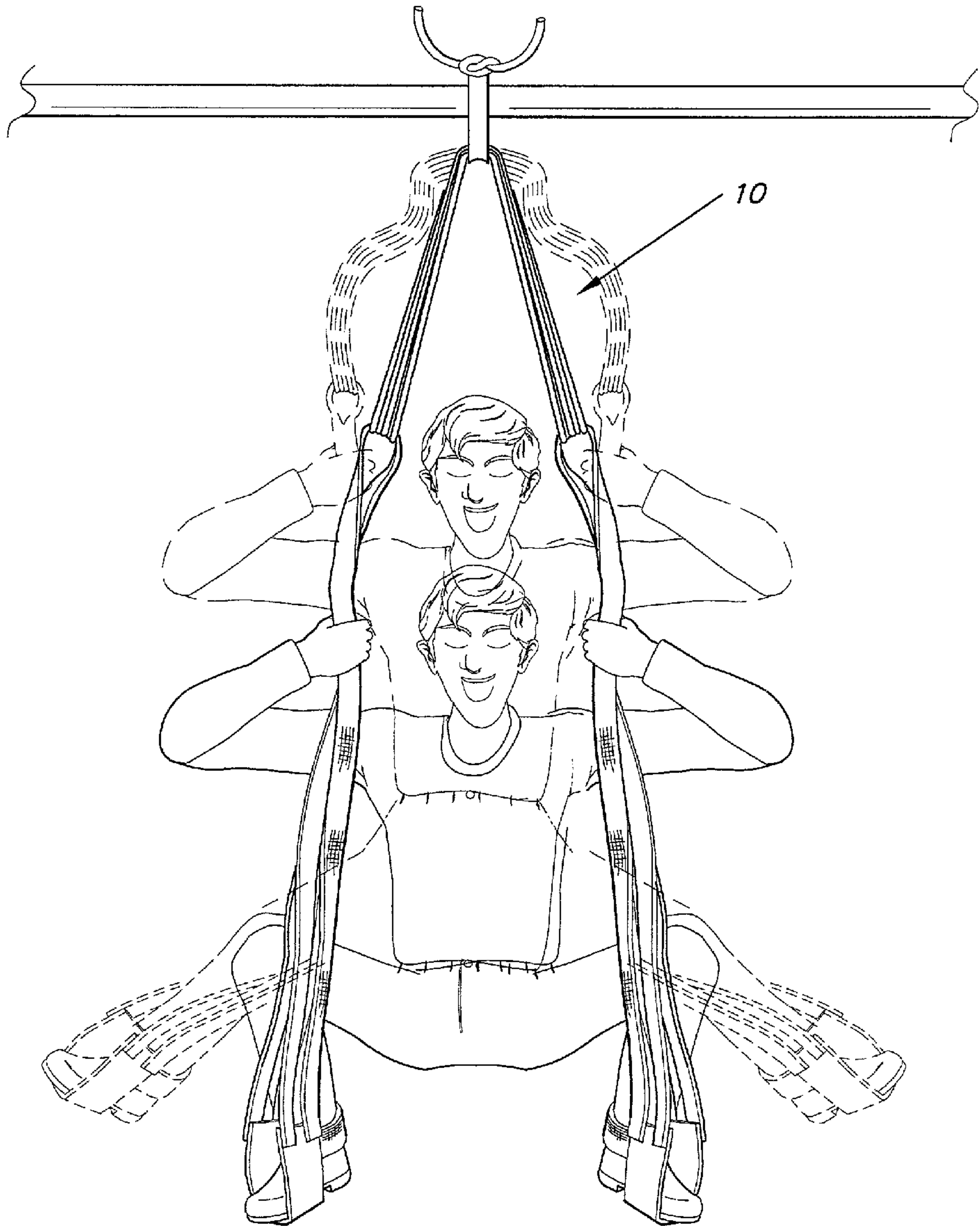
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Related U.S. Application Data

(63) **Non-provisional of provisional application No. 60/185,160, filed on Feb. 25, 2000.**

(57) **ABSTRACT**

A strengthening and flexibility exercising apparatus. The apparatus utilizes a left branch and a right branch, which are attached by a tie rope knotted over a horizontal structure. Each branch is made up of elongated cloth strips which are looped over and through a number of elastic bands. The cloth strips are provided with a cloth stirrup to accommodate each foot or leg of a user. Each cloth stirrup has an adjustable heel support flap. The elastic bands are secured by a tie rope, which is inserted through the top of a loop formed by each set of elastic bands. The remaining ends of the tie rope are then knotted over a horizontal structure, which then secures the entire apparatus to the horizontal structure.



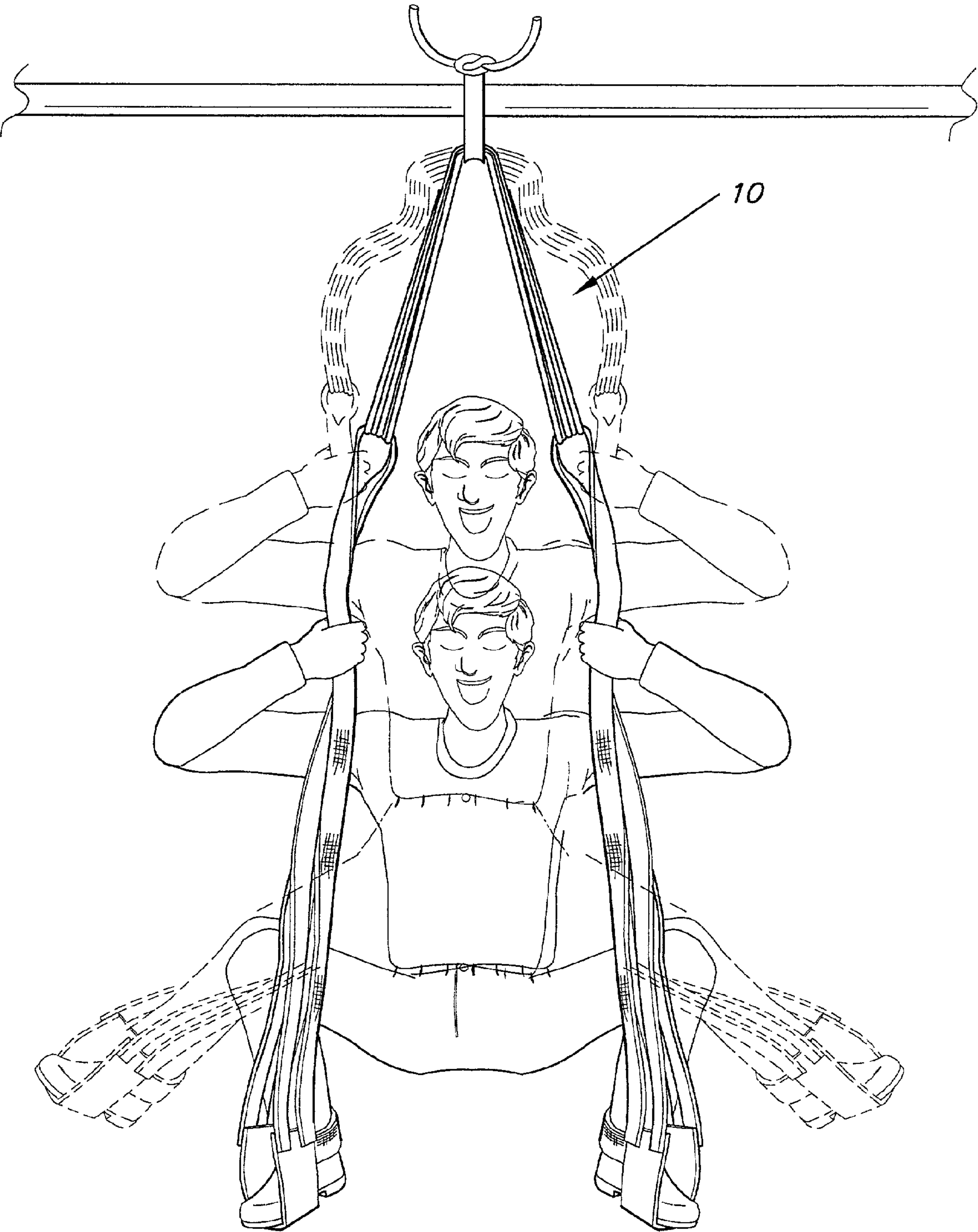


FIG. 1

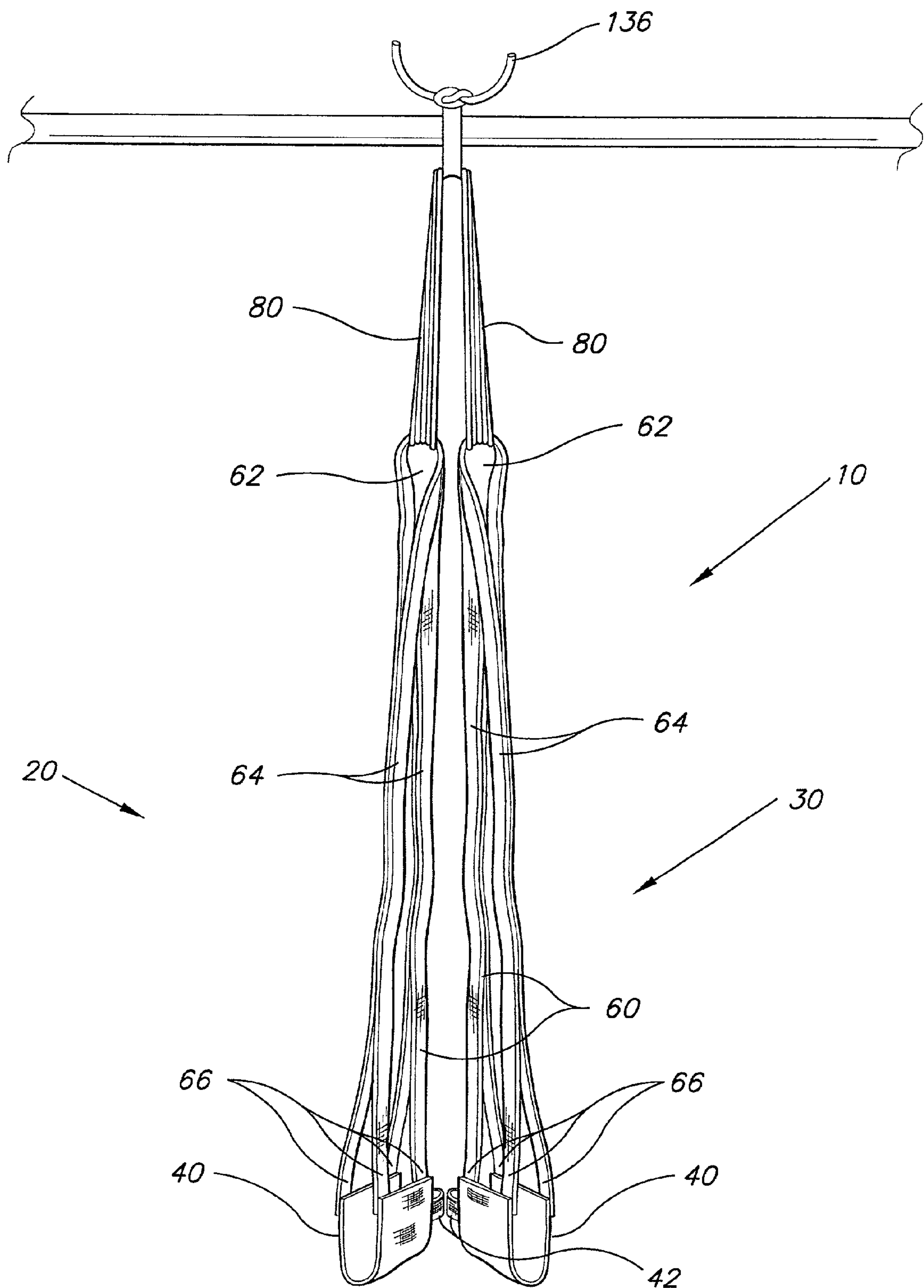


FIG. 2

STRENGTHENING AND FLEXIBILITY DEVICE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Patent Application Ser. No. 60/185,160, filed Feb. 25, 2000.

FIELD OF THE INVENTION

[0002] The present invention relates to a strengthening and flexibility exercise device. More specifically, the invention is an easily adjusted, strengthening and flexibility exercise device.

DESCRIPTION OF RELATED ART

[0003] In the last twenty years, physical fitness has become a growing multi-billion dollar industry. Home physical fitness devices have lead the way because of the convenience that they offer busy people. Of these devices, isometric devices have been very popular because of their effectiveness and the small amount of space that they occupy.

[0004] U.S. Pat. No. 5,024,433 issued to Mosberg, teaches a pulley and rope assembly that is attached to the ceiling of a room. Flexibility and strength exercises can be done with this apparatus by utilizing the rope pulleys and guides guiding the ropes in desired directions and movements. Easy to grasp loops are provided on the ends of the ropes to be used to perform various hoisting, pressing and stretching exercises. An optional bar can be used with the device for more sophisticated exercises.

[0005] U.S. Pat. No. 5,556,369 issued to Roberts, discloses a pulley and rope device that is permanently attached to a structural component of a room. This device has a wide range of attachments to accommodate a wide variety of movements. This is also true about the device outlined in U.S. Pat. No. 5,885,190 issued to Reiter, which has many of the same capabilities as the device outlined in the Roberts patent, but requires the use of an awkward yoke. These devices, like the device outlined in the Mosberg patent, however, are not portable and take up a lot of room to use.

[0006] A number of exercise devices utilize elastic cords and ropes, which are stretched and provide resistance as part of an exercise. U.S. Pat. No. 5,688,213 issued to Recker, teaches such an exercise device and is used in conjunction with ergonomically designed stirrups and handles. A variety of exercises for the upper and lower parts of the body can be done with this device. However, it is difficult to adjust or change the resistance from the elastic cords and ropes.

[0007] The invention taught in U.S. Pat. No. 5,776,041 issued to Fisher, also utilizes elastic cords and ropes with stirrups and handles, but additionally makes use of a bar that is incorporated into the exercises. Although easier to adjust or change the resistance than the device described in the Recker patent, the stirrups and handles are not ergonomically designed. This is a similar problem associated with the device seen in U.S. Pat. No. 5,813,954 issued to Wilkinson, which is also made of elastic material but lacks the use of ergonomically designed accessories.

[0008] Unfortunately, no exercise device is described in the related art that does not take up too much space, is

portable and ergonomically designed, easily adjustable, and can be used to perform a wide variety of strengthening and flexibility exercises. This is what is really needed, an exercise device that answers these requirements, and the present invention provides such a desirable exercise device.

[0009] None of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed.

SUMMARY OF THE INVENTION

[0010] The invention is a strengthening and flexibility exercising apparatus. The apparatus utilizes a left branch and a right branch, which are attached by a tie rope knotted over a horizontal structure or support. Each branch is made up of elongated cloth strips which are looped over and through a number of elastic bands. The cloth strips are provided with a cloth stirrup to accommodate each foot or leg of a user. Each cloth stirrup has an adjustable heel support flap. The elastic bands are secured by a tie rope, which is inserted through the top of a loop formed by each set of elastic bands. The remaining ends of the tie rope are then knotted over a horizontal structure or support, which then secures the entire apparatus to the horizontal structure.

[0011] Accordingly, it is a principal object of the invention to provide an easily adjustable strengthening and flexibility exercise apparatus used by itself.

[0012] It is another object of the invention to provide an easily adjustable strengthening and flexibility exercise apparatus used with a horizontal support.

[0013] It is a further object of the invention to provide an ergonomically designed strengthening and flexibility exercise apparatus.

[0014] It is an object of the invention to provide improved elements and arrangements thereof in an apparatus for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

[0015] These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] **FIG. 1** is an environmental, perspective view of a strengthening and flexibility apparatus according to the present invention.

[0017] **FIG. 2** is a perspective view of the preferred embodiment of a strengthening and flexibility apparatus according to the present invention.

[0018] Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] The present invention is a strengthening and flexibility exercise apparatus **10**, as depicted in **FIG. 1**.

[0020] The exercise apparatus **10** comprises a left branch **20** and a right branch **30**, each branch having a stirrup **40** and a plurality of cloth strands **60** connected to the stirrup **40**. Each plurality of cloth strands **60** receives a plurality of

elastic bands **80** that are inserted through the looped ends **62** of the plurality of cloth strands **60**. These plurality of elastic bands **80** are inserted through another loop formed with a knotted rope **136**. The knotted rope **136** then secures the entire exercise apparatus **10** to a horizontal support **H** as depicted in **FIG. 2**. Note, however, that the exercise apparatus **10** can also be used alone or by itself as a stretching device.

[0021] Both the left branch **20** and the right branch **30** are identical, as are each plurality of cloth strands **60**. Each plurality of cloth strands **60** have a looped end **62**, which then branches off into two separate strands **64**. Each of these separate strands **64** are separated further and form four ends **66**, which are then attached to each stirrup **40**. The plurality of cloth strands **60** are made of thick, durable synthetic material such as Nylon, and do not stretch. This material is similar to the material which is used for safety belts and is well-known to those that are skilled in the related art.

[0022] The ends of the separate strands **66** are sewn on to each stirrup **40** and are permanently attached. Once attached, the separate strands **64** extend from the stirrup **40** and are looped over and through a plurality of elastic bands **80**. Each plurality of cloth strands **60** receive a plurality of elastic bands **80** that are inserted through the looped ends **62** of the plurality of cloth strands **60**.

[0023] The plurality of elastic bands **80** are made of stretchable Latex surgical tubing, with the ends of each elastic band being attached to own its opposite end, therein forming a loop. Each of the ends are attached with an elastic plug (not shown) that is inserted into each end, holding each end securely. The elastic bands **80** are removable and directly control the resistance of the exercise apparatus **10**. The exercise apparatus **10** can accommodate as many as 6 elastic bands **80** on each branch of the exercise apparatus **10**.

[0024] Operation of the exercising apparatus **10** is simple. An individual can use the preferred embodiment of the

exercising apparatus **10** alone or in combination with a horizontal support **H**. An individual can step one foot at a time into each stirrup **40** of the invention and can creatively develop his own exercise movements and routines to accommodate his own exercising needs.

[0025] The each stirrup **40** is provided with a heel support flap **42** that can be adjusted into a position parallel to the bottom surface of the stirrup **40** and the ground for added support. When not in use, the heel support flap **42** is turned and underneath the bottom of the stirrup **40**. A user can also stick his entire leg through each stirrup **40** and sit in the exercising apparatus **10** or utilize the heel support flap **42** with the user placing his foot into each of the stirrups **40**.

[0026] It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any and all embodiments within the scope of the following claims.

I claim:

1. A strengthening and flexibility exercising apparatus, comprising:

a left branch and a right branch, each branch having a stirrup, a plurality of elastic bands and a plurality of cloth strips, which are connected to the stirrup; and

a knotted rope that is used to secure the apparatus to a horizontal structure.

2. An apparatus according to claim 1, wherein the stirrups are provided with an adjustable heel support flap.

3. An apparatus according to claim 1, wherein the plurality of elastic bands are made of Latex.

4. An apparatus according to claim 1, wherein the plurality of cloth strips are made of Nylon.

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