R. J. R. CAINES.

EXERCISING APPARATUS.

APPLICATION FILED JUNE 26, 1913.

1,112,114. Patented Sept. 29, 1914.

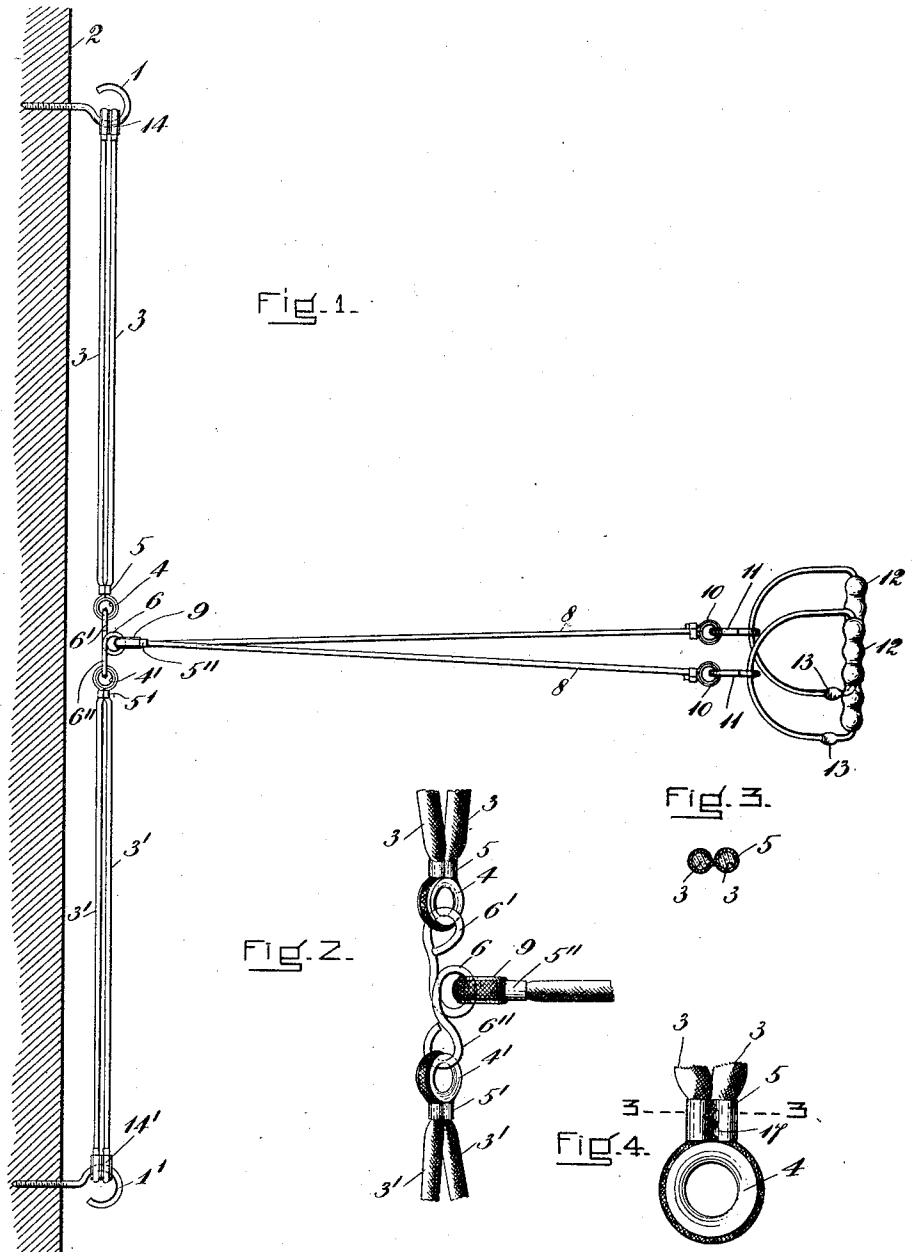


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES:
Patrick J. Conroy.
E. B. Tomlinson.

INVENTOR:
Richard J. R. Caines
by Browne & Woodworth
Atty's.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD J. R. CAINES, OF BOSTON, MASSACHUSETTS.

EXERCISING APPARATUS.

1,112,114. Specification of Letters Patent. Patented Sept. 29, 1914.

Application filed June 26, 1913. Serial No. 775,841.

To all whom it may concern:

Be it known that I, RICHARD J. R. CAINES, a subject of the King of England, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Exercising Apparatus, of which the following is a specification.

My invention relates to exercising apparatus and more especially to such apparatus of the center-pull type, and the object of my invention is to improve the construction of the same in the manner hereinafter set forth.

My invention will be described in connection with the drawings which accompany and form a part of this specification, and in which—

Figure 1 is a side elevation of one embodiment of my improvement shown in position for use, Fig. 2 is a perspective view showing a detail of construction on an enlarged scale, Fig. 3 is a transverse section taken on the line 3—3 of Fig. 4, and Fig. 4 is a front elevation of a detail of construction.

In the particular drawing selected for more fully disclosing the present invention, 1 1′ are supporting members, shown in the present instance as reversely-arranged hooks screwed into the upright member 2 which may be a wall or the like. Attached to each of the supporting members is a set of elastic members, herein shown as elastic cords of any suitable material, such as live rubber, each set preferably comprising a plurality of members 3 3′, which are shown in the present instance as two in number. The outer end of each elastic cord is secured to a ring 14 14′ and each ring is placed over a hook 1 or 1′. It will be understood, however, that any other suitable means may be employed that will permit the ready removal of a cord from its hook. The inner ends of each of the members of a set of elastic cords are attached to the coupling member comprising, as shown, a central ring 6 and two end rings 6′ 6″, each disposed in a plane at right angles to that of the central ring. In the present instance the inner ends of the elastic cord members are secured to the rings 4 4′, respectively, by means of clips 5 5′, and the rings 4 4′ are connected with the outer rings 6′ 6″, respectively, of the coupling member, so as to make a swivel joint between said coupling member and the sets of elastic cords. In the present instance the two members of an elastic-cord-set are formed of a single length of cord, the middle portion of which is doubled around a ring 4, 4′ and held in position by a clip 5, 5′. I prefer to separate the supporting members 1 1′ sufficiently to put the elastic cords 3 3′ under tension.

For assembling the several cords I have found it convenient, as shown, to employ grooved rings or eyelets 4 4′ and to double the elastic cord around the groove therein, and then hold the same in position by means of a metallic clip 5, the two halves of which embrace and compress those portions of the cord adjacent to the eyelet, and the inner ends of which are provided with interlocking teeth 7, which, as shown in Fig. 4, are forced into the cords. It will be understood, however, that I do not wish to limit myself to this particular construction. A pair of elastic members, herein shown as the pair of hand-cords 8, which are of any suitable elastic material, are attached in any suitable manner to the center ring of the coupling member and in the present instance I have shown such hand cords as consisting of a single length of elastic cord, the middle portion of which is doubled around the ring 9 and secured thereto by means of the clip 5″, and said ring 9 is non-removably or permanently attached to the ring 6 of the coupling member. The outer ends of the hand-cords are provided with handles 12 and in the present instance a double hook 11 is interposed between each handle and a ring 10 attached to the outer end of each cord. To facilitate the ready insertion and removal of the handles into and from the hooks, I have flattened a portion of the wire stirrup as shown at 13, so that such flattened portion will readily slip into the hooks 11, the unflattened portion being of too large a diameter to slip out when the apparatus is in use.

It will be noted that each member 3 3 or 3′ 3′ of a set of elastic cords may be attached to and removed from its supporting member independently of the other. This construction has certain advantages. For example, women and children can use the same exerciser as men, by the simple expedient of removing from the hooks one cord of each set, thereby weakening the apparatus. Then again, it is sometimes desirable to make the apparatus weaker by

removing from its hook a member of either the lower or upper set of elastic cords, as when the user experiences an excessive strain in the muscles of the upper or lower portion of the body. If the pull comes from below, the user would remove one of the upper cords, and if it comes from above, he would remove one of the lower cords.

The two sets of elastic cords are of substantially equal length and the ring 6 is located approximately in the center of the system, so that the pull will be in the center of the body and therefore the exercise equally distributed.

It will be understood that while I have particularly described one embodiment of my invention, various modifications may be made in the apparatus disclosed without departing from the spirit of my invention as defined in the appended claims.

I claim:

1. In an exercising apparatus, separated supporting-members adapted to be attached to a wall or the like, two sets of elastic cords, each having a plurality of members, means uniting the inner ends of said sets of cords, and means whereby the outer end of each cord of both sets may be attached to and removed from its supporting member independently of the other cord or cords of the same set.

2. In an exercising apparatus, separated supporting members arranged to be attached to a wall or the like, two elastic cords of substantially equal length, each having its outer end attached to one of said supporting members, a pair of hand-cords and a coupling swiveled to the inner ends of all of said cords, said coupling comprising a center ring to which said hand-cords are attached and two outer rings integral with said center ring to which the first mentioned elastic cords are respectively attached, said center ring lying in a plane at right angles to that of said outer rings.

3. In an exercising apparatus, an elastic cord, a grooved ring or eyelet, said cord being doubled around the groove in said ring or eyelet, and a clip for holding the doubled portion of said cord to said ring or eyelet, said clip being bent around each portion of said cord and having its inner ends provided with interlocking teeth for engaging said cord.

4. In an exercising apparatus, three rings, three sets of elastic cords, each set formed of a single length of elastic cord, the middle portion of which is doubled around one of said rings, means securing the doubled portion of each cord at its ring, and a coupling permanently swiveled to each of said rings.

5. In an exercising apparatus, a coupling comprising a ring, two rings integral with the first-mentioned ring and lying in a plane at right angles thereto, three eyelets each permanently embraced by one of said rings, and three elastic members each permanently secured around one of said eyelets.

6. In an exercising apparatus, a coupling comprising a center ring and two outer rings integral therewith, said center ring lying in a plane at right angles to that of said outer rings, and three sets of elastic cords, each permanently secured to one of said rings.

In testimony whereof, I have hereunto subscribed my name this 24th day of June 1913.

RICHARD J. R. CAINES. [L. S.]

Witnesses:

JAMES E. POWERS,

KENNETH C. DUNLOP.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."