No. 835,035. PATENTED NOV. 6, 1906.

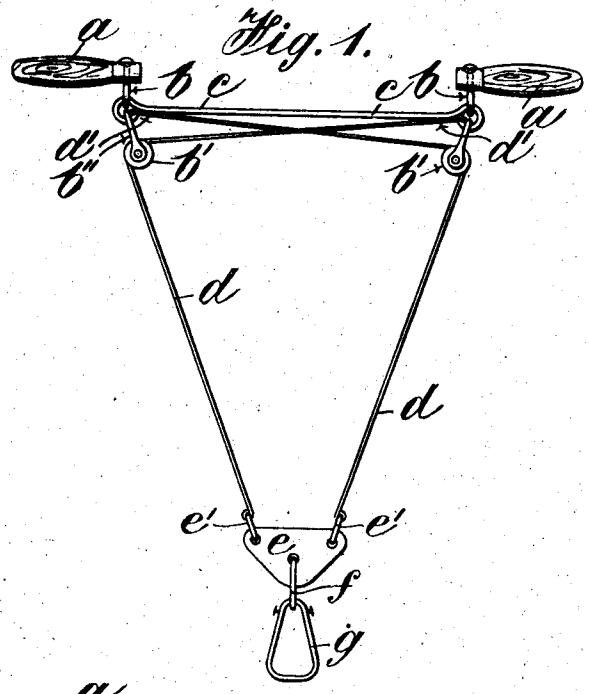
J. H. RIGBEY.

PHYSICAL EXERCISE APPARATUS.

APPLICATION FILED APR. 17, 1905.

4 SHEETS—SHEET 1.

Fig. 1.



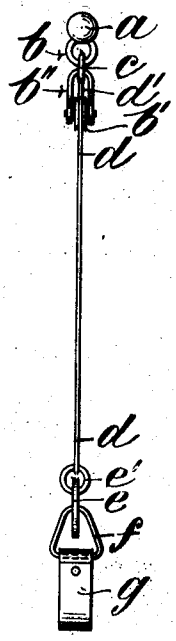


Fig. 2.

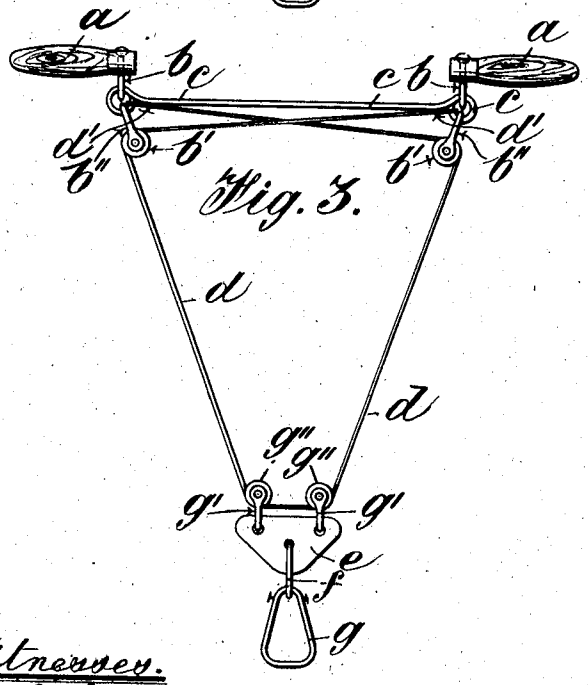


Fig. 3.

Witnesses.
Wm. A. Colebourn
Wilfrid Partington.

Inventor.
J. H. Rigbey
By William N. Taylor
Atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 835,035. PATENTED NOV. 6, 1906.

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4 SHEETS—SHEET 2.

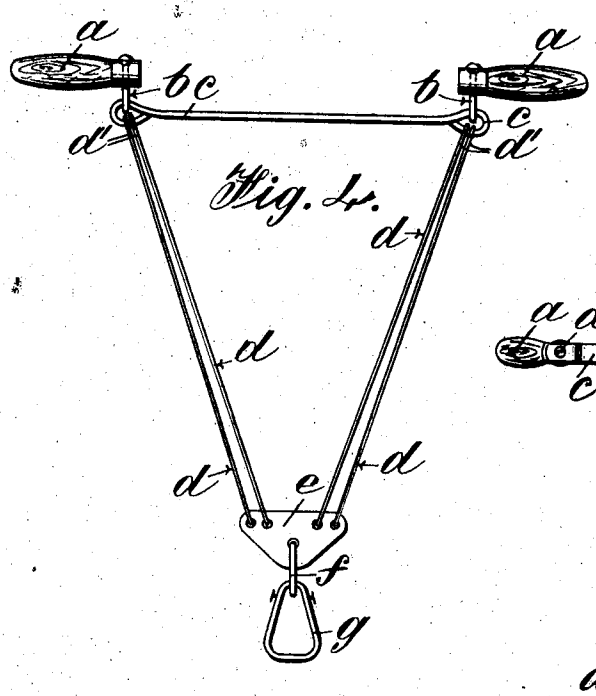


Fig. 4.

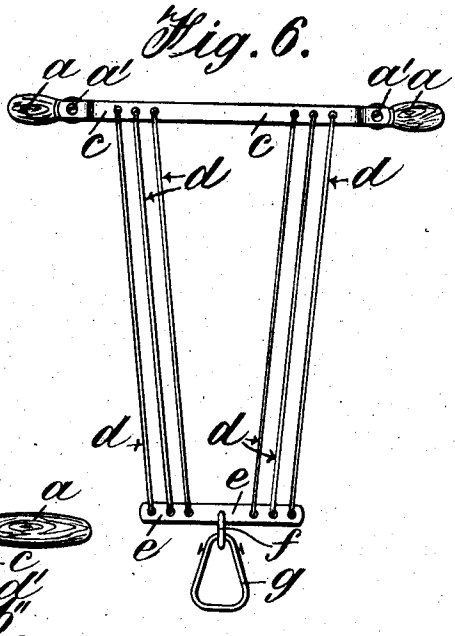


Fig. 6.

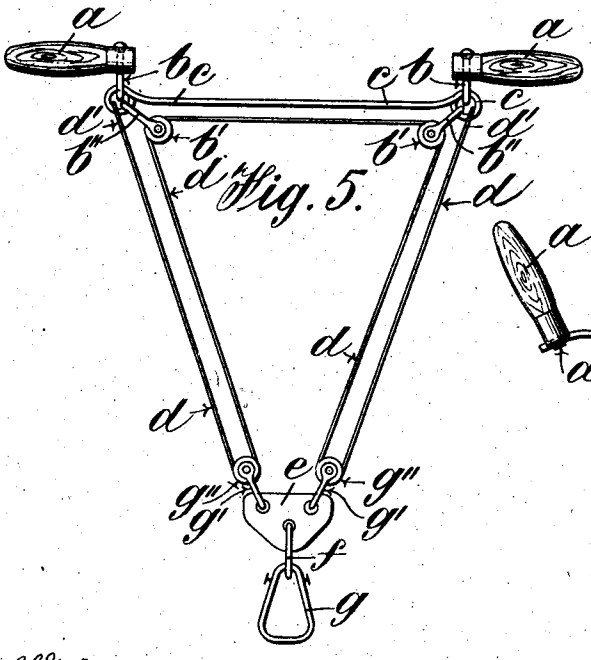


Fig. 5.

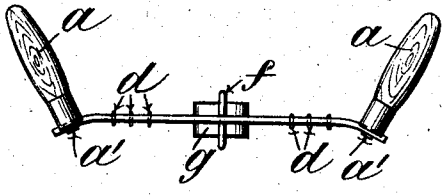


Fig. 7.

Witnesses.
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4 SHEETS—SHEET 3.

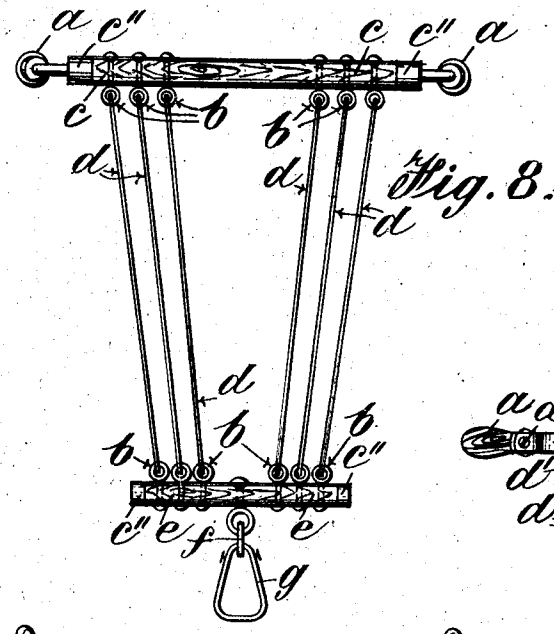


Fig. 8.

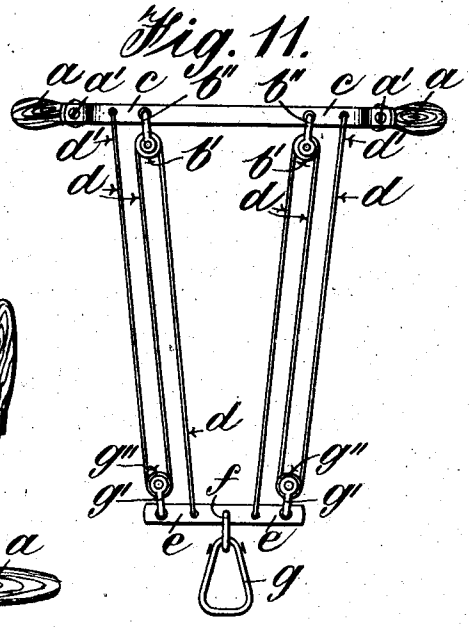


Fig. 11.

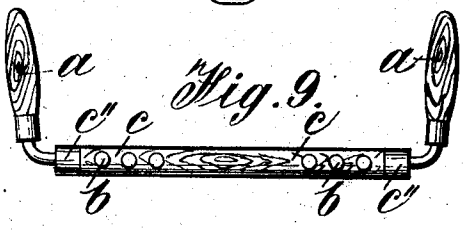


Fig. 9.

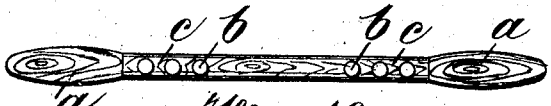


Fig. 10.

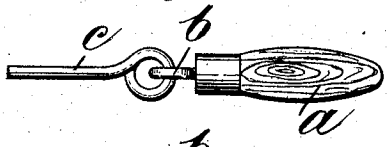


Fig. 12.

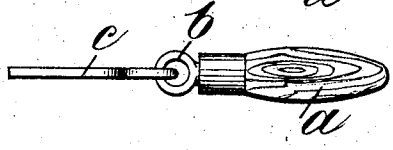


Fig. 13.

Witnesses.
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THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 835,035. PATENTED NOV. 6, 1906.

J. H. RIGBEY.

PHYSICAL EXERCISE APPARATUS.

APPLICATION FILED APR. 17, 1905.

4 SHEETS—SHEET 4.

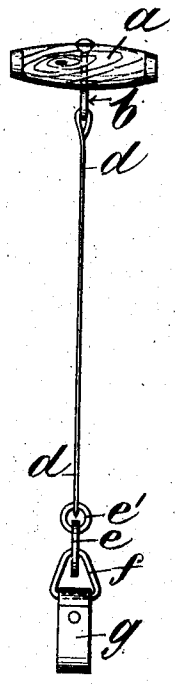


Fig. 14.

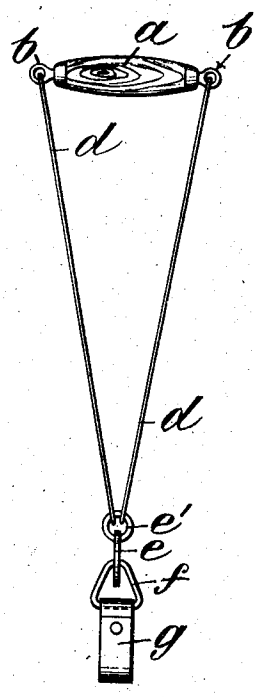


Fig. 15.

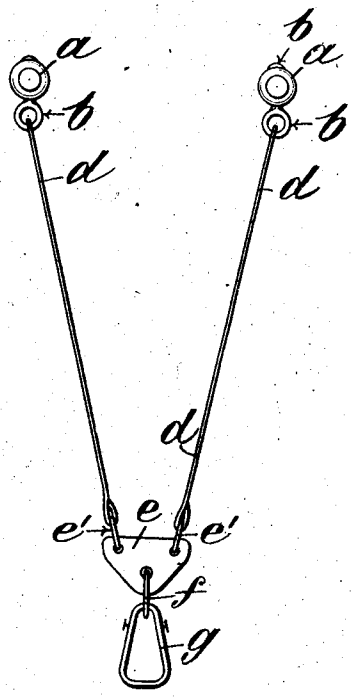


Fig. 16.

Witnesses.
Wm. A. Colebourn
Wilfred Partington.

Inventor.
J. H. Rigbey
By William Wagner
Atty

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN HULME RIGBEY, OF LIVERPOOL, ENGLAND.

PHYSICAL-EXERCISE APPARATUS.

No. 835,035. Specification of Letters Patent. Patented Nov. 6, 1906.

Application filed April 17, 1905. Serial No. 256,159.

To all whom it may concern:

Be it known that I, JOHN HULME RIGBEY, engineer, a subject of the King of Great Britain and Ireland, and a resident of Liverpool, in the county of Lancaster, England, (whose post-office address is 22 Selborne street, Princes Road, Liverpool,) have invented a certain new and useful Improved Physical-Exercise Apparatus, of which the following is a specification.

This invention relates to improvements in physical-exercise apparatus, the principal object of the invention being to provide a device or devices more particularly intended for exercising and developing the lower extremities of the human body, while at the same time the effect of such exercise is more or less felt and has its influence upon the upper portions of the body.

A further object of my invention is to insure that all the work done in using the apparatus shall have its effect upon the muscles of the body and not to expend such work in developing strains on fixed portions of apparatus, such as attachments to walls and floors or the like, as has been the case in other apparatus in use prior to the date of my invention.

To this end my invention consists in a portable device or devices capable of occupying but little room and in using which it is not necessary to connect it to any fixed hook, staple, or the like, the device principally consisting of one or more handles, with or without means for connecting such handles together, a stirrup device for engaging with the foot of the user, and one or more elastic cords or equivalent spring devices for connecting such stirrup with the handle or handles or with the means for connecting the handles together in order that the distance between the stirrup and the handles can be increased and decreased at will and the work performed in doing which influences the development of the muscles of the body.

My invention may be carried out in several ways without departing from essential features.

Figures 1 and 2 indicate front and side elevations, respectively, of a double-handled device, in which *a* indicates the handles; *b*, staples, passed transversely therethrough; *c*, a connecting-bar to determine the distance between the handles and engaging with the staples; *d*, two elastic cords, the upper ends *d'* of which are coupled to the bar *c* or to the staples *b* or to each other, their lower ends being passed round pulleys *b'*, coupled to the bar *c* by links *b''*, and thence attached directly to a plate *e* or to rings *e'*. To the plate *e* is coupled, directly or by means of a link or ring *f*, a stirrup *g*, the latter being adapted to embrace the foot of the user.

Fig. 3 is a similar device to that indicated in Figs. 1 and 2, with the exception that one elastic cord *d* only is employed, the plate *e* being swung on the cord or connected thereto by links *g'* and pulleys *g''*.

Fig. 4 is a front elevation of a device in which two elastic cords *d* are employed at either side to connect the bar *c* with the plate *e*.

Fig. 5 is a front elevation, somewhat similar to Figs. 1 and 3, in which one elastic cord only is employed with the ends coupled to the bar *c* or to the staples *b*, and thence passing round the lower pulleys *g''* to the upper pulleys *b'*.

Figs. 6 and 7 indicate front elevation and plan in which the handles *a* are coupled rigidly to the connecting-bar *c* by screws *a'*, while one or a plurality of elastic cords *d* couple the bar *c* to the plate *e* or cross-bar.

Figs. 8 and 9 indicate front elevation and plan of a device similar to that shown in Figs. 6 and 7, in which the bars *c* and *e* are made of wood and provided with ferrules *c''* at the ends, the elastic cords being connected to the bars by staples *b* passed through both bars.

Fig. 10 is a plan of a somewhat similar cross-bar to that shown in Figs. 8 and 9, in which the handles are in axial line with the bar.

Fig. 11 also indicates a somewhat similar device to that shown in Figs. 6 and 7, in which the elastic cords *d* are both coupled directly to the bars *c* and *e* and through the agency of pulleys *b'* and *g''*.

Figs. 12 and 13 show enlarged front elevation and plan of another method of connecting the cross-bars *c* with the handles by means of staples *b* in axial lines with such handles.

Fig. 14 indicates a side elevation of a device constructed in accordance with my invention and having only one handle *a* with staple *b* passed therethrough. The elastic cord or cords *d* are coupled to the stirrup *g* by links and rings, as before.

Fig. 15 is a similar device to Fig. 14, except that the staples *b* are in axial line with the handle, and one or more elastic cords

connect the staples with the lower links or rings and the stirrup.

Fig. 16 is a front elevation showing an apparatus in which two handles *a* are employed without any connecting-bar, such as *c*, between them.

Instead of elastic cords elastic webbing or springs may be employed, the latter only in cases where the upper and lower cross-bars can be directly connected together by such springs or in cases where the springs can be directly connected from the stirrup or lower rings or links to rings, links, or staples connected with the handles. Any suitable number of elastic cords, webbings, or springs may be employed. In some cases the elastic cords or springs may be at their lower ends directly connected to the stirrup without the intervention of a plate or cross-bar.

One of the main objects of employing a cross-bar at the upper end of the apparatus is to enable the hands to be clear of the upper portion of the thigh or body.

In using the invention the person wishing to take exercise is seated upon a chair or stool. He places one foot in the stirrup, then takes the handle or handles in his hand or hands, so that, in case of the two-handled devices, the knee, when bent, the leg, and part of the thigh will be between the elastic cords connecting the top and bottom portions of the apparatus. On moving the foot and leg so as to straighten out the knee-joint to and from the body while keeping the hands still the work necessary to build up the muscles is done in stretching and slackening the elastic cords. This is the general way of using the apparatus, though it may be used in other ways.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an exercising apparatus, hand-grasps, a spacing-bar for the hand-grasps connected thereto, a stirrup, and flexible connections between the hand-grasps and the spacing-bar.

2. In an exercising apparatus, hand-grasps, a spacing-bar for the hand-grasps connected thereto, said spacing-bar being provided with eyes, a stirrup, and a flexible connection between the spacing-bar and stirrup, said connection passing through the eyes of the spacing-bar.

3. In an exercising apparatus, hand-grasps, a spacing-bar therefor connected thereto, pulleys held by the spacing-bar, a stirrup, and flexible connections between the spacing-bar and stirrup, said connections passing over the pulleys held by the bar.

4. In an exercising apparatus, hand-grasps, a spacing-bar therefor connected thereto, a body, pulleys on the body, and connections between the body and spacing-bar, said connections engaging the pulleys of the body.

5. In an exercising apparatus, hand-grasps, eyes carried thereby, a spacing-bar for the hand-grasps connected to the eyes, a stirrup, and flexible connections between the stirrup and spacing-bar.

6. In an exercising apparatus, hand-grasps, eyes carried thereby at approximately right angles thereto, a spacing-bar for the hand-grasps connected to the eyes, a stirrup, and flexible connections between the stirrup and spacing-bar.

7. In an exercising apparatus, hand-grasps, a spacing-bar for the hand-grasps pivotally secured thereto, a stirrup, and flexible connections between the spacing-bar and the stirrup.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

JOHN HULME RIGBEY.

Witnesses:

ALICE LEE,

BELLA KAY.