(No Model.)

B. A. McFADDEN.

EXERCISING APPARATUS.

No. 595,492. Patented Dec. 14, 1897.

Fig. 1.

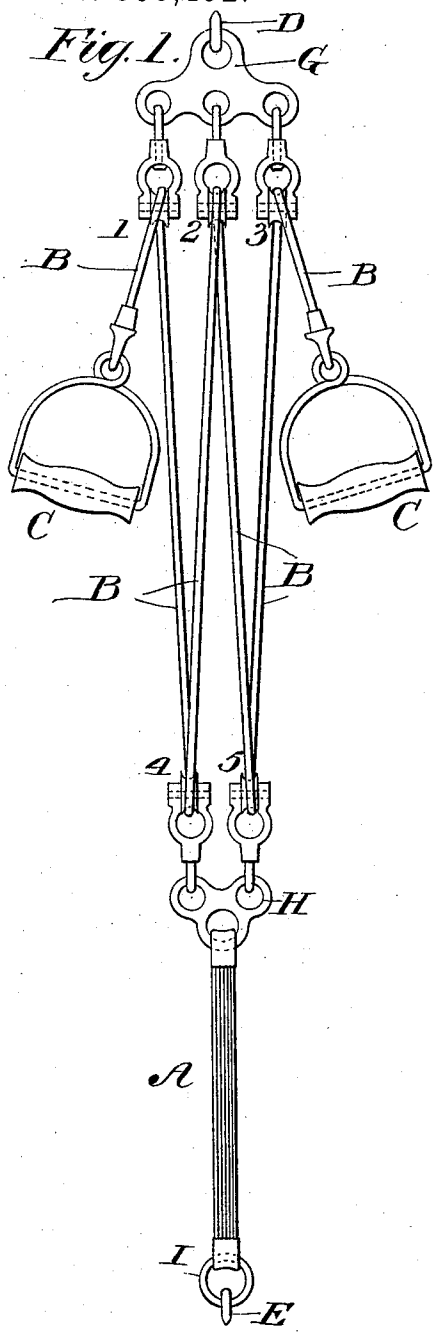


Fig. 2.

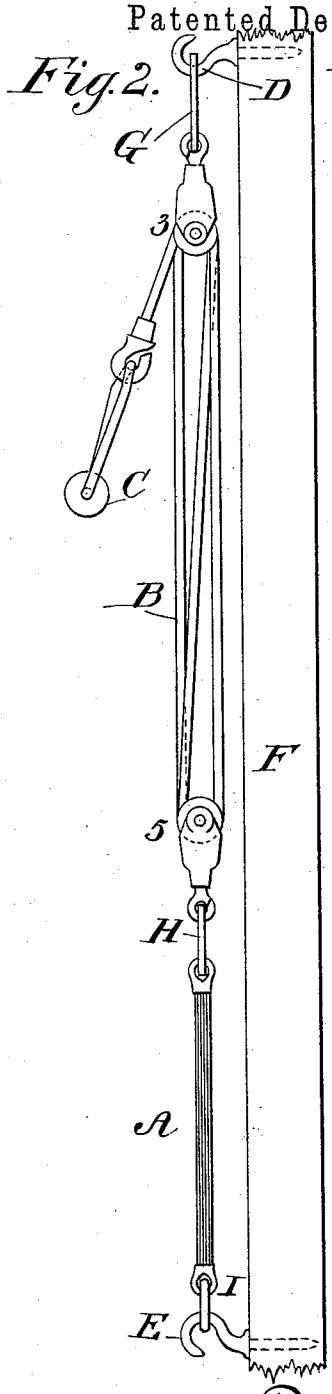
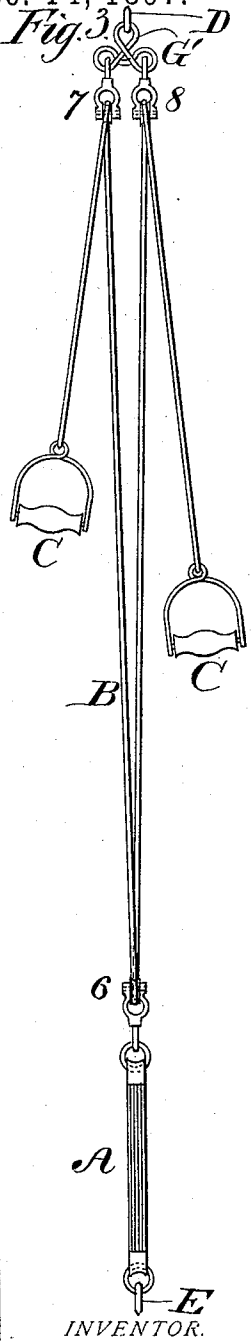


Fig. 3.



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UNITED STATES PATENT OFFICE.

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EXERCISING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 595,492, dated December 14, 1897.

Application filed November 18, 1895. Serial No. 569,261. (No model.)

To all whom it may concern:

Be it known that I, BERNARD A. McFADDEN, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Exercising Apparatus, of which the following is a specification.

My invention relates to portable exercising apparatus adapted for home gymnasiums, in which the work is obtained by the expansion of an india-rubber or other spring.

The object of my improvement is to combine in a single-cord apparatus the advantage of obtaining a long range of hand movement for a short range of spring movement, giving comparatively uniform spring resistance for all positions of the hands, together with the advantage of independent motion of the hands, so that the arms may be exercised with universal motions simultaneously or alternately to adapt the machine to be changed in a moment from one position to another, enabling the operator to use it as an ordinary gymnasium chest-weight pulling from above, as a rowing-machine, or a machine with a two-handle pull from the floor, or with one-handle pull from the floor, or with one-handle pull from above, or as a child's machine with point of resistance three to four feet high without need for different points of attachment, (objectionable because of attachments marring woodwork,) and, furthermore, to overcome the tenacious chugging too-speedy return tension (objected to very emphatically by physical-culture experts almost universally) which is incident to the use of rubber or elastic cords as heretofore employed in devices of this character, to economize in space, reduce the cost of manufacture, and increase the durability and efficiency of such devices.

With these objects in view my invention consists, essentially, in a single-cord exercising apparatus comprising a movable pulley or pulleys and a plurality of fixed pulleys, combined with a spring connecting said movable pulley or pulleys with a fixture and a non-elastic cord having both of its ends free and which is continuous and unattached to any fixed point, but passes about and connects with free-running movement said fixed and movable pulleys, so as to give it unlimited freedom and variety of movement, while the spring of short dimension affords economy of construction as well as uniform resistance.

Referring to the accompanying drawings, Figure 1 is a front elevation showing my preferred form of construction, and Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a front elevation showing a modification.

The object being to obtain the greatest movement possible of the hand-cords with small spring motion, I prefer to multiply the sheaves as far as practicable or desirable and therefore first illustrate such multiplied construction in Figs. 1 and 2, in which A represents the india-rubber elastic spring; B, the single non-elastic cord, composed of "bell-rope" or other suitable material; C C, the handles; D, the upper hook; E, the lower hook, and 1 2 3 4 5 the sheaves.

The hooks D E are attached to a wall, door-casing, or other suitable support F, and the upper sheaves 1 2 3 are hung on the holder G, while the lower sheaves 4 5 are attached by means of the holder H to the spring A, which is connected to the lower hook E by a ring I. The outer sheaves 1 and 3 are swiveled in separate blocks to allow freedom for opposed lateral motions of the handles C C.

Starting at the normal position shown in Fig. 1, when both handles C C are drawn out simultaneously, the upper central sheave 2 remains practically inactive, the spring A expanding one-half of the distance at which both handles are pulled out together. At any point of distention of the spring A the handles C C may be worked alternately, owing to the freedom of travel of the single cord B over the central sheave 2. By holding one handle C stationary the other handle may be worked with the same resistance as is given when the handle is being worked, the spring A expanding one-fourth of the distance through which the single handle is moved. When single movement is to be continued, one handle C may be allowed to remain stationary against pulley 1 or 3, or, if stronger tension and less range be desired, may be hooked onto the lower hook E and the remaining one operated. The apparatus may be inverted for

"floor" movements, the hanger G being placed on the hook E and the ring I on the hook D.

In Fig. 3 a single sheave 6 is connected to the spring A, and two sheaves 7 8 are supported on the holder G, the inelastic cord B having a single bight in lieu of a double one, as first illustrated, and the sheave 6 corresponding in function to the sheave 2 in Fig. 1.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An exercising apparatus comprising a spring having a pulley or pulleys secured thereto and adapted for attachment to a fixture, so that said pulleys may move as the spring is distended and contracted, a plurality of pulleys adapted for attachment to a suitable support arranged at a distance from said fixture, and an unattached non-elastic single cord passing about said movable and fixed pulleys and having both extremities free and provided with handles, whereby the cord may be distended with free-running movement between said spring and support, substantially as described.

2. An exercising apparatus comprising an elastic spring adapted for attachment at one end to a fixture and carrying at its other end a pair of movable pulleys, together with a holder adapted for attachment to a suitable support remote from said fixture and having three fixed pulleys attached thereto, and a single unattached non-elastic cord passing about said movable and fixed pulleys and having both extremities free and provided with handles, said non-elastic cord being adapted to be distended with free-running movement between said spring and holder, substantially as described.

3. An exercising apparatus comprising an elastic spring carrying a ring at one end for attachment to a fixture, and having at its opposite end a holder to which are attached two pulleys, a second holder adapted for attachment to a support at a distance from said movable pulleys, and having three pulleys connected thereto, and a single unattached non-elastic cord passing about the several movable and fixed pulleys from one to the other and having both extremities thereof free and provided with handles; said cord being adapted to be distended with free-running movement between said holders, so as to connect the same and adapt the movable pulleys to be drawn toward or recede from the pulleys attached to the fixed support, substantially as described.

Signed at New York, in the county of New York and State of New York, this 16th day of November, A. D. 1895.

BERNARD A. McFADDEN.

Witnesses:

FRANK A. FOX,

HENRY F. PARKER.