

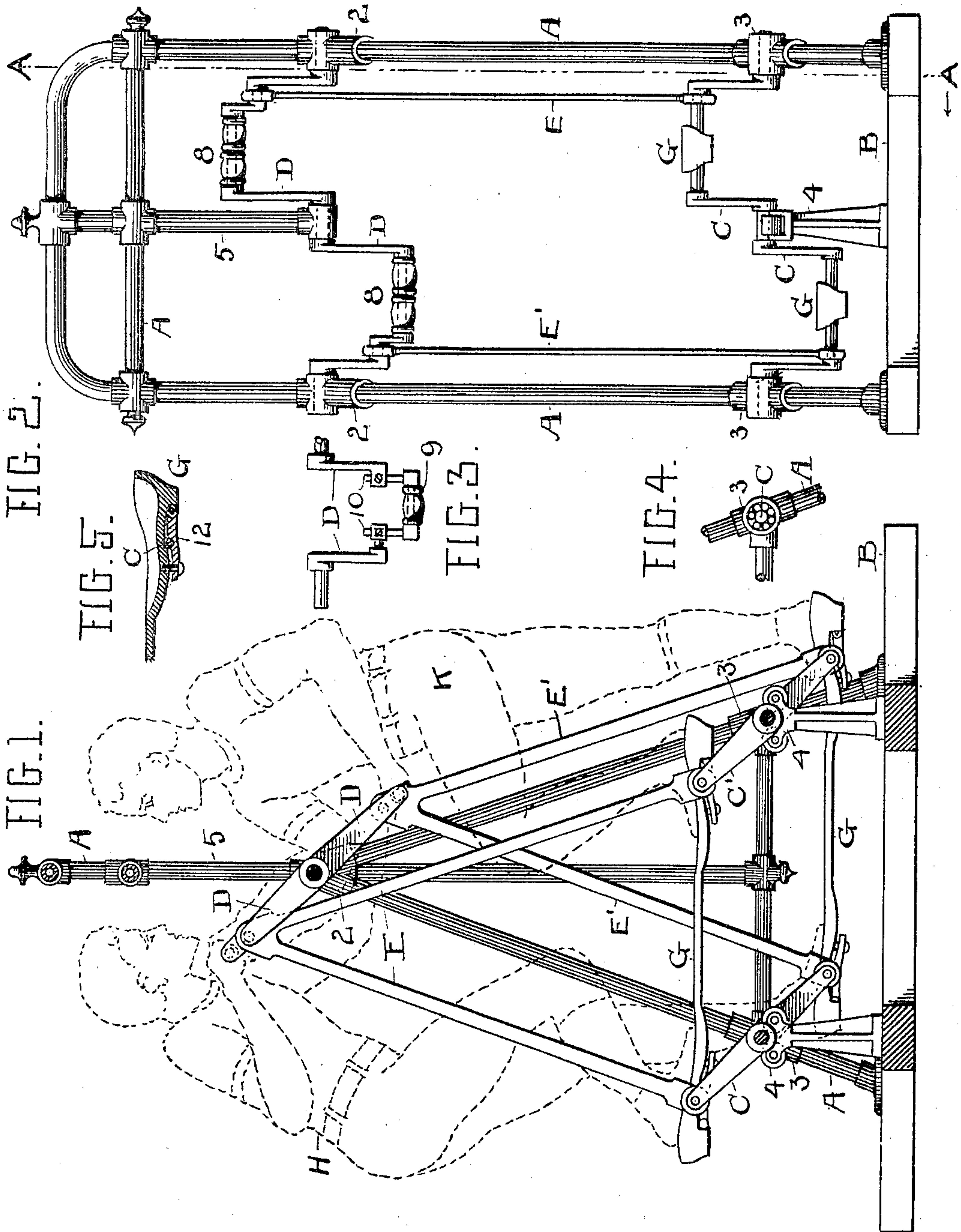
No. 681,664.

Patented Aug. 27, 1901.

J. S. ADDLEMAN.
EXERCISING APPARATUS.

(Application filed Aug. 8, 1900.)

(No Model.)



ATTEST
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JOHN S. ADDLEMAN, OF CLEVELAND, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF TWO-THIRDS TO A. A. ARMSTRONG, OF SAME PLACE.

EXERCISING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 681,664, dated August 27, 1901.

Application filed August 8, 1900. Serial No. 26,242. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. ADDLEMAN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Exercising Apparatus; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to exercising apparatus; and the invention consists in the construction and combination of parts substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 shows a side sectional elevation of my improved exercising apparatus. Fig. 2 is a front elevation thereof; and Figs. 3, 4, and 5 are views of details, as hereinafter described.

The apparatus thus shown is designed for indoor exercise and is preferably double, so as to accommodate one person on each side, though one person alone can operate it, if desired, and the apparatus may be extended so as to enable a number of persons to work in unison, if they desire.

Referring now to the drawings, A represents the frame of the apparatus, which, as here shown, is built up of suitable tubing erected upon a suitable base B; but the said frame may be made of wood or metal and of any preferred fashion or style, provided that it affords a support for the operating parts and room for the movements of the body of the operator. In detail the said frame is built comparatively broad at the base both ways, so as to have a firm and sufficient foundation, and has a central post at each side with inclined braces running toward its top center, as clearly shown in Fig. 1, where a suitable coupling 2 is employed to make a joint. Other couplings 3 lower down serve a like purpose for making a joint between said braces and the main standard of the frame, and both sets of couplings, above and below, are constructed also to provide bearings for the operating mechanism, as will now appear.

It is the purpose in this apparatus to give as nearly uniform exercise to all the muscles of the body as is practicable, and to this end

I provide that all the members of the body shall participate in the movements. Hence I employ a set of cranks for the hands and feet, respectively, of each operator, and the cranks are so arranged that the hand and foot of one side will both be down or up, as the case may be, while those of the other side are in the reverse position, so as to give the largest practicable range or difference between them. Thus, referring to Fig. 2, the foot-crank C and C' are both rigid and separate members, having their extremities pivoted in roller-bearings in the joints or unions 3, Fig. 4, with a central bearing on post 4 midway between the side of the frame. The upper or hand crank D likewise is single with double grips and is supported at its ends in the couplings or unions 2 and at its ends in the depending central carrier 5, in which it also has an antifriction or roller bearing, if preferred. None of these bearings need necessarily be antifriction; but usually they are so preferred. All the cranks have arms of exactly equal length, so that they will travel uniformly and continuously in the same relation together and will not vary in this particular, and the said cranks are connected at both sides of the machine by V-shaped connecting-links E and E' of exactly equal length and serving to connect the upper and lower cranks in operative relation. A feature of these links is their connection at the bottom with the respective cranks C and C' of the two operators, while at the top they run together and connect with crank D, just outside the grips 8. Thus, as in Fig. 1, the V-shaped links E connect with the outer foot-crank of figure H at the left and with the inner foot-crank of figure K at the right and with the higher portion of crank D, grasped by both operators. In the same view at the right the links E' are connected with the opposite cranks C C' at their lower extremities and with the opposite end of crank D at the top. So it appears that each set of foot-crank is coupled with the other set and with the hand-crank by these links E and E', and this is true alike of both sides of the machine. In addition to the foregoing, there are also pedal bars or rests G, extending horizontally across from one foot-crank to the other and one for each foot.

These bars in like manner may have frictional bearings, if preferred, and always retain a horizontal position as they rise and fall in the operations of the machine. The
 5 said bars further serve to tie the pedal-cranks together and are of the same length exactly and work in perfect harmony with the other parts. Altogether, therefore, when the operating members are thus coupled up and con-
 10 nected they must necessarily form a harmonious mechanism and will act the same whether one or more operators be exercising at the same time. In a sense operators on opposite sides serve as a counterbalance to
 15 each other; but yet there is abundant opportunity for individual work in both cases, and this would be true if the apparatus were extended so as to accommodate a large number of persons working together side by side.
 20 In some instances I have found it desirable to have a more extended crank movement than a purely rigid construction will afford, and to this end I have shown in Fig. 3 a modification of a hand-crank in which the grip 9,
 25 which may be single or double, is made adjustable in the arms D by its own stems 10, there being a set-screw adjustment provided, as here shown. In like manner the pedals
 30 and any suitable means of adjustment can be employed; but an adjustment of this kind must necessarily be made apart from the otherwise fixed operating-links and connections of the machine, so that its operations
 35 will not be broken into or the harmony thereof disturbed.

In Fig. 4 I show a roller-bearing for the crank C, and in Fig. 5 I show an adjustable brake-shoe 12 for the pedal-bars on their
 40 cranks, so that a brake effect may be obtained at this point, if desired. I might of course introduce a friction-brake or the like at some other point; but for the present I prefer to do whatever braking may be necessary
 45 as indicated in Fig. 5.

What I claim is—

1. In an exercising apparatus, a foot-crank and a hand-crank, a foot-rest pivotally supported on the foot-crank and means to hold
 50 the said rest in a horizontal position as the foot-crank rotates, and link connections between said foot-crank and hand-crank of equal length to cause them to rotate together, substantially as described.

55 2. In exercising apparatus, a suitable frame, rotatable foot-cranks and a hand-

crank having the same radius supported in said frame, and link connections between said foot-cranks and the hand-crank, substantially as described. 60

3. The supporting-frame, a set of foot-cranks and a single hand-crank and adjustable grips thereon constructed to increase their radius, and links of equal length connecting the foot-cranks with the hand-crank, 65 substantially as described.

4. An exercising apparatus having a suitable supporting-frame, a pair of foot-cranks in opposite positions on their supports, foot-rests pivotally supported on said cranks and 70 means to hold said rests horizontally when the cranks are rotated, a pair of hand-cranks at the top of said frame and a pair of links of equal length connecting said foot-cranks and hand-cranks, substantially as described. 75

5. An apparatus having foot and hand cranks and links connecting same, foot-rests connecting the foot-cranks, and a friction-brake connected with said foot-rests, substantially as described. 80

6. In an exercising apparatus, the foot-cranks and the foot-rests pivotally supported thereon to travel in a horizontal position, the hand-cranks above of the same radius as the foot-cranks, and links connecting said cranks, 85 substantially as described.

7. An exercising apparatus having a set of foot-cranks and foot-rests thereon, and a single hand-crank having grips in pairs, so that opposite persons stand on independent rests 90 and hold the same crank-grips, substantially as described.

8. In an exercising apparatus, a supporting-frame, opposite foot-cranks, foot-rests for one person on each pair of cranks and con- 95 nections between the foot-rests of one crank with the corresponding rests of the other crank, substantially as described.

9. In an exercising apparatus, two sets of foot-cranks on the same plane and one set of 100 hand-cranks having double grips, foot-rests on said foot-cranks and means to hold them in horizontal position, and link connections in pairs from opposite foot-cranks to the corresponding hand-crank, substantially as de- 105 scribed.

Witness my hand to the foregoing specification this 28th day of July, 1900.

JOHN S. ADDLEMAN.

Witnesses:

M. A. SHEEHAN,
 R. B. MOSER.