

Feb. 9, 1954

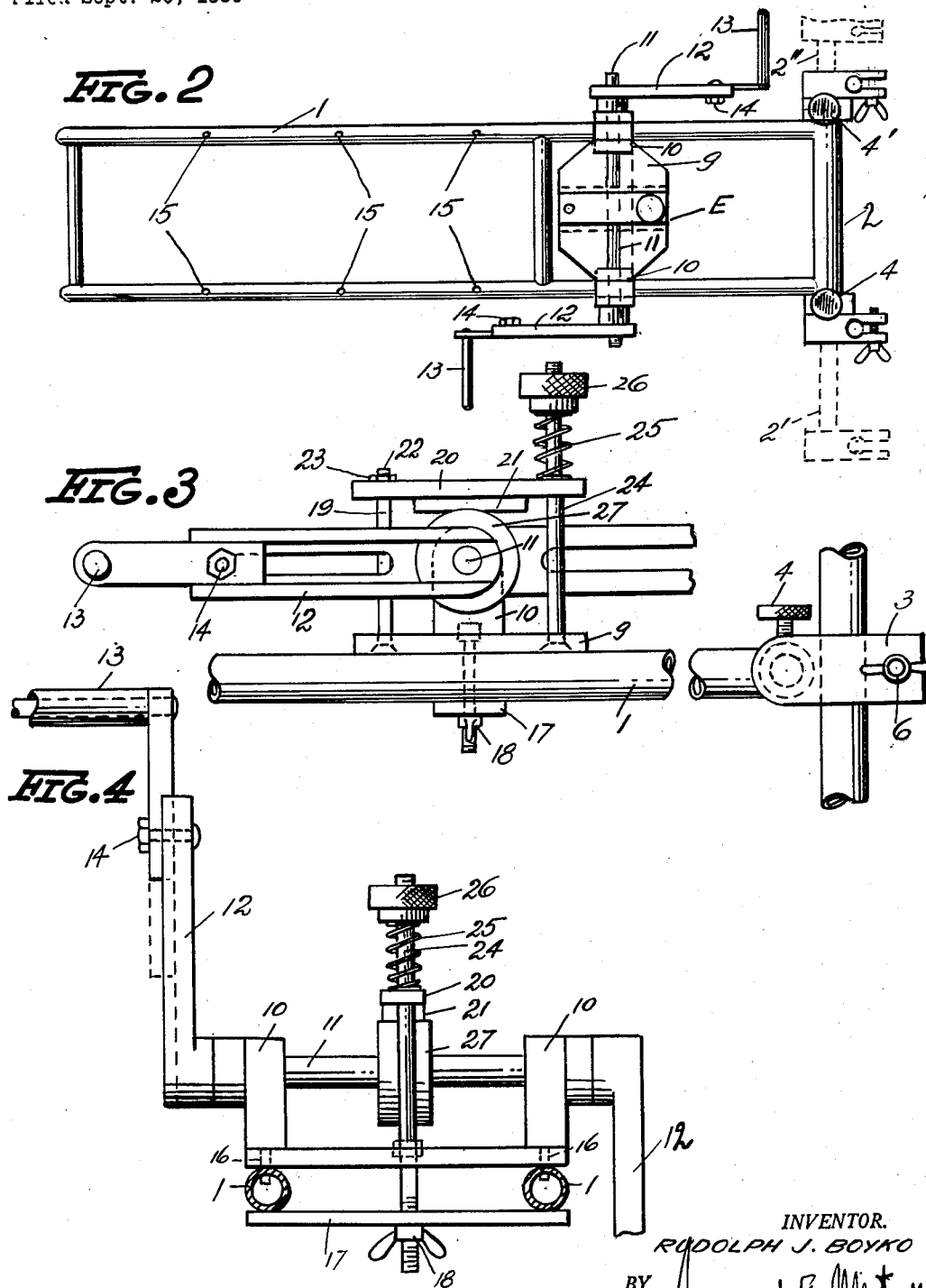
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2,668,709

MEDICAL EXERCISING APPARATUS

Filed Sept. 26, 1950

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UNITED STATES PATENT OFFICE

2,668,709

MEDICAL EXERCISING APPARATUS

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Application September 26, 1950, Serial No. 186,764

3 Claims. (Cl. 272-58)

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This invention relates to improvements in medical exercising devices.

More particularly the invention relates to medical or orthopaedic devices adapted to exercise the feet and the legs as well as the hands and arms of disabled or ailing persons.

It is an object of this invention to provide an apparatus of this kind constructed as an attachment to any usual chair, sickbed or the like.

A further object of the invention is to provide in an apparatus of the character specified means for easily attaching and adjusting said apparatus to chairs of various shape and size.

It is another object of the invention to provide a medical or orthopaedic exercising device wherein the same means are adapted for exercising the feet as well as the hands of an individual. This can be performed according to the invention by swinging the working parts of the device from one position to another, as will be explained later on.

Another object of the invention is to provide in an apparatus as specified, adjustable means for resisting to a greater or less degree the action of the members of the body incident to the operation of the device, so that the apparatus may be adapted to the needs and to the ability and strength of the individual using the same.

With the foregoing and other objects in view, the invention consists in the combination and arrangements of parts to be hereinafter fully described and pointed out in the appended claims.

The drawings are intended for illustration only.

Changes in shape, form, or arrangements of parts may be made without departing from the spirit of the invention.

In the drawings:

Fig. 1 is a perspective view of an embodiment of a medical exercising apparatus according to the invention, attached to a chair;

Fig. 2 is a top view of the device illustrated in Fig. 1;

Fig. 3 is a side view in enlarged scale of part of the exercising device proper shown in Figs. 1 and 2;

Fig. 4 is a fragmentary front view of said exercising device proper;

Fig. 5 shows diagrammatically a modification of an exercising apparatus according to the invention attached to a chair.

Referring now to the drawings, my new apparatus comprises a welded frame 1, preferably of 3/4" pipe, carrying the exercising device E.

One end of said frame is to be attached to the chair of the patient, whereas the other end rests,

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for instance, on the floor as shown in Figs. 1 and 5.

The end of frame 1 attached to the patient's chair is provided with a tube 2 capable of revolving between collars 8 and 8' in two clamps 3 and 3'.

Said clamps 3 and 3' are attached to tubes 2' and 2'' (Fig. 2) which are telescopically slidable in tube 2 in order to permit adjustment of the width of the apparatus, to be attached to a chair, to the width of this chair.

The clamps 3 and 3' surround uprights 5 and 5', which are thus adjustable to floor level by loosening wing-nuts 6 and 6'. The uprights 5 and 5' transfer the load of the device to the floor and may be fastened to the front chair legs by thong-wrappings, or other suitable devices or means.

On the frame 1 is mounted, adjustable as to position, the exercising device E, consisting essentially of two arms rotatable under friction and adjustable to the strength and orthopedic needs of the patient.

As shown in Figs. 1 and 2, a base plate 9 of the exercising device (Figs. 3 and 4) may be fastened in various positions along frame 1, determined by holes 15, into which pegs 16 insert, the whole combination being clamped tight by clamp plate 17 and screw and wing-nut 18.

Base plate 9 is provided with two uprights 10 with bearing holes which carry a shaft 11.

At each end of shaft 11, arranged at an angle of 180° to each other, are cranks 12 with standard pedals and/or handles 13 provided at right angles thereto.

The cranks 12 are slotted to permit of adjusting their effective length by shifting the position of pedals 13 relative thereto by means of nut and screw 14.

A rod 19 supports a brake-bar 20 to which is bonded a brake lining 21. Rod 19 is provided with a collar pin 22 and a washer 23 in order to effectively hold the brake-bar 20.

A bolt 24 passes through a hole in the other end of the brake-bar 20, which is fastened at its lower end to base plate 9. Around bolt 24 and above brake-bar 20, a compression spring 25 is provided, adjustable by a hand-wheel 26. This adjustable braking device operates on brake-drum 22, which is rigidly connected with shaft 11.

In the use the apparatus according to the invention is first connected with the chair of the patient, thereby adjusting its width to the width of the chair by regulating the position of tubes 2' and 2'' and clamps 3 and 3' and the length of the uprights 5 and 5' as described heretofore.

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Then the position of the exercising device E is adjusted to suit the length of the patient's legs or arms, respectively, by fastening base plate 9 in proper position on frame 1.

Furthermore, the right position of the pedals 5 or handles will be arranged by fixing the same in proper position in cranks 12.

Also, in order to adjust the resistance of the exercising device to the action of the feet or hands of the patient in accordance with the needs or the strength of the user, the braking device 20, 21, is regulated as explained heretofore.

According to whether the feet or the hands of the patient are to be exercised, the position of the exercising device E may be changed by swinging frame 1 from one position to another thereby bringing said exercising device nearer to or farther from the patient (Figs. 1 and 5): as mentioned before, the end of frame 1 which is attached to the chair comprises a tube 2 arranged for turning between collars 3 and 3'. Set screws 4 and 4' provided in said collars permit the fastening of frame 1 together with the exercising device E in any desired position. Preferably, however, for exercising the feet, frame 1 may rest on the floor A, as shown in Figs. 1 and 5, and for exercising the hands the frame may lean against a wall B of a room as shown in dashed lines of Fig. 5.

In the embodiment of the invention illustrated in Fig. 5 special stays S are provided, hinged on frame 1 and thereby adapted to support said frame when leaning on the wall or resting on the floor.

Although I have described preferred embodiments of my invention, it is obvious that many changes could be made in the construction of the apparatus without departing from the spirit and scope of the invention.

I claim:

1. As a supplementary device, a medical exercising apparatus for both upper and lower extremities, easily adjustable to a seat, a framework which comprises in combination mount tracks carrying an exercising device of the crank-arms type slidably arranged on said tracks; means to secure said exercising device on said tracks in

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various desired positions; means for connecting said tracks to straight front parts of said seat, said connecting means comprising two uprights and a horizontal rod connected with said tracks and turnably arranged at the top of said uprights; and means for adjusting and connecting said uprights to the straight front parts of said seat.

2. In the device set forth in claim 1, means for fixing the position of said tracks turnably arranged in the framework by means of said turnable horizontal rod in the position required for exercising the upper and the lower extremities, respectively.

3. As a supplementary device, a medical exercising apparatus for both upper and lower extremities, easily adjustable to a seat, a framework which comprises in combination mount tracks carrying an exercising device of the crank-arms type slidably arranged on said tracks; means to secure said exercising device on said tracks in various desired positions; means for connecting said tracks to straight front legs of said seat, said connecting means comprising two uprights and a horizontal rod connected with said tracks and turnably arranged at the top of said uprights; and means for adjusting and connecting said uprights to the straight front legs of said seat, in which the tips of said uprights are situated lower than the tips of said front legs of the seat, in order to transfer the load of the framework and the exercising device from the seat to the uprights.

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