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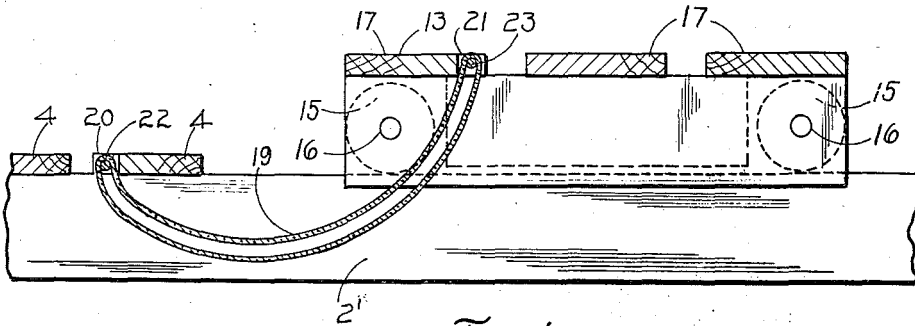
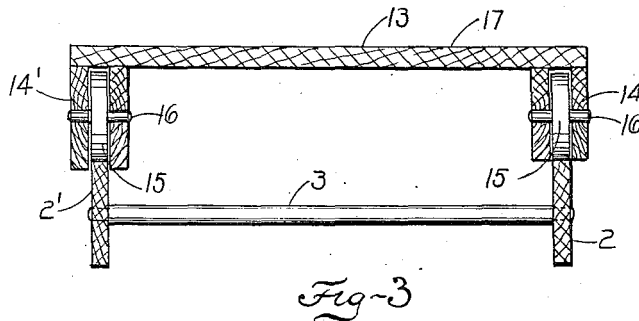
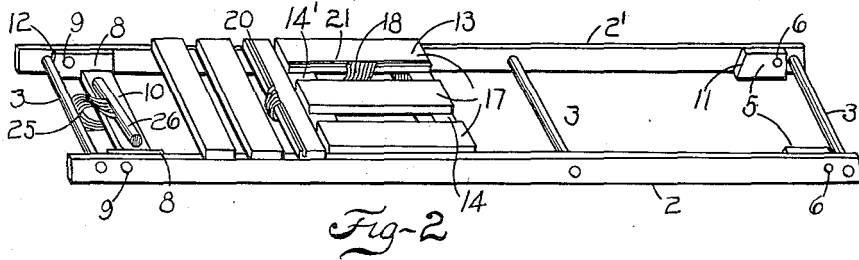
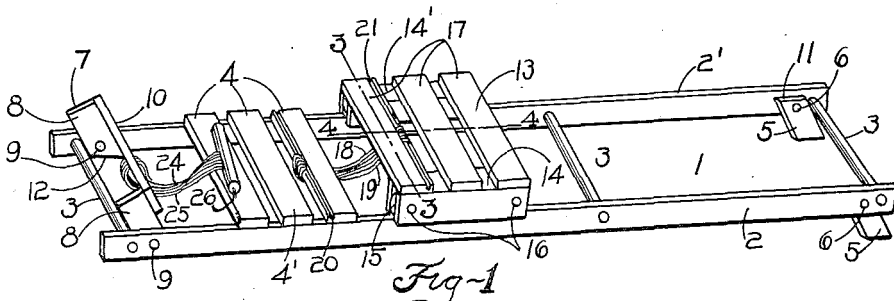
T. WILLIAMS ET AL

1,979,783

EXERCISING MACHINE

Filed Sept. 20, 1932

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

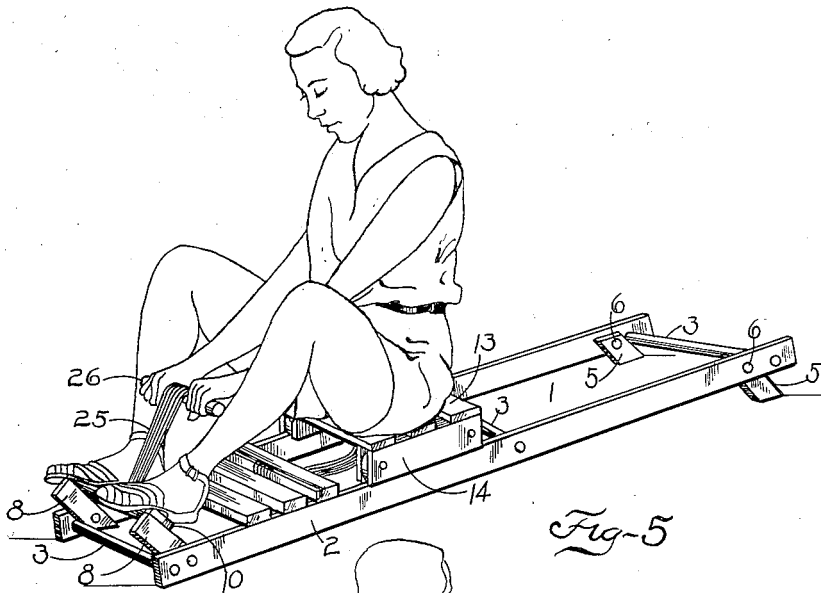


Fig-5

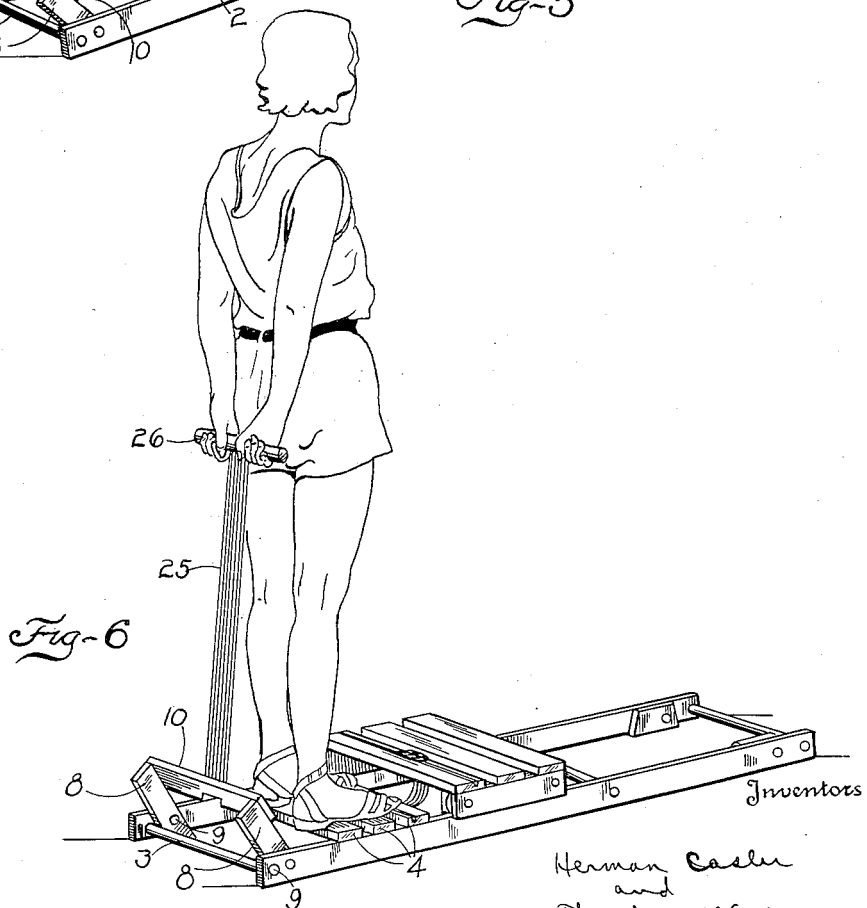


Fig-6

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UNITED STATES PATENT OFFICE

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EXERCISING MACHINE

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6 Claims. (Cl. 272-72)

Our invention relates to exercising machines, and more particularly to that type of machine in which the operator simulates the movements of a person, rowing a boat, one of the objects being to provide a simple and compact structure which can be used in the home as well as in the gymnasium, the apparatus being designed to develop all of these muscles that would ordinarily be used in rowing.

Another object of the invention is to provide an exercising machine of simple and economical construction which can be readily folded into compact form for storage or shipment.

Another object of the invention is to provide a tension element composed of a plurality of rubber bands whereby the tension of the said element may be varied to suit the strength of the operator by adding to or decreasing the number of bands.

Other objects and advantages will be apparent as the description proceeds, it being understood that various changes in the embodiment of the invention illustrated may be made within the scope of the appended claims without departing from the spirit of the invention.

In the accompanying drawings:

Figure 1 is a perspective view of the exercising machine ready for use;

Figure 2 is a perspective view of the exercising machine in knockdown position;

Figure 3 is a cross sectional view taken on line 3-3 of Figure 1;

Figure 4 is a longitudinal sectional view taken on line 4-4 of Figure 1;

Figure 5 is a view showing the exercising machine used for leg and body exercises; and

Figure 6 is a view showing the exercising machine used for arm and back and leg exercise.

Referring more particularly to the drawings, 1 denotes a ladder like frame work comprising preferably wooden side rails or members 2 and 2' connected together at intervals by preferably round spacing and bracing rods 3, preferably three in number, one at each end and one intermediate the ends of the rails. A plurality of spaced boards or strips 4 connected at their opposite ends to the top edges of the rails adjacent the front ends thereof provide a platform 4' for supporting the operator when exercising in the manner illustrated in Figure 6 of the drawings.

Leg members 5 pivotally attached to the rear ends of the rails 2 and 2', by means of bolts or similar pivots 6, support the frame 1 in a forwardly inclined position for a purpose presently described, see Figure 1. In this position the rear

spacing rod 3 serves as a stop to limit movement of the legs. These legs can be folded forwardly and upwardly to a position parallel to and within the confines of the rails, the depth of the latter being the same as that of the legs for this purpose. When the legs are thus folded the apparatus will of course assume a horizontal position. A rest or abutment 7 for the feet is pivotally mounted in the front end of the frame. Thus a pair of upwardly and forwardly disposed members 8 are secured to opposite rails 2 and 2' by bolts 9 or other suitable pivots, and these members are connected together by a cross strip 10. The foot rest 7, like the legs 5, can be readily folded inwardly between the side rails for convenience in shipping and storing, and preferably the members 8 are of the same width as the side rails. The forward spacing rod 3 serves as a stop for the foot rest in either of its positions. One end of legs 5 and one end of members 8 are beveled or cut on an angle, as at 11 and 12 respectively, to the longitudinal axis of the said legs and members to permit adjustment and to insure engagement with the spacing bars or stops 3 when the legs 5 and members 8 are in folded position.

A wheeled carriage or seat 13 removably mounted for sliding movement on the upper edges of the rails 2-2', includes a pair of longitudinally disposed housings 14 and 14' of inverted U-shape, in which wheels 15, rotatably mounted on axles 16 are housed. Spaced strips or boards 17 connecting the housings together provide the necessary seating surface for the operator when simulating rowing. It should be noted that the lower edges of the sides or flanges of housing 14 are flush with or slightly above the top of rail 2 whereas the sides or flanges of housing 14' extend below the top of rail 2' and in sliding engagement with the sides of this rail. The carriage is thus kept in alinement with the rails and at the same time danger of binding, due to the warping of the wooden rails is reduced to a minimum. The length of the housings 14, 14' of the carriage 13 and the width of the seating surface of the latter is less than the distance between the rails 2 and 2' whereby the carriage may be removed and placed between and in nested relation with respect to the rails preparatory to packing the apparatus for storage or shipment.

The carriage 13 is connected to the platform 4' by means of a resistance element 18 composed of a plurality of individual loosely arranged end-less elastic rubber bands 19. Thus adjacent

strips or boards 4 and 17 of the platform 4' and the seat or carriage 13 respectively are provided with grooves 20 and 21 in their upper faces in which rods 22 and 23 are snugly received. The bands 19 are looped at opposite ends around these rods and extend beneath the strips in which the rods are mounted and consequently when the bands are under tension the rods are pulled tightly to their seats in the grooves. The tension of the element 18 as a whole may be varied to suit the strength of the operator by merely increasing or decreasing the number of individual bands 19 employed. This adjustment can be quickly made due to the ready removability of rods 22 and 23. The form of resistance element and attachment means employed also permits of the carriage or seat being removed from the rails and inserted therebetween without the necessity of disconnecting the seat from the platform.

A second resistance element 24, also composed of a plurality of loosely arranged rubber bands 25 is connected at opposite ends in any suitable manner, such as that employed with resistance element 18, to a foot rest or abutment 7 and a pull handle 26. It will of course be understood that the tension of element 24 can be varied by adding to or decreasing the number of bands 25. Heretofore machines have been provided with coil springs in the rear of the machine to which are attached cords which lead forward and pass around spools or pulley wheels located in the foot-board and thence backward to the operating handle, with the result that a 50 lb. pull on the handle exerts a backward stress of 100 lbs. on the foot rest. According to my invention the resisting members in the form of elastic rubber bands attached directly to the foot-rest and to the operating handle, whereby a 50 lb. pull on the handle produces a backward stress of only 50 lbs. on the foot rest, makes it possible to attach the foot-rest to the frame by pivot support, and there is no backward movement of the foot-rest due to the stress of the elastic rubber bands when the operator is exercising as would be in the case of the first mentioned type of spring hook up; for the reason that there must be an equal opposing force transmitted to the foot rest by the operator's feet.

Our apparatus is capable of use for many forms of exercise. For instance the operator while standing upon the platform 4' facing toward the front of the machine bends forwardly from the hips, grasps the pull handle 26 and then resumes an erect position, or the operator may, while standing on the platform and facing the rear of the machine, grasp the pull handle with the hands behind the back as shown in Figure 6. The principal method of use, however is for the operator to occupy the sliding seat or carriage with the feet braced against the foot rest or abutment and with the hands gripping the pull handle, in which position the ordinary rowing movements may be followed. It will be understood that in all exercises which involve movement of the seat against the tension of member 18, the legs 5 will be in extended or Figure 1 position. As the frame is thus caused to assume a forwardly inclined position the seat can be readily moved forwardly to normal position under the weight of the operator, the pulling leg action of the latter and the pull of resistance element 18.

Having thus described our invention, what we claim as our invention is:

1. In an exercising device spaced parallel rails, a roller seat disengageably riding on said rails, spacing means between said rails close to the ends thereof, a tiltable foot rest connected at the front ends to the inside faces of said rails, and tiltable legs at the rear ends of said rails, said foot rest and said legs having bevelled portions, said spacing means being adapted to be engaged by said beveled portions, thus limiting the tiltable movements of said foot support and said legs.

2. In an exercising device spaced parallel rails, a roller seat disengageably riding on said rails, an elastic connection between said seat and said rails to yieldingly resist backward movement of said roller seat, a foot support pivotally connected to the front ends of said rails and elastic exercising means attached at one end directly to said foot support above its pivotal connection to said rails to permit a tilting action of said foot support and exercising of the lower leg muscles when the operator distends said elastic means, and a pull handle at the other end of said elastic connection.

3. In an exercising device spaced parallel rails, a roller seat disengageably riding on said rails, spacing means between said rails close to one end thereof, a tiltable foot rest connected at the front ends of and to the inside faces of said rails, said foot rest having beveled portions, and said spacing means being adapted to be engaged by said beveled portions, thus limiting the tiltable movements of said foot support.

4. In an exercising device spaced parallel rails, a seat having supporting rollers on each side thereof disengageably riding on said rails, guiding means on one side of said seat only to guide the rollers on one rail and to prevent lateral motion of the seat with respect to said rail, the rollers on the other side being free to move laterally with respect to the other rail, and a foot rest attached to the front end of said rails.

5. In an exercising device spaced parallel rails, a seat having supporting rollers on each side thereof disengageably riding on said rails, guiding means on one side of said seat only to guide the rollers on one rail and to prevent lateral motion of the seat with respect to said rail, the rollers on the other side being free to move laterally with respect to the other rail, an elastic means interconnecting said seat with said rails to yieldingly resist backward movement of said seat on said rails, and a foot rest attached to the front end of said rails, and leg portions at the rear end of said rails.

6. An exercising machine comprising spaced parallel rails having flat upper traction surfaces, a roller seat having supporting rollers on each side thereof disengageably riding upon said flat traction surfaces, guiding means on one side of said seat only to guide the rollers on one rail and to prevent lateral motion of the seat with respect to said rail, the rollers on the other side being free to move laterally with respect to the other rail, and a foot rest attached to the front ends of said rails.

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