

March 11, 1930.

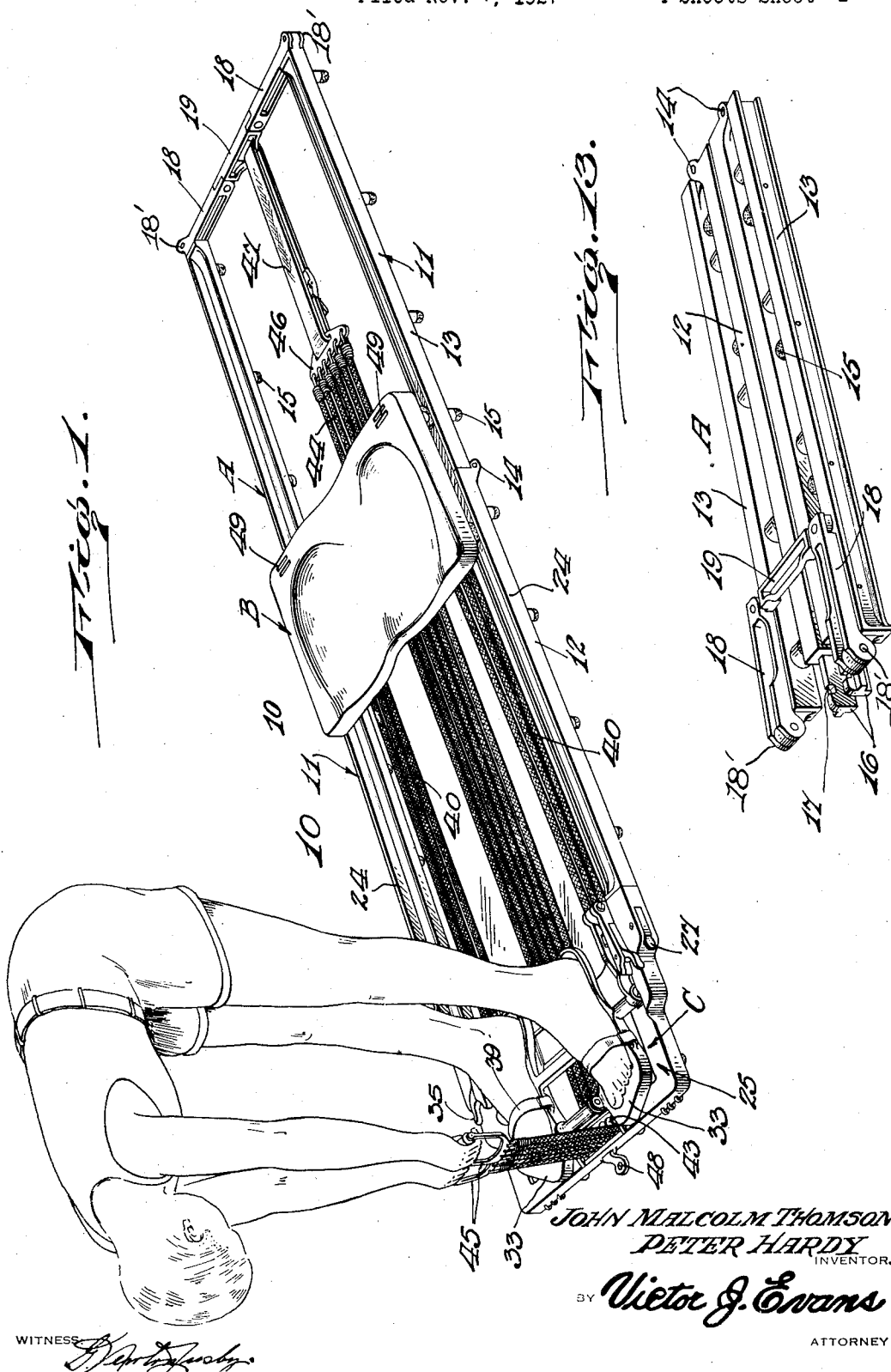
J. M. THOMSON ET AL

1,750,549

EXERCISING APPARATUS

Filed Nov. 7, 1927

4 Sheets-Sheet 1



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WITNESS
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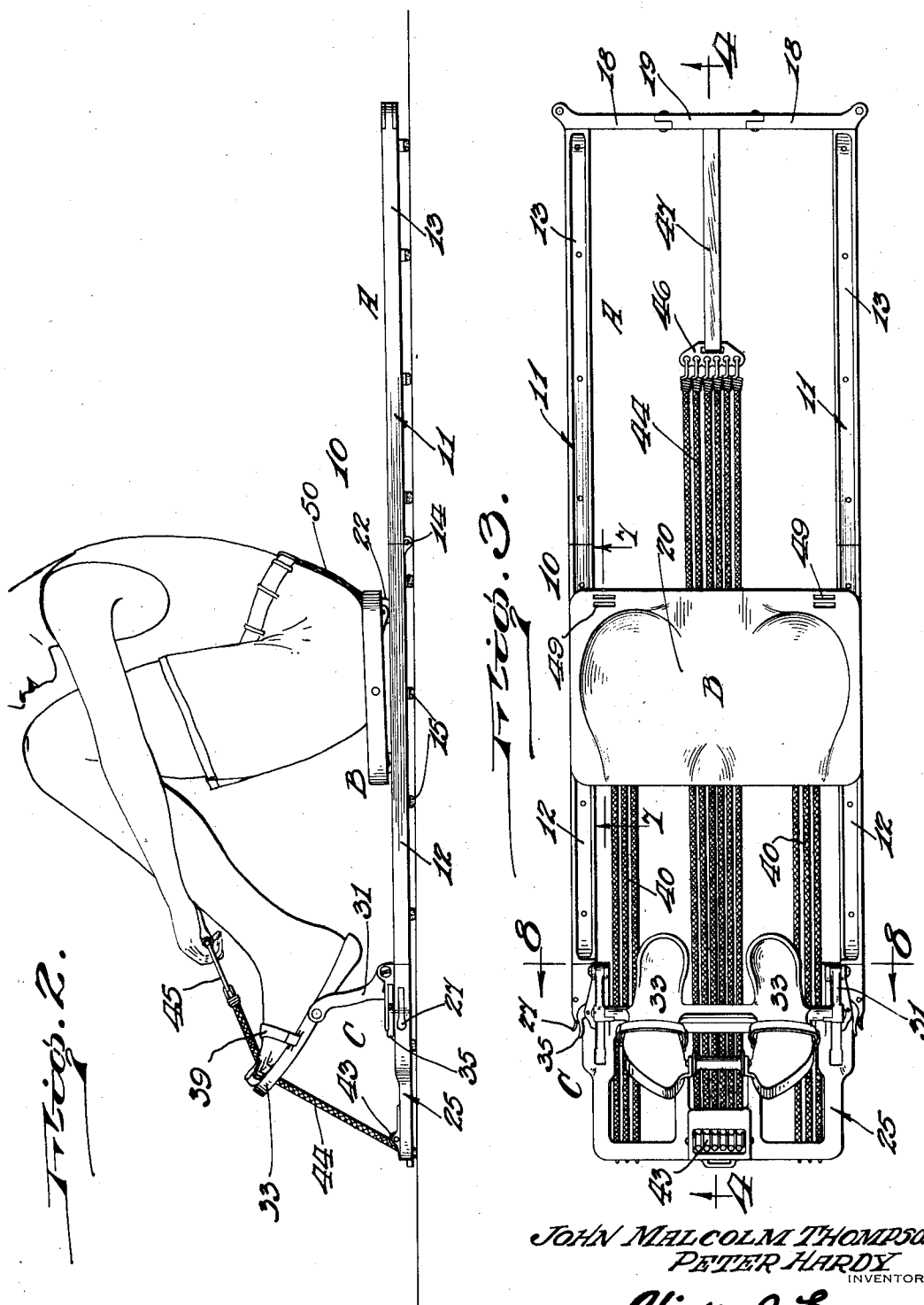
Fig. 2.

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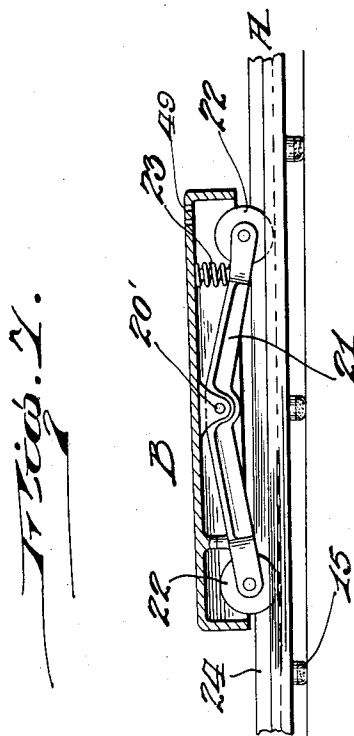
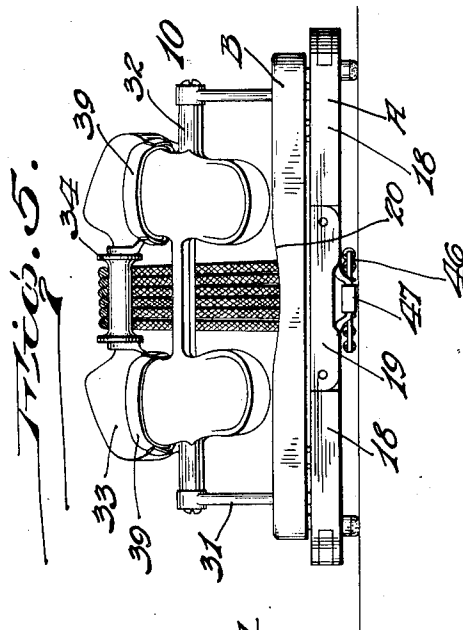
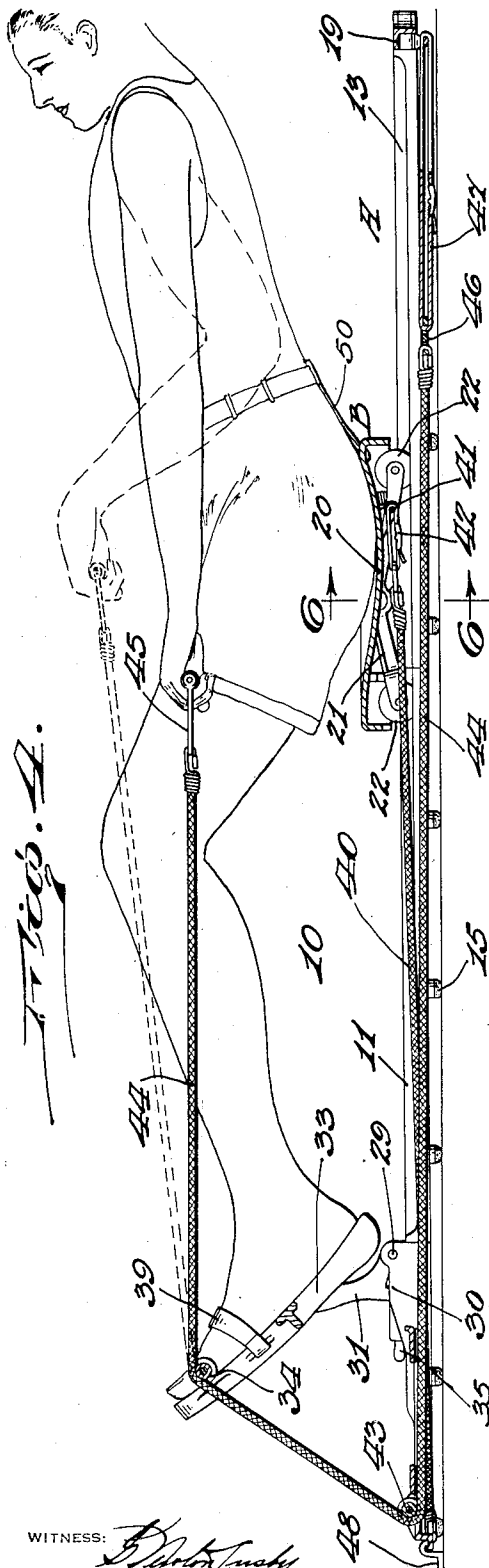
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Fig. 6.

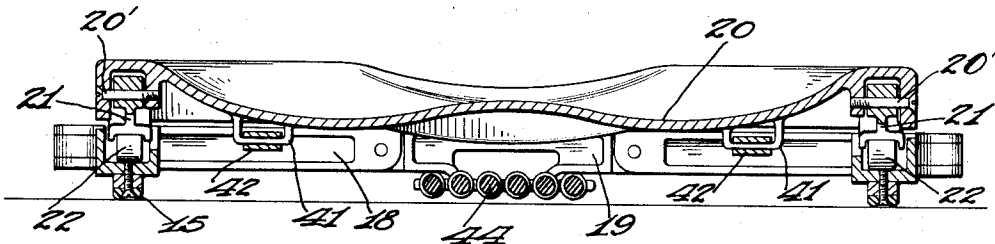


Fig. 8.

Fig. 9.

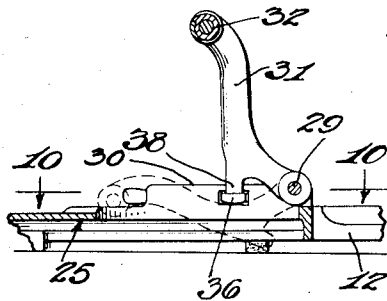
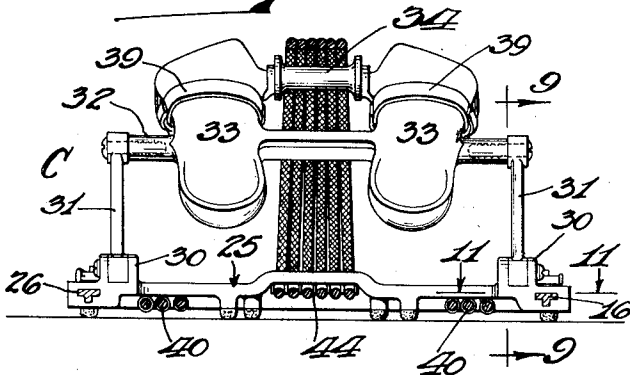


Fig. 11.

Fig. 10.

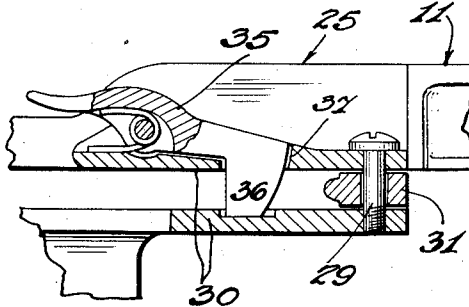
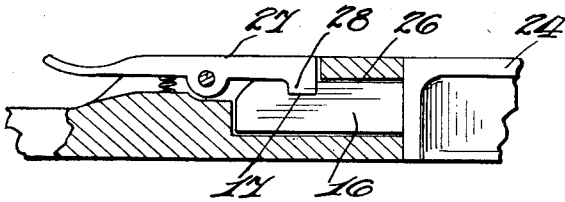
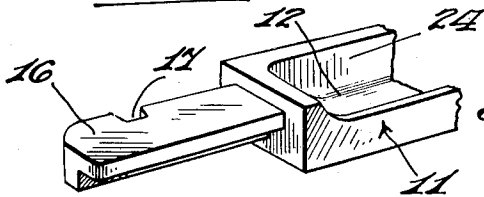


Fig. 12.



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UNITED STATES PATENT OFFICE

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EXERCISING APPARATUS

Application filed November 7, 1927. Serial No. 231,640.

This invention relates to improvements in exercising apparatus.

The primary object of the invention resides in an exercising apparatus by the use of which a person may derive the same exercise indoors, as if he were engaged in rowing a boat, which exercise is known to stimulate all the vital muscles of the human body whereby regular use of the apparatus will tend to build up the physique of the user and keep him in excellent physical condition.

Another object of the invention is to provide an exercising apparatus in the use of which an operator is required to push himself against his own weight plus an additional tension, thus bringing into action the muscles of the legs and abdomen, besides simultaneously pulling against a force with the hands which of course brings into action, the arm, shoulder and chest muscles.

Another object of the invention resides in an exercising apparatus of the rowing machine type which is especially adapted for home use, although the same, if desired, could be used in gymnasiums for athletes. The apparatus is so constructed as to require but a small amount of space when set up for use, and which may be disassembled and folded for conveniently packing in a suitcase or the like, which facilitates the easy shipping of the same and handling when transporting from place to place.

A further object is to provide an exercising apparatus which includes a pair of spaced rails on which a seat is movably mounted, the said seat being under a tension for movement in a forward direction and on which the operator sits with his feet on a suitable foot rest and against which he pushes to move the seat in an opposite direction against the tension thereon, there being also provided tension hand cords against which he pulls during the backward movement of the seat over the rails.

A still further object is the provision of an exercising apparatus of the kind above mentioned which includes a foot rest capable of movement to two separate positions to either permit the user to push thereagainst when engaged in one type of exercise, or

stand thereon when engaged in a different type of exercise.

A still further object is to provide a portable exercising apparatus which is easy to assemble or disassemble, strong and rigid but light in weight, and inexpensive of manufacture.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a perspective view of our improved exercising apparatus showing a person in position thereon for a standing exercise.

Figure 2 is a side elevation of the same but showing a user in position thereon for a sitting exercise.

Figure 3 is a top plan view.

Figure 4 is a vertical sectional view showing the position of the parts during the sitting exercise.

Figure 5 is an end elevation.

Figure 6 is a vertical transverse sectional view on the line 6—6 of Figure 4.

Figure 7 is a detail vertical sectional view on the line 7—7 of Figure 3.

Figure 8 is a vertical transverse sectional view on the line 8—8 of Figure 3.

Figure 9 is a detail vertical sectional view on the line 9—9 of Figure 8.

Figure 10 is a horizontal sectional view on the line 10—10 of Figure 9.

Figure 11 is a sectional view through the latch for securing the foot section to the track section.

Figure 12 is a detail perspective view of one of the free ends of one rail.

Figure 13 is a detail perspective view of the track in a folded condition.

Referring more particularly to the drawings, the reference numeral 10 designates our improved exercising apparatus in its entirety which includes in general a track section A for slidably supporting a seat B and

a foot section C. These parts will now be fully described in the order named.

The track section A includes spaced longitudinal rails 11—11, each embodying a pair of rail sections 12 and 13 hingedly connected together at their meeting ends by a rule joint 14 which facilitates the folding of the sections one upon the other when the device is disassembled for packing or storing. The undersides of the rail sections are provided with spaced feet 15 for supporting the track above the floor, the feet of one rail section being staggered with respect to the feet of the adjacent rail section so that the sections may be closely folded together as shown in Figure 13 of the drawings. The free ends of the rail sections 12 are provided with locking tongues 16 having notches 17 thereon for co-action with a particular latch mechanism by which the foot section C is removably attached. The rear ends of the sections 13 of the rails are hingedly connected as at 18' to links 18 which links are pivotally connected to an intermediate link 19 which allows the track to be folded transversely as well as longitudinally.

As hereinbefore stated, the seat B is movable longitudinally over the rails of the track A and is preferably constructed of cast aluminum of a width equal to the width of the track and which has a cavity 19 in the top thereof to comfortably receive a person in a sitting posture and is so shaped to prevent any accidental slipping of the person when performing the exercise. Pivoted to the underside of the body of the seat as at 20 are forked brackets 21, the forked ends of which serve as bearings for rollers or wheels 22 which travel over the rails of the track A. The body of the seat is normally held in a slightly forwardly pitched position by expansion springs 23 interposed between the rear forked end and the underside of the seat and which facilitates a slight rocking movement to be imparted to the seat during the exercising operation and which serve to take up any shock during backward rocking movement of the seat. The rails of the track A have vertical side flanges 24 for guiding the seat thereover and for preventing the seat from accidentally jumping the track.

The foot section C comprises a frame or platform 25 having sockets 26 for alignment with the tongues 16 on the rails and which receive the tongues as clearly shown in Figure 11 of the drawings. Spring actuated catches or dogs 27 are pivotally carried by the platform 25, the bills 28 of which snap into the notches 17 in the tongues to firmly secure the foot section to the track. For separating the two parts, the free ends of the dogs are depressed whereupon the same are free to be pulled apart. Pivoted adjacent opposite sides of the foot frame 25 toward the rear thereof as at 29 between spaced flanges 30 are

brackets 31 which serve as a support for a rocker shaft 32 on which spaced foot plates 33 are rigidly mounted. Bridging the foot plates adjacent their outer ends is a roller 34 for a purpose to be presently explained. The foot plates may be held either in a raised or lowered position by swinging the brackets upon their pivots 29. However, for locking the foot plates down, we provide spring actuated latches 35 which are mounted in the outer flanges between which the brackets are pivoted and which have their bills or noses 36 passing through openings 37 in the outer flanges and which abut the inner flange. When the latches are depressed, the brackets may be swung down to the position shown in Figure 1 of the drawings and upon release of the catches they will overlie the brackets and prevent any pivotal movement thereof. This position of the foot plates is desired when the foot section is folded for packing and when a standing exercise is performed, as the person stands in the manner shown in Figure 1. When the brackets are swung to their raised position, the latches are depressed to release them whereupon the feet 38 provided on the brackets rest upon the bills or noses of the latches as shown in Figure 9, at which time the foot plates 33 are disposed at a convenient angle. Straps 39 are provided on the toe ends of the foot plates to receive the feet of a person while sitting upon the seat B to prevent accidental slipping of the same thereof.

For normally pulling the seat B forwardly over the track, we provide sets of elastic cords or cables 40 which have their rear ends removably secured to eyes 41 on the underside of the seat by non-elastic straps 42, while the front ends of the cables are fixed to the forward edge of the foot frame 25. The straps may be unfastened from the seat during the disassembling of the parts to separate the seats therefrom.

Journalled forward in the foot frame 25 are a plurality of grooved rollers 43 for the passage of a plurality of elastic cables 44, any number of which may be provided. The forward end of the cables are attached to a pair of hand grips 45, an equal number of cables being attached to each hand grip while the rear ends of the cables pass rearward and are attached to a plate 46 which is tied to the intermediate link 19 of the track A by a removable looped strap 47. The length of this strap may be adjusted to vary the tension on the cables 44 when a pull is exerted upon the hand grips.

For preventing accidental forward creeping of the apparatus there is provided a stop 48 which is anchored to the floor and engages the front of the foot frame 25.

In use for performing a rowing exercise, the user sits upon the seat B with his feet resting against the respective foot plates 33 and

grasps the respective hand grips 45. The seat being normally in a forward position, the first movement of the seat will be in a rearward direction which is accomplished by the user pushing against the foot plate to cause a rearward movement of the seat against the action of the elastic cables 40. Simultaneous with the backward pushing movement, the user pulls upon the hand pull cables 44 thus producing an action similar to that of rowing a boat. Upon reaching the limit of his rearward movement, the user releases the foot pressure and the pulling force whereupon the cables 40 return the seat in a forward direction. This operation is continued until the user has completed his exercise.

If desired, a different type of exercise may be taken as shown in Figure 1 of the drawings, whereupon the foot plates are swung down to permit the user to stand thereon. He is then in a position straddling the cables 44 and may bend over and grasp the hand grips 45 for pulling against the tension on said cables.

The benefits derived from such exercises as may be taken upon our apparatus are well known to all and regular indulgence therein will build up the physique of the user and keep him in excellent physical condition at all times.

For shipping and storing purposes, the entire structure may be disassembled by unfastening the strap 47 to release the cables 44 from their connection with the track, disengaging the cables 40 from engagement with the seat, after which the seat may be removed from the track. The front section C is next separated from the track by releasing the catch 27 whereupon the track may be folded to the position shown in Figure 13. The foot plates 33 are folded down flat against the base of the foot section and the cables 44 which are attached thereto are suitably wound therearound. The different parts when folded may be snugly packed in a suitcase for convenient carrying from place to place. When desired for use, the parts may be quickly assembled by one unskilled in the art.

For preventing the accidental slipping of the seat from beneath a user from an extreme rearward position to a forward position, we provide slots 49 in the top of the seat B adjacent the rear edge through which straps 50 pass. These straps 50 are attached to the belt of the user as clearly shown in Figures 2 and 4 of the drawings.

While we have described what we deem to be the most desirable embodiment of our invention, it is obvious that many of the details may be varied without in any way departing from the spirit of our invention, and we therefore do not limit ourselves to the exact details of construction herein set forth nor to anything less than the whole of our invention limited only by the appended claims.

What is claimed as new is:—

1. An exercising apparatus comprising a track, a seat movable over said track, a foot rest at the forward end of said track, pulleys on said track adjacent said foot rest, elastic cables having their ends respectively attached to said seat and to a stationary part at the forward end of said track, elastic pull cables attached to the rear end of said track and extending forward about said pulleys, and hand grips attached to the free ends of said elastic pull cables.

2. In a portable exercising apparatus, a track including spaced parallel rails, each rail embodying a pair of hingedly connected rail sections, pivoted links connecting the rear ends of rails whereby said rails may be folded longitudinally upon themselves and transversely, the free front ends of said rails being provided with tongues, a foot rest section having sockets therein for respectively receiving said tongues, and catch means for removably securing said tongues in said sockets.

3. An exercising apparatus comprising a track, a seat movable over said track, spaced foot plates at the forward end of said track, elastic pull cords having their rear ends fixedly attached to the rear of said track, a roller journaled in the toe ends of said foot plates, a plurality of rollers journaled forward of said foot plates, said elastic pull cords passing about the respective pulleys and over said roller, and hand grips attached to the free ends of said elastic pull cords whereby a person seated on said seat with his feet on said foot plates may grasp the hand grips and propel himself backward and forward over said track.

4. An exercising apparatus comprising a track, a seat movable over said track, a foot rest at the forward end of said track, tension cords having their rear ends fixedly attached to the rear of said track, rollers journaled in said foot rest over which the respective tension cords pass, hand grips attached to the free ends of said tension cords, and seat tension cords having their respective ends fixedly attached to said foot rest and seat, whereby a person seated on said seat with his feet on said foot rest may grasp the hand grips and propel himself backward over said track by pushing backward against the tension of said seat cords and upon releasing of the pushing action by the feet, the tension seat cords will pull the seat forward.

In testimony whereof we hereby affix our signatures.

JOHN MALCOLM THOMSON.
PETER HARDY.