ABSTRACT: Rowing apparatus having a substantially rectangular frame for alternative support on a horizontal surface and a vertical surface. The frame has parallel side members and a seat carriage with means for sliding movement on the side members. A first tension spring means is provided with means removably connecting the tension spring means between the seat carriage and the front of the frame. Two handles are at opposite sides of the frame and a separate line is attached to each handle. A pair of first pulleys are connected to the front of the frame and a pair of rear pulleys connected by a second tension spring means to the rear of the frame. The lines pass respectively from each said handle, round the first pulley, round the rear pulley and then forwardly whereby each rear pulley is acted on by at least two runs of line so that after removal of the seat carriage the apparatus may be mounted vertically for arm exercising. A crossbar is mounted on the front of the frame serving as a footrest in the horizontal position of the frame and as a handgrip in the vertical position of the frame.
COMBINED ROWING APPARATUS AND EXERCISING APPARATUS

The invention relates to rowing apparatus of the kind comprising a substantially rectangular frame, preferably assembled from steel tubing or the like, and fitted with a seat carriage, which can run on parallel side members of the frame and is connected to the front of the frame by a tension spring, the apparatus being fitted with two handles which are each attached to a line running over pulleys journaled in the frame, and connected to further springs. By seating himself on the carriage and pressing the feet against the front part of the frame at the same time as he pulls in both of the handles, the person exercising can simulate a rowing motion. Rowing apparatuses of this kind are, however, only useful for the single purpose and reasons of space and price will generally limit their usage to athletic clubs, gymnasium and so forth.

According to the present invention the seat carriage of rowing apparatus of the kind referred to above is removably attached to the front of the frame by a removable tension spring and the apparatus also includes two handles each attached to a separate line which passes first round a pulley at the front of the frame, then round a pulley connected to the rear of the frame by a tension spring and then forwardly again so that the rear pulley is acted on by at least two runs of the line, the frame being shaped so as to be capable of vertical suspension from a wall. Accordingly the apparatus can be used either in a horizontal position as a rowing machine in the usual way or, after removal of the seat carriage and its associated spring it may be mounted vertically for arm exercising.

Preferably the front part of the frame is provided with a crossbar which serves as a footrest in the horizontal position of the frame and as a handgrip in the vertical position. The two lines conveniently run along the sides of the frame so as not to impede the user and the frame includes longitudinal ribs in addition to the side members, these ribs constituting a back support when the apparatus is vertically mounted.

A construction in accordance with the invention will now be described by way of example with reference to the accompanying drawings in which:

FIG. 1 is a plan view of the apparatus in horizontal position for use as a rowing apparatus;
FIG. 2 is a side elevation of the apparatus shown in FIG. 1; and
FIG. 3 is an end view of the apparatus in vertical position, mounted for instance on a wall.

A frame comprises longitudinally extending tubular elements 4 and 6, and a cross bracing 8 at the rear. A cross bracing in the front is in the shape of a transverse bridle or yoke 10 having a cross rod 12 serving as a footrest when the apparatus is utilized as rowing apparatus, and as a handgrip, when the apparatus is standing vertically.

The frame also includes cross braces 36, 38 and 41 and longitudinal ribs 32 and 34 extending between these cross braces and above them when the apparatus is horizontal. Lines 14 and 16 extend along both sides of the frame passing around pulleys 18 which are attached to the front of the frame, and pulleys 20 which are connected to tension springs 22, the rear ends of which are attached to the rear part of the frame. One end of each line 16 is attached to the front of the frame and the other end is attached to a handle 21 so that the pulleys 20 are acted on by a double run of line. By use of multiple pulleys the number of runs of line can be increased as required.

The frame carries a seat 24 forming part of a carriage provided with four wheels 26, each rolling on one of the frame elements 4 and 6. Detachable springs 28 extend between the carriage and the front of the frame to which they are attached by means of hooks 30. The seat carriage 24 including the springs and so forth can simply be fitted to and removed from the frame. FIG. 3 shows the apparatus without the seat carriage mounted on a wall with the cross braces 36, 38 and 41 attached to the wall by means of hooks 40.

In the vertical position of FIG. 3 the apparatus is positioned at a level such that a person can suspend himself by the arms from the handgrip 12, for instance with the object to swing his legs upwardly in order to strengthen his stomach muscles. In this position his back will be spaced away from the pulleys 20 and the springs 22 by the location of the ribs 32 and 34. By utilizing a double tackle for the handles 21 a person with his back against the apparatus can attain a full arm swing first in the upward direction, and then right out and straight down keeping straight arms. Nevertheless, the same person can when the apparatus is utilized as a rowing apparatus attain sufficient power in the handles to imitate rowing force.

I claim:

1. Rowing apparatus comprising a substantially rectangular frame for alternative support on a horizontal surface or vertical surface, said frame comprising parallel side members having a back support means between said side members for use on said vertical surface, a removable seat carriage, means mounted on said seat carriage facilitating said carriage's sliding movement on said side members, first tension spring means, means for removable connecting said tension spring means between said seat carriage and the front of said frame, two handles at opposite sides of said frame, a separate line attached to each of said handles, said lines running along the sides of said frame exterior of said side members, a pair of front pulleys connected to the front of said frame exterior of said side members, a pair of rear pulleys exterior of said side members, a second tension spring means connecting said rear pulleys to the rear of said frame exterior of said side members, said lines passing respectively from each of said handles around said front pulley, then around said rear pulley associated with said front pulley and then forwardly so that each of said rear pulleys is acted on by two runs of line and after removal of said seat carriage said apparatus may be mounted vertically for arm exercising, said back support comprising bracing ribs spaced from one another lengthwise, said ribs being provided with longitudinally extending back-supporting means and serving when used on a vertical surface to space the back from said pulleys and said second tension spring means.