

UNITED STATES PATENT OFFICE

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ROWING MACHINE

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1 Claim. (Cl. 272-72)

1

This invention relates to a rowing machine and particularly to a device that can be used to train sculling crews.

Heretofore devices have been known which are commonly called rowing machines and which are usually used in gymnasiums, primarily as exercising devices. Although these devices incorporate certain features which simulate to a very limited degree the movements necessary in rowing a boat or shell, they in no sense of the word, simulate actual rowing conditions which are necessary to accustom the athlete to the "feel" of the actual device and to indoctrinate and discipline the athlete's muscles to the rythmical movements necessary to the development of co-ordinated sculling teams.

At present sculling competition is primarily limited to large colleges and universities which have available to them a body of water sufficiently large to facilitate training. The smaller colleges and universities or those not located near large bodies of water are therefore practically excluded from sculling competition.

The primary purpose of the present invention is to provide an apparatus which can be placed in the ordinary swimming pool, which even most of the smallest colleges and universities have available, to be used in teaching the fundamentals of competitive rowing or sculling. The apparatus is designed so as to simulate as nearly as possible, the atmosphere and environment of actual rowing.

Accordingly, the primary object of the present invention is to provide an improved apparatus which can be used on a small body of water for simulating actual rowing conditions.

Another object is to provide an apparatus of the type mentioned which is particularly adapted for use in an ordinary swimming pool, the use of which will present all the conditions of actual rowing or sculling.

Other and further objects will become readily apparent from the following description when considered in connection with the accompanying drawings, in which:

Figure 1 is a perspective view of rowing apparatus made in accordance with the present invention shown as it would be attached to the side of a swimming pool;

Figure 2 is a plan view of Figure 1;

Figure 3 is a sectional elevation on line 3-3 of Figure 2; and

Figure 4 is an enlarged partial sectional elevation on line 4-4 of Figure 2.

Referring to the specific embodiment of the

2

invention shown in the drawings, the rowing apparatus comprises a frame 1 provided with suitable means to anchor it in a fixed position to the side of a swimming pool. Although there are various means by which the rowing apparatus may be held in place, in the specific embodiment shown, a suitable wire cable 3, preferably including a turnbuckle, is suitably connected to the opposite ends of one side of the frame 1, the cable being adapted to extend around a post or column 4 alongside the swimming pool. The frame 1 is adapted to be supported on the upper edge of the usual splash gutter 6 surrounding the swimming pool. To supplement the cable 3, suitable braces 7 are hingedly connected to opposite ends of the bottom of the frame 1, the lower ends of the braces 7 engaging the side of the swimming pool and suitable flexible cables or ropes 8 being attached between the bottom of the frame 1 and an intermediate point on each of the braces 7 to stiffen the construction. A suitable turnbuckle may be provided in the cable 8.

As is clearly shown in the drawings, the frame 1 is provided with a plurality of cross slats 10 on which is mounted suitable parallel guides or tracks 12. A seat 14 is provided with suitable wheels or rollers 16 which are adapted to engage the tracks 12 so that the seat 14 can be freely and easily moved to and fro longitudinally of the frame 1 while the trainee is operating the oar 17. In order to adapt the rowing apparatus to trainees of different heights, adjustable means are provided for supporting the trainee's feet. To this end, two foot-rests 21 are supported at one end of the frame 1. The foot-rests are in the shapes of conventional shoe soles and are provided with suitable loops 21a to prevent the trainee's feet from slipping off the foot-rests. The lower ends of the foot-rests 21 are supported on a lower cross member 23 while the upper ends of the foot-rests are supported on a cross bar 24. It will be noted that the toe portion of the foot-rests are substantially in the same horizontal plane with the seat 14, while the heel portions thereof are below the bottom of the frame. The cross member 23 is mounted for longitudinal movement on a track or guide 26 which is suspended below the frame 1 by vertical members 27, 28. The underside of the cross member 23 is provided with spaced L-shaped brackets 23a which engage the track 26 to prevent relative lateral movement. The cross bar 24 may be fixed in adjusted positions by means of suitable pegs or bolts 31 which extend through holes in the cross bar 24 and engage a series of holes 32 in

metal straps 33 secured to elements of the frame 1. It will be readily apparent that the individual trainees will adjust the foot-rests 21 to position their bodies with respect to the fulcrum point of the oar 17 to best suit their individual style of stroke to the end of producing the most efficient stroking movement.

The fulcrum point for the oar 17 is provided by a suitable oar lock 40 which is pivotally supported on the outer end of a laterally extending outrigger 41 comprising braces 42 and 43, the inner ends of which are secured to the side of frame 1 and the outer ends of which are securely joined to form a rigid support for the oar lock. The oar lock is of conventional construction and the oar is provided with a suitable collar 17a in the conventional manner to limit the movement of the oar away from the frame 1. One of the important features of the invention is the construction of the oar 17 so that when it is used in a body of still water, actual rowing conditions will be simulated as nearly as possible. The blade portion 17 of the oar is provided with a plurality of holes 17b which are adapted to permit the flow of water therethrough and create turbulence of the water to such an extent as to create the necessary resistance to movement of the oar while at the same time producing the necessary "feel" on the oar handle 17c.

In actual rowing there is, of course, relative movement between the shell, oars, and the water. With the present invention, since there is no relative movement between the shell or boat and the water, the holes 17b in the oar blade compensate for lack of relative movement between the shell and water and at the same time provide simulated rowing conditions.

The foregoing illustration of the invention is shown as applied to a swimming pool having the conventional splash gutter but it will be readily apparent to those skilled in the art that the invention may be supported adjacent the side wall of a swimming pool which has no splash gutter. For example, if desired, suitable supports could be provided for supporting the frame on the bottom of the swimming pool. Also if desired, the side of the frame adjacent the side wall of the swimming pool could be supported by metal brackets or metal straps anchored to the side wall of the pool and/or to the ledge surrounding the swimming pool.

From the foregoing description it will be seen that the present invention provides a simple, inexpensive apparatus which can be used in a small body of water, such as that of a swimming pool, for training athletes in the fundamentals of

sculling or rowing. By the use of the present invention actual sculling or rowing conditions are simulated as nearly as possible, thereby making it possible for small colleges or universities having only limited assets and without having access to suitable large bodies of water, to train sculling crews for interschool competition.

Although the invention has been described in considerable detail, it will be apparent to those skilled in the art that many variations are possible without departing from the inventive concept. It is therefore desired that the invention not be limited except insofar as is made necessary by the prior art and by the appended claim.

What is claimed is:

A device for training athletes in the rudiments of the art of sculling, comprising a frame having a rowing seat and foot-rest means therein, and having means extending laterally from said frame to provide a rigid fulcrum point for a sculling oar, said frame adapted to be secured in a fixed position relative to the side wall of a swimming pool with one side of said frame resting upon the upper edge of the usual splash gutter of the swimming pool and with said side of the frame in intimate abutting relation with said side wall, tension means on said frame adapted to be intercoupled with an adjacent portion of the swimming pool for sustaining said frame adjacent the side wall of the swimming pool in outstanding non-waterborne relation thereto overlying the surface of the water, braces hinged to the opposite ends of said frame adjacent the outer side thereof, the lower ends of said braces adapted to engage the side wall of said swimming pool, and tension members between points intermediate each of said braces and said frame.

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