

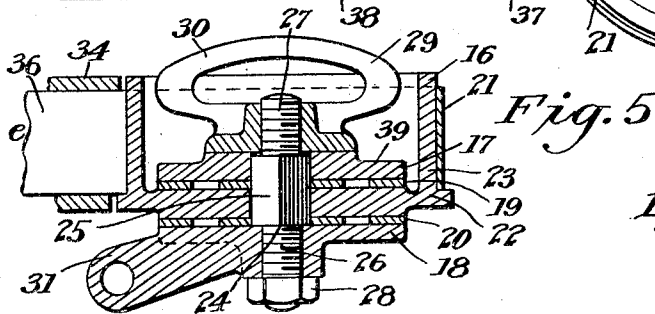
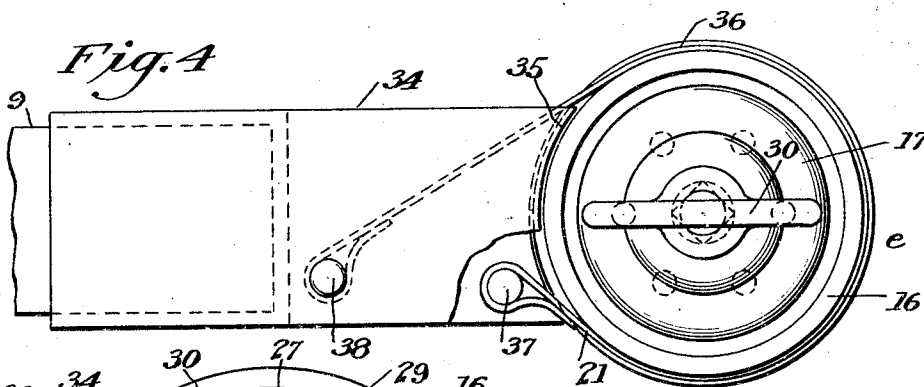
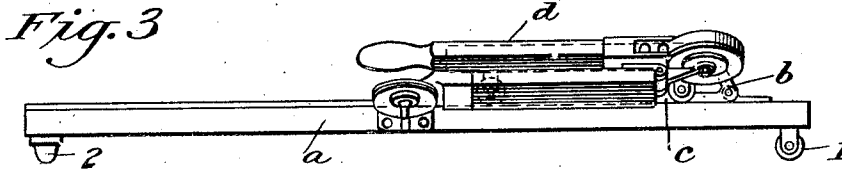
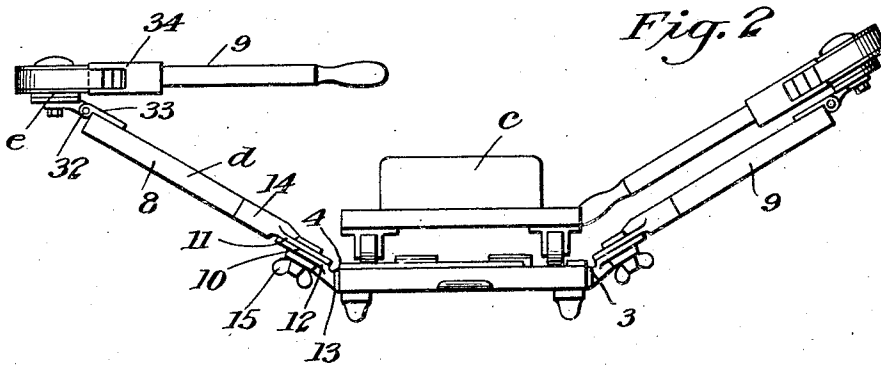
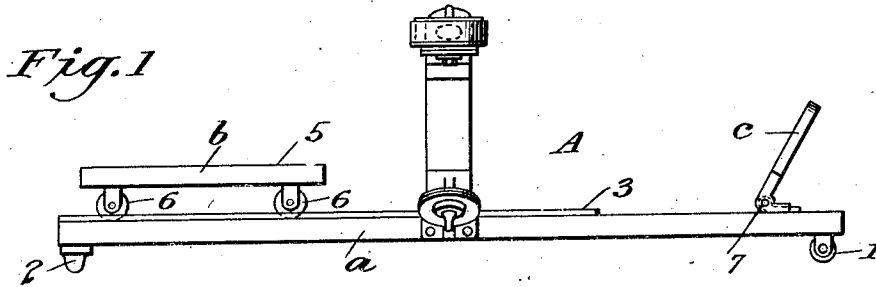
Sept. 10, 1929.

G. C. MARTIN

1,727,657

ROWING MACHINE

Filed July 27, 1927



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UNITED STATES PATENT OFFICE.

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ROWING MACHINE.

Application filed July 27, 1927. Serial No. 208,772.

This invention relates to rowing machines of the type which are used in gymnasiums or homes.

The invention has for an object the provision of a rowing machine of the character stated in which the various operative parts thereof may be placed in a folded condition so that the said machine as a whole may be placed under some object such as a bed.

One of the most notable faults in rowing machines is the space that they utilize, and this space practically renders the use of a rowing machine in a bedroom impossible. In my device I have so constructed the various parts, in particular the rowing arms, that the same may fold against the base member of the rowing machine and yet held in such a manner that the said arms may be brought to an operative position within a moment's time, so that the machine may be in condition for use.

The invention has for a further object the provision of a rowing machine which is simple of construction, efficient in operation and generally superior.

With the above and other objects in view, the invention consists in a novel and useful provision, formation, construction, association and relative arrangement of parts, members and features all as shown in a certain embodiment in the accompanying drawing, described generally and more particularly pointed out in the claims.

In the drawing:

Fig. 1 is a side elevation of the improved rowing machine.

Fig. 2 is a front elevation of the rowing machine.

Fig. 3 is a side elevation with the arms of said machine folded.

Fig. 4 is an enlarged plan view of a friction element for the arms, and

Fig. 5 is a cross sectional view detailing the construction of the friction element.

Corresponding parts in all figures are designated by the same reference characters.

Referring now with particularity to the drawings, the improved rowing machine as an entirety is designated by A, of which a is a base member, b a car movable upon said

base member, c a foot rest and d rowing arms. The base member is conventional in form, being provided at one end with casters 1, and at the opposite end with pads 2, the idea being to prevent any roll of the base member when in operative position. Said base member is likewise provided with side rails 3 and 4 to guide movement of the car b. The car includes a seat member 5 mounted upon rollers 6, so that the same may move backward or forward upon said base member during a rowing operation. The foot rest is provided with a hinge 7 connected to the base member a and said hinge is provided with a back stop so that the foot rest may assume an angularity relative to the base as indicated in Fig. 1. Likewise the foot rest may be revolved so as to lie upon said base. The rowing arms, of which there are a pair, are identical in construction and one thereof will be described. Said rowing arms comprise two members 8 and 9. The member 8 is connected to the base through the medium of a flat hinge designated generally as 10. This flat hinge comprises two members 11 and 12 adapted for facial contact with the member 12 secured through the medium of a bracket 13 to a side of the base a. The other member 11 is provided with a socketed extension 14 for receiving the arm 8. A wing nut 15 is screw threaded to a bolt passed through the hinge whereby the members 11 and 12 may be secured together. Clutch means e interconnects the parts 8 and 9 of the arms d, said clutch means is detailed best in Figs. 4 and 5, wherein 16, 17, 18, 19, 20 and 21 are members thereof. The member 16 includes a base 22 provided with an annular flange 23 on one face thereof. The members 19 and 20 comprise friction discs on opposite sides of the base 22, and the members 17 and 18 comprise discs for contact with the friction discs. Adapted to be passed through central openings in said members 17, 18, 19, 20 and 22 is a bolt 24. This bolt is provided with a central portion 25, having angularly related faces and the member 17 has its central opening thereof of a form corresponding to a cross section of the angularly related part 25. This is likewise true for the members 19 and

20. The opening in the base 22 of the member 16 is of a size sufficient to prevent the part 25 from engaging therewith. Said bolt is provided with screw threaded ends 26 and 27 and a nut 28 upon the screw threads 26 is adapted to lock member 18 in position, and a second nut 29 is screw threaded upon the threads 27. This nut 29 is provided with a handle 30, whereby the compression or frictional engagement between the members 17, 18, 19, 20 and 22 may be regulated. Member 18 is provided with a knuckle 31, forming one portion of a hinge 32, the other knuckle 33 of said hinge is secured to the part 8 of the arm *d*. The part 9 of the handle *d* is provided with a furcated member 34, which furcated member has an end thereof curved at 35 to correspond to the curvature of the flange 23. Passed about the periphery of the flange 23 and secured to the member 34 and between the furcations thereof is a strap 36, the ends of said strap being secured by means of pins 37 and 38 passed between said furcations of the member 34.

The operation of the device is as follows: The rowing arms are normally in the position illustrated in Fig. 2, that is, at substantially right angles to sides of the base *a*. By turning the nut 29 by grasping the handle 30, the degree of friction exerted by the discs 19 and 20 may be readily regulated. To prevent squeaking, said discs are formed with air holes 39. Upon grasping the handles carried on the part 9 of the rowing arms, it is evident that the strap 36 due to its method of joinder with the part 34, will allow said strap to slide reasonably free about the periphery of the member 16 when the handles are moved forward and to frictionally engage the periphery upon the flange of said member 16 when pulled backwardly to the end that the member 16 is rotated. Inasmuch as the member 18 cannot be rotated due to the fact that it is secured through the medium of the hinge which connects the member 8, friction will be exerted as between the base 22, the disc 20 and the member 18. Likewise due to the angularly related face portion 25 engaging the members 17 and 19, these latter members cannot rotate.

If after a rowing operation it is desired to place the rowing machine as an entirety under some article such as a bed, the foot rest may be moved so as to parallel the base as indicated in Fig. 3, whereupon the friction hinges associated between the base and the rowing arms may be released so that the rowing arms may parallel the sides of the rowing machine as shown in Fig. 3. The car *b* may then be moved so as to lie between the folded rowing arms. It will thus be evident that most of the weight is now concentrated near the end of the base which carries the casters 1. This allows a person using said rowing machine to readily pick up the oppo-

site end which has the pads 2 and move the same on said casters.

It will be noted that the width of the foot rest is such that the car wheels 6 may straddle the same, when it is overlying the top of the base *a*.

It is obvious that various changes, modifications and variations may be made in practicing the invention in departure from the particular showing of the drawing without departing from the true spirit thereof.

Having thus disclosed my invention, I claim and desire to obtain by Letters Patent:

1. In a rowing machine, a base, a pair of rowing arms, each of said arms comprising a pair of arm members, one arm member of each pair being hinged to opposite side edges of said base, so as to swing out at right angles to said base at an upward incline therefrom, and to swing down parallel to said side edges of the base when not in use, hinge clamping means for clamping said hinged arm members in any position to which they may be swung, the other arm members being hingedly mounted on the outer ends of said first arm members respectively to fold against said first arm members when not in use and to unfold from said first arm members into position for use, means for mounting said other arm members to swing forwardly or backwardly with relation to said first arm members, and a friction clutch for resisting the backward movement of said other arm members.

2. In a rowing machine, a base, a pair of rowing arms, each of said arms comprising a pair of arm members, one arm member of each pair being hinged to opposite side edges of said base so as to swing out at right angles to said base, at an upward incline therefrom, and to swing down parallel to said side edges of the base when not in use, hinge clamping means for clamping said hinged arm members in any position to which they may be swung, the other arm members being hingedly mounted on the outer ends of said first arm members respectively to fold against said first arm members when not in use and to unfold from said first arm members into position for use, means for mounting said other arm members to swing forwardly or backwardly with relation to said first arm members, a friction clutch for resisting the backward movement of said other arm members, a foldable foot rest mounted on one end of said base, and a seat movably mounted on said base to be moved from one end of the base to the other end thereof, whereby the rowing arms, foot rest and seat may be brought together at one end of the base when the machine is not in use.

3. In a rowing machine, a base, a pair of rowing arms, each of said arms comprising a pair of arm members, one arm member of each pair being hinged to opposite side edges

of said base, so as to swing out at right angles to said base at an upward incline therefrom and to swing down parallel to said side edges of the base when not in use, hinge clamping means for clamping said hinged arm members in any position to which they may be swung, the other arm members being hingedly mounted on the outer ends of said first arm members respectively to fold against said first arm members when not in use and to unfold from said first arm members into position for use, means for mounting said other arm members to swing forwardly or backwardly with relation to said first arm members, a friction clutch for resisting the backward movement of said other arm members, a foldable foot rest mounted on one end of said base, a seat movably mounted on said base to be moved from one end of the base to the other end thereof, whereby the rowing arms, foot rest and seat may be brought together at one end of the base when the machine is not in use, casters on which the foot end of the base is mounted, and pads on which the other end of the base is mounted.

4. In a rowing machine, a base, a pair of rowing arms, each of said rowing arms comprising a pair of arm members, a clamp hinge for hinging one of said arm members to one side of said base so that said member may swing outwardly from said base at an upward inclination therefrom into position for use or downwardly parallel to said base when not in use, said hinge including a wing nut for the hinge pivot for clamping the hinge and said member with the member swung up into position for use or down against the base out of use, and means for hinging one end of the other arm member on the outer end of said first arm member, so that said other member may be swung up into position for use or folded upon said first member when not in use, and means for mounting said other member to swing forwardly and backwardly and for resisting its backward movement.

5. In a rowing machine, a pair of rowing arms, each of said rowing arms comprising a pair of arm members, means for hinging one of said members to said base whereby said member may be swung outwardly at an upward inclination from said base into position for use or downwardly parallel to said base when not in use, a friction clutch including an annular flange, a strap extending around said flange, means connecting said strap to the other arm member whereby said strap will turn on said flange when said member is swung forwardly and will grip and turn said flange against the friction of the clutch when said member is swung backwardly, and a hinge for hinging said clutch to the outer end of the first member whereby the second member may be swung up into position for use or folded upon said first member when not in use.

6. A rowing arm clutch for rowing machines, comprising a base provided with an opening, a pair of friction discs at opposite sides respectively of said base, a pair of disc engaging members for said discs respectively, said friction discs and said disc engaging members being provided with square openings, a bolt extending through the openings of said base, discs and engaging members, said bolt being threaded at both ends and formed with a square portion fitting said square openings to prevent turning of the discs and engaging members on said bolt, said base opening being larger than said square portion of the bolt so that said base may be turned with relation to the bolt, discs and engaging members, and nuts screwed on the threaded ends of said bolt against said engaging members respectively.

In testimony whereof, I have signed my name to this specification.

GEORGE C. MARTIN.

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