P. S. MEDART.

ROWING APPARATUS.

APPLICATION FILED MAY 19, 1914.

1,111,269. Patented Sept. 22, 1914.

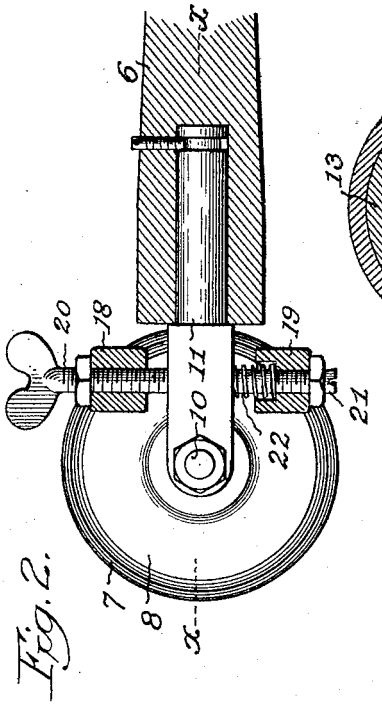

Fig. 2.

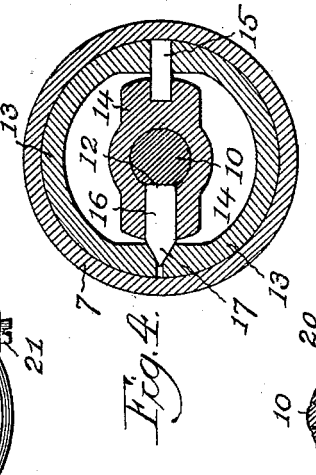

Fig. 4.

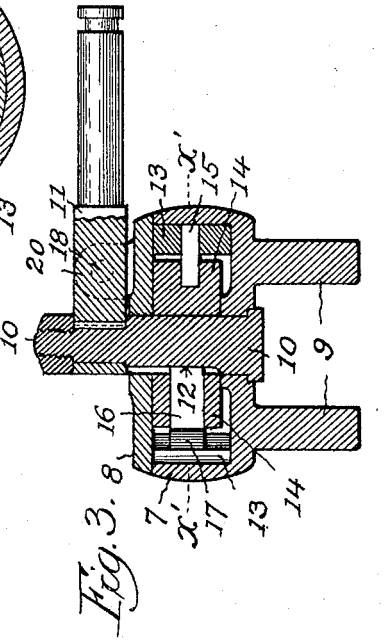

Fig. 3.

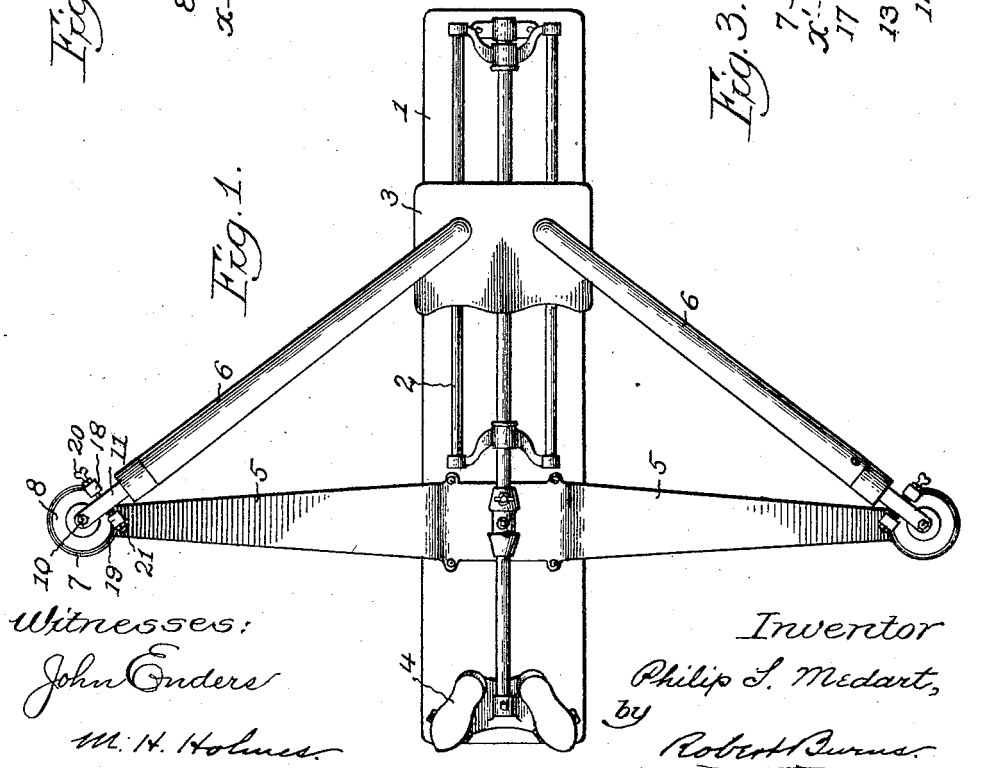

Fig. 1.

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ROWING APPARATUS.

1,111,269. Specification of Letters Patent. Patented Sept. 22, 1914.

Application filed May 19, 1914. Serial No. 839,532.

To all whom it may concern:

Be it known that I, PHILIP S. MEDART, a citizen of the United States of America, and a resident of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Rowing Apparatus, of which the following is a specification.

This invention relates to that class of exercising apparatus in which an exercise of a rowing nature is had. And the present improvement has for its object to provide a simple and efficient structural formation and combination of parts of the yielding frictional resistance numbers of such type of exercising apparatus, adapted to provide a uniform resistance during the pull stroke, combined with means for regulating the degree of frictional resistance to meet the requirements of different users, all as will hereinafter more fully appear.

In the accompanying drawings:—Figure 1, is a plan view illustrating a rowing apparatus having the present invention applied Fig. 2, is a detail top view, with parts in section, of one of the frictional resistance members. Fig. 3, is a detail vertical section of the same, on line x—x, Fig. 2. Fig. 4, is a horizontal section of the same, on line x'—x', Fig. 3.

Similar reference numerals indicate like parts in the several views.

Referring to the drawings, 1 represents the base board of a rowing apparatus, provided with the usual elevated horizontal tracks 2, upon which the rower's seat 3, is slidingly mounted, and with the usual stationary foot rests 4, at one end as shown.

5 is the usual transversely arranged carrying yoke secured to the base board 1, intermediate the length of said board, and carrying at its outer ends the pair of hereinafter described frictional resistance members to which the pair of oar arms 6 are operatively connected.

7 is a cup-shaped shell or member having spaced prongs on its underside for fixed engagement with an outer end of the transverse yoke 5, in a manner which permits detachment when required. The cavity of the shell or member 5 is of a circular form and its open top inclosed by a cap piece or cover 8, as shown.

10 is a centrally disposed rock-shaft journaled vertically in said shell or member 7, with its upper end adapted for rigid attachment to a crank arm 11, which in turn is secured to one end of an oar arm 6, aforesaid, and in the present improvement said rock-shaft 10 is formed with an eccentric or cam portion 12 for the purpose hereinafter stated.

13 is a split friction ring or annulus fitting the interior of the shell or member 7, and having a circular periphery corresponding with the inner circular wall of the cavity of the shell 7 and adapted for frictional engagement therewith. In the present construction the split or opening in said ring 13, is of a wedge form as shown, and adapted for engagement with the outer end of an expanding wedge member hereinafter described.

14 is a cross-head disposed inside the split ring 13 aforesaid and connected to and moving with the cap piece 8 above described. Said cross-head 14 has a central bore fitting loosely around the rock-shaft 10, in manner which permits of a limited independent turning movement of the rock-shaft with relation to said cross-head.

15 is a radial key or pin connecting one end of the cross-head 14 to the split ring 13, so that they will have a turning movement in unison.

16 is the wedge member heretofore referred to, and which is guided radially in a radial recess in the cross-head 14, at the end opposite to that carrying the connecting key or pin 15 above described. The inner end of said wedge member abuts against the eccentric or cam portion 12, of the rock-shaft 10, and receives an outward or radial movement therefrom, as the rock shaft 10 is turned, and such outward movement of the wedge member causes an expansion of the friction ring 13 through the instrumentality of the wedge formed outer end 17 of said wedge member, to cause the required frictional engagement between the friction ring and the inner wall of the cavity of the stationary shell or member 7, aforesaid.

18 and 19 are a pair of lugs carried on the cap piece cover 8, aforesaid in spaced relation, and at opposite sides of the crank arm 11, aforesaid.

20 and 21, are adjustable abutment screws passing through the lugs 18 and 19 and adapted to regulate the amount of independent movement of the crank arm 11 between said lugs, and the consequent amount

of expansion imparted to the split friction ring 13, through the eccentric portion 12 of the rock shaft 10 and the wedge member 16, which are operatively connected to said crank arm.

22 is a cushion member surrounding one of the aforesaid abutment screws, and adapted to cushion the aforesaid crank arm 11, in the above described independent movement, and eliminate noise and jar in actual use.

In the practical use of the apparatus, an adjustment of the aforesaid abutment screws, is all that is necessary to produce the required degree of frictional resistance to the movement of the oar arms 6, in the pull portions of the rowing exercise. In the push portions of the exercise, the frictional resistance is entirely released in an automatic manner by the present mechanism.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A frictional resistance means for rowing apparatus, comprising a fixed cup-shaped member, a rock-shaft journaled centrally in said member and formed with an eccentric portion, a crank arm connected to said rock shaft, means for limiting the independent movement of said crank arm, a split friction ring arranged in the cavity of said cup-shaped member, and means intermediate of the eccentric portion of the rock-shaft and the split friction ring for effecting an expansion of said ring with an independent turning of the rock shaft in one direction, substantially as set forth.

2. A frictional resistance means for rowing apparatus, comprising a fixed cup-shaped member, a rock-shaft journaled centrally in said member and formed with an eccentric portion, a crank arm connected to said rock-shaft, means for limiting the independent movement of said crank arm, a split friction ring arranged in the cavity of said cup-shaped member, a cross-head operatively connected to and moving with said ring, a radially movable wedge member having operative engagement at one end with the eccentric portion of the rock-shaft, and at the other end an expanding engagement with the split friction ring, substantially as set forth.

3. A frictional resistance means for rowing apparatus, comprising a fixed cup-shaped member, a rock-shaft journaled centrally in said member and formed with an eccentric portion, a crank arm connected to said rock shaft, an adjustable abutment screw disposed in the path of the crank arm and adapted to regulate the independent movement of the same in one direction, a split friction ring arranged in the cavity of said cup-shaped member, and means intermediate of the eccentric portions of the rock-shaft and the split friction ring for effecting an expansion of said ring with an independent turning of the rock-shaft in one direction, substantially as set forth.

4. A frictional resistance means for rowing apparatus comprising a fixed cup-shaped member, a rock-shaft journaled centrally in said member and formed with an eccentric portion, a crank arm connected to said rock shaft, an adjustable abutment screw disposed in the path of the crank arm and adapted to regulate the independent movement of the same in one direction, a split friction ring arranged in the cavity of said cup-shaped member, a cross-head operatively connected to and moving with said rings, a radially moving wedge member having operative engagement at one end with the eccentric portion of the rock-shaft and at the other end an expanding engagement with the split friction ring, substantially as set forth.

5. A frictional resistance means for rowing apparatus, comprising a fixed cup-shaped member, a cap piece therefor, a rock-shaft journaled centrally in said member and formed with an eccentric portion, a crank arm connected to said rock-shaft, a pair of adjustable abutment screws disposed at opposite sides of said crank arm and adapted to regulate the independent movement of the same, a split friction ring arranged in the cavity of said cup-shaped member, and means intermediate of the eccentric portion of the rock-shaft and the split ring for effecting an expansion of said ring with an independent turning movement of the rock-shaft, substantially as set forth.

6. A frictional resistance means for rowing apparatus, comprising a fixed cup-shaped member, a cap piece therefor, a rock-shaft journaled centrally in said member and formed with an eccentric portion, a crank arm connected to said rock-shaft, a pair of adjustable abutment screws disposed at opposite sides of said crank arm and adapted to regulate the independent movement of the same, a split friction ring arranged in the cavity of said cup-shaped member, a cross-head operatively connected to and moving with said ring, a radially moving wedge member having operative engagement at one end with the eccentric portion of the rock-shaft and at the other end an expanding engagement with the split friction ring, substantially as set forth.

7. A frictional resistance means for rowing apparatus, comprising a fixed cup-shaped member, a cap piece therefor, a rock-shaft journaled centrally in said member and formed with an eccentric portion, a crank arm connected to said rock-shaft, a pair of adjustable abutment screws disposed at opposite sides of said crank arm

and adapted to regulate the independent movement of the same, a cushion member associated with one of said abutment screws, a split friction ring arranged in the cavity of said cup-shaped member, and means intermediate of the eccentric portion of the rock-shaft and the split ring for effecting an expansion of said ring with an independent turning movement of the rock-shaft, substantially as set forth.

Signed at St. Louis, Missouri, this 15th day of May, 1914.

PHILIP S. MEDART.

Witnesses:
M. C. MILLER,
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