(No Model.)

J. M. KEATING.

EXERCISING MACHINE.

No. 350,932. Patented Oct. 19, 1886.

Fig. 1.

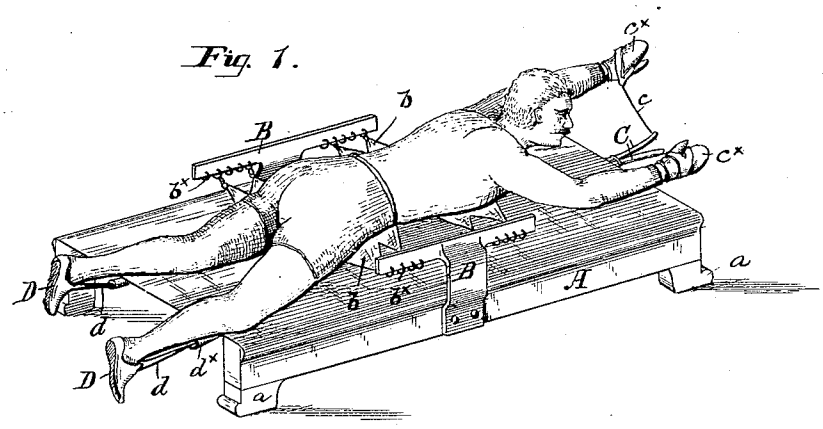


Fig. 2.

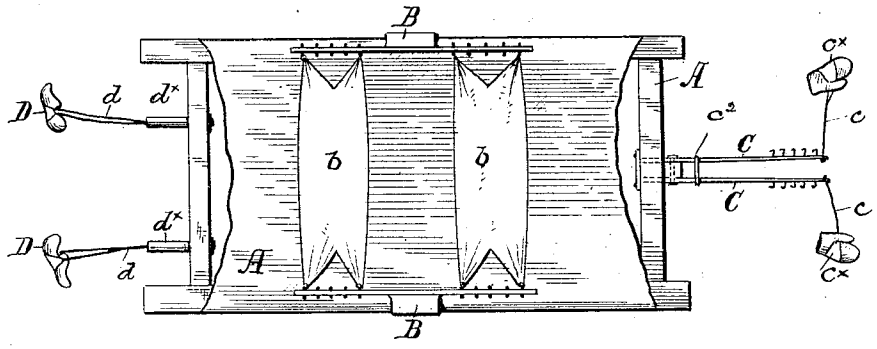


Fig. 3.

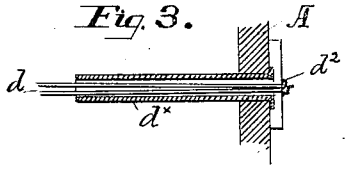
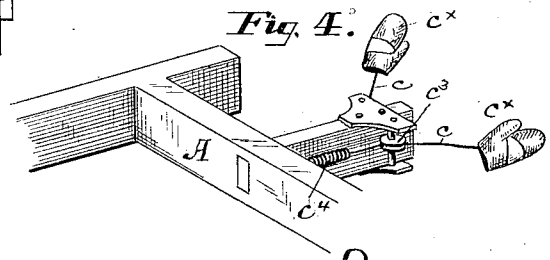


Fig. 4.



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UNITED STATES PATENT OFFICE.

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EXERCISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 350,932, dated October 19, 1886.

Application filed April 21, 1886. Serial No. 199,573. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. KEATING, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Exercising-Machines, of which the following is a specification.

The object of my invention is the construction of an apparatus by the employment of which a person can imitate the movement and obtain the exercise of swimming; and to the above end my invention comprehends an apparatus a good form of a convenient embodiment of which is described in this specification and represented in the accompanying drawings, the particular subject-matter claimed as novel being hereinafter definitely specified.

In the accompanying drawings, Figure 1 is a view in perspective of an apparatus conveniently embodying my invention, showing also the manner in which it is used. Fig. 2 is a top plan view of the apparatus shown in Fig. 1. Fig. 3 is a sectional plan detail through one of the sheaths, showing the contained slipper-cords. Fig. 4 is a fragmentary perspective detail of a modified device for the application of the mittens.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents a rest or frame-work of any preferred description, and conveniently provided with pedestals *a*. From this frame-work are erected two brackets, B, one at each side, between which are stretched, preferably, two slings or suspenders, *b*, of canvas, leather, rubber, or other suitable material, resting upon which, the person using the apparatus lies out flat. The brackets are well made when of the form represented, and are provided with a series of hooks, $b^{\times}$, by the aid of which the slings are attached or adjusted.

At one end of the frame-work are applied two forwardly-projecting spring-bars, C, of metal, white hickory, or other material possessing the property of returning after deflection to a normal set. To each of these spring-bars is secured a rope or cord of elastic or other material, to the free extremities of which are applied mittens $c^{\times}$, hand-rings, or other contrivances for engaging or to be grasped by the hands.

c^2 is a slip-ring or collar, of rubber or other material, embracing both the spring-bars, and adapted to be moved longitudinally on the said spring-bars, so as to regulate their tension, and consequently the point from which they are adapted to spring.

To the opposite end of the frame-work are applied two slippers, D, or foot-rings or kindred contrivances, in which the feet of the person exercising are placed or by which they are engaged, and which are connected with the frame-work by rubber or other elastic or inelastic cords, *d*, secured to the frame-work in any preferred manner, and which preferably pass through sheaths $d^{\times}$, conveniently formed of rubber tubing, and likewise connected to the frame-work.

Such being a description of a good form of my apparatus, the mode of its employment is apparent. The person resting upon the slings engages his hands with the mittens and his feet with the slippers, and makes with his arms and legs the usual movements of swimming, which the cords connected with the slippers and the spring-bars and cords connected with the mittens permit. The cords connected with the slippers are adapted to be knotted, as at d^2, and so to be rendered adjustable to a given length of leg, while the adjustment of the slip-ring adapts the tension of the spring-bars to a varying length and strength of arm. The cords *c* and the cords *d* may, if desired, be made as spiral springs, and, if desired, the sheaths may be omitted. A single sling or more than two slings may also at will be employed.

In Fig. 4 I have represented a modification in the mode of mounting the mittens, the cords of the latter passing over pulleys c^3, mounted in a suitable housing, and being connected with spiral springs c^4, secured to the frame-work. This arrangement may also be applied to the slippers or foot-rings as well as to the mittens. These and other obvious modifications—such, for instance, as counter-weights connected by cords passing over suitably-swiveled pulleys with the mittens and slippers—can manifestly be resorted to without departure from the invention, the gist of which resides in the combination, with a sling or other suspensory contrivance for the body to rest upon, of extensible or elastic flexible connec-

tions provided with devices to engage, respectively, the hands and feet and to permit of the well-known movements of the limbs resorted to in the act of swimming.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination, to form an exercising apparatus, of a frame-work, a body-sling connected with said frame-work, spring-bars, cords connected with said spring-bars and provided with devices for engaging the hands, and elastic or extensible cords provided with devices for engaging the feet, substantially as set forth.

2. In combination with the frame-work, cords provided with slippers or foot-rings, and tubular flexible sheaths for said cords, substantially as set forth.

3. In combination with the frame-work, spring-bars, cords connected with said spring-bars and provided with devices for engaging the hands, and a slip-ring encircling both spring-bars, substantially as set forth.

In testimony whereof I have hereunto signed my name this 19th day of April, A. D. 1886.

JOHN M. KEATING.

In presence of—
J. BONSALL TAYLOR,
WM. C. STRAWBRIDGE.