J. TIEBOUT.

Exercising-Machine.

No. 167,137. Patented Aug. 24, 1875.

Fig. 1.

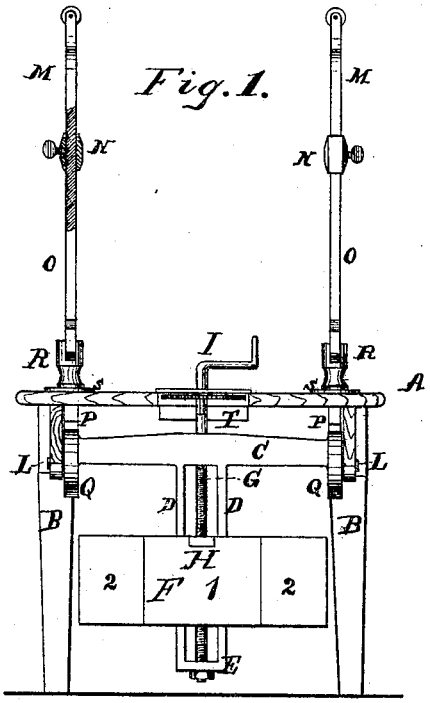


Fig. 3.

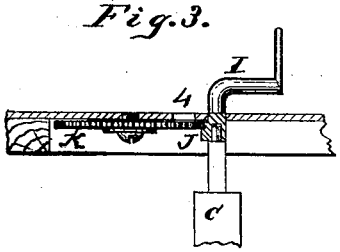


Fig. 2.

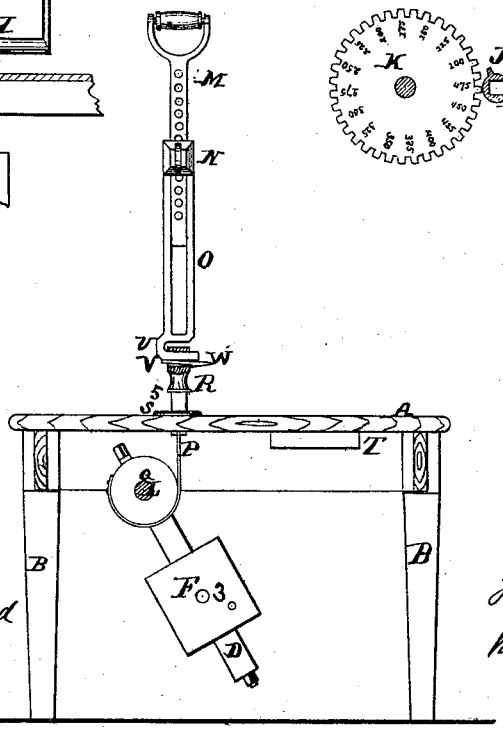
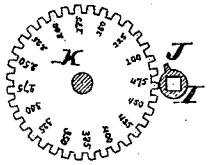


Fig. 4.



Witnesses
Chas. Wahlers.
Otto Hufeland

Inventor.
John Tiebout
per
Van Santvoord & Hauff
Attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN TIEBOUT, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN EXERCISING-MACHINES.

Specification forming part of Letters Patent No. **167,137**, dated August 24, 1875; application filed June 23, 1875.

To all whom it may concern:

Be it known that I, JOHN TIEBOUT, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Exercising-Machine, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 is an end elevation, partly in section, of my improvement. Fig. 2 is a sectional side elevation. Fig. 3 is a sectional side view of the device for regulating the position of the weight to be lifted, and of the dial-indicator. Fig. 4 is a plan view of the dial.

Similar letters indicate corresponding parts.

This invention relates to apparatus for exercising the human body; and it consists in an adjustable weight depending from a rock-shaft, which is mounted in bearings in or under a suitable platform or table, and which is provided with pulleys or wheels, to the peripheries of which are secured straps, which pass around or partially around the pulleys, and thence up toward the platform or table into hubs, to which are attached handles that rise above the platform, and which are adjustable, so as to suit patients of different heights. The handles are both extensible and removable, and are attached to the hubs by an automatic locking device consisting of a rigid hook formed on the lower ends of the handles, and arranged to pass into horizontal mortises made through the hubs, the bottom of each hook being provided with a spring-catch, which extends under the hook toward its front end, and which, when the hook is forced into the mortise, catches over the edge of the mortise and locks the handle to the hub. The weight is connected to the rock-shaft by means of a vertical screw which extends perpendicularly through the rock-shaft, and is suspended therein by a bearing which permits rotary, but not longitudinal, motion of the screw. The top of the screw-shaft projects above the surface of the rock-shaft, and is formed into an arbor, which presents itself directly in line with a key-hole in the platform, and the lower part of the screw goes through a nut forming part of a weight, which travels up and down on the screw as it is rotated to the right or the left. The weight is guided in its ascent and descent by a guide which extends down through the weight, and forms a bearing for the lower end of the screw. The screw is worked by a key, which is inserted through the key-hole in the platform, and the key is provided with a rib, which engages a toothed dial arranged horizontally under the platform, and turns the dial the distance of one tooth at every revolution of the screw. The upper surface of the dial is marked off radially by a scale, which shows the measure to which the weight is adjusted, and the figures on the dial are exposed to view through a suitable opening or window in the platform. The patient stands on the platform and lifts the handles, and thereby, through the straps P, turns the rock-shaft, raising the weight attached to it, the amount of resistance encountered in moving the weight being determined by the position of the weight on the guides D.

The letter A designates a platform or table, supported on legs B, and provided on its under side with a rocking bar or shaft, C, that turns in bearings placed in the side rails of the table below the axis of the shaft. From the under side of the rocking shaft C extend two arms, D D, whose lower ends are united by a cross-bar, E. The arms D D constitute a guide for the weight F, through which they pass in a mortise made for them. The weight F is moved up and down on the guides D by means of a screw, G, which works through a nut, H, in the weight. The nut is secured between the guides D D in the mortise that receives them, the upper and lower ends of the screw, beyond its thread, being provided with bearings in the rock-shaft C and the cross-bar E of the guide, in such a manner that it can turn therein, but cannot have longitudinal motion. The upper end of the screw extends above the rock-shaft C, and is formed into a square arbor to receive a key, I, by means of which the screw is rotated and the weight raised or lowered on the guides D, the key being inserted through a hole in the platform, in order to place it on the end of the screw-shaft. When the key is upon the end of the shaft, as shown in Figs. 1 and 3, it serves as a lock to prevent the vibration of the rock-shaft or weight; but when the apparatus is to be used by a patient, the key is re-

moved after the weight has been adjusted on the guides to ward or away from the center of motion to obtain the resistance required.

The key is provided with a nib, J, which engages a toothed dial, K, arranged on the under surface of the platform, so that at every turn of the key the dial is turned the distance of one tooth. The upper surface of the dial, near its circumference, is marked with figures that indicate the number of pounds which will be lifted in raising the weight, the figures being graduated to correspond with the position of the weight on the screw or guides. The dial is inspected by means of an aperture, 4, in the platform, through which the graduated part of the dial can be seen as it is revolved by the key.

The weight F is made in sections, so that it can be increased or diminished at pleasure, the central part 1 being permanently connected with the machine, and the end sections 2 2 being connected to the central section, when desired, by sliding them on pins 3 3, which project from the ends of the central section, and enter holes made for them in the movable sections. The pins are made square to prevent the sections from turning on the pins, or double round pins may be used. The journals of the rock-shaft are bent, so as to come below the center of the shaft, and the weighted guides tend to keep uppermost that side of the shaft which is more distant from the journals, as is illustrated in the position of the shaft in Fig. 1. The shaft, with the weight which depends from it, is turned by means of handles, which can be adjusted to various lengths to suit patients of different statures, the upper part of each handle M sliding in a guide, N, formed in the lower part O, in which it is fixed at any height by a set-screw. The handles are connected to the shaft, so as to turn it and the weight, by means of flexible straps P P, of metal or other material, which are attached by one end to the peripheries of wheels Q Q, placed on the ends of the shaft C concentrically with its journals, the straps being carried under the wheels, and thence up into hubs or blocks R R, which rest, by their shoulders 5, on the platform over openings therein, into which the lower ends of the blocks extend, so that the handles are always kept in an upright position, the blocks being long enough where they enter the platform to allow the full upward movement of the handles without wholly withdrawing the blocks from the platform. The openings in which the blocks move are surrounded by bearing-plates S S, which protect the surface of the platform. The straps are secured to the lower ends of the blocks R, and the handles are connected to the blocks in such a manner that they can be removed for transportation and replaced at pleasure, the lower ends of the handles being provided with hooks U U, which enter horizontal mortises V made in the blocks. The hooks are kept in place in the blocks by spring-catches W, arranged, as shown, on the bottom of the hooks, the catch being so arranged as to fall over the edge of the mortise made in the block.

The weight is of such a length as to allow it to be raised up by the screw, between the wheels of the rock-shaft, so that the center of the weight can be brought into line with the peripheries of the wheels, which is the position of least resistance where the gravity of the weight in pounds is about the measure of the force required to turn the rock-shaft. In order to prevent the weight from injuring the platform in case it is brought suddenly in contact with it, I provide the under side of it with a cushion, T, preferably of rubber, which receives the blow of the weight.

An alarm—as, for instance, a bell—can be used in connection with my improvement, which shall indicate when the weight has been brought to that position where the full resistance is attained, and the bell can be sounded by the weight itself when it has reached that point.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in an exercising-machine having a platform, of a rock-shaft having a pulley at or near each end, and provided with an adjustable depending weight, straps secured to and passing around, or partially around, said pulleys, and lifting-handles connected with the said straps, all substantially as and for the object specified.

2. The hook U, spring-catch W, and block R, in combination with the straps P and lifting-handles, substantially as and for the purpose described.

3. The combination, with the weighted rock-shaft and the adjusting-screw, of the toothed dial K and nib J, substantially as and for the purpose described.

4. The combination of the weight F, constructed in sections, with the rock-shaft C and the device for turning it, substantially as and for the purpose described.

5. The handles constructed in parts M O, connected to each other by means of the guide N and set-screw, whereby the handles may be extended or contracted by a sliding connection, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 21st day of June, 1875.

JOHN TIEBOUT. [L. S.]

Witnesses:

W. HAUFF,

CHAS. WAHLERS.