(No Model.)

W. J. O. BRYON, Jr.

EXERCISING MACHINE.

No. 512,152. Patented Jan. 2, 1894.

Fig. 1.

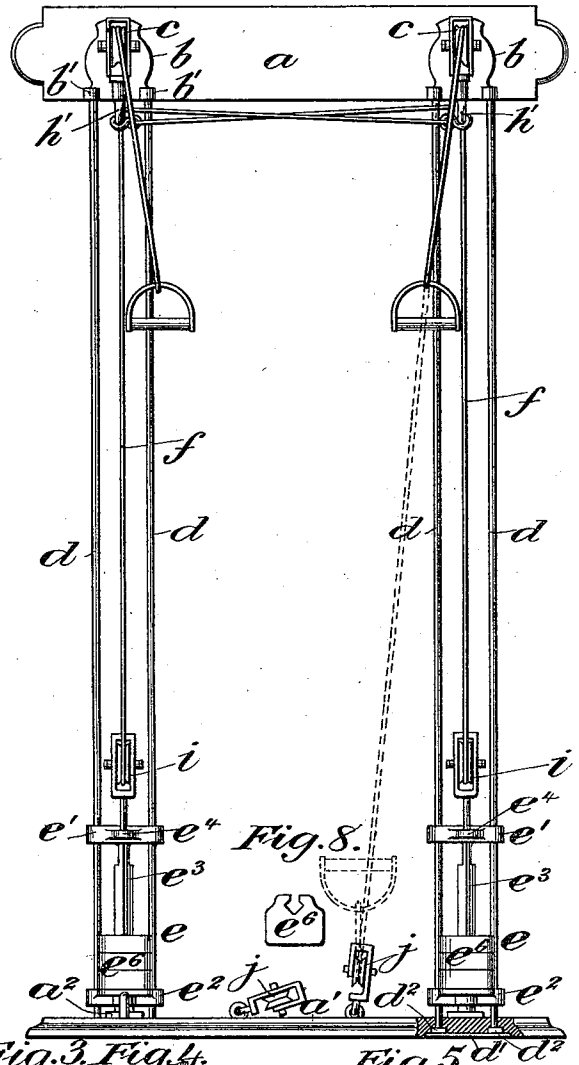


Fig. 2.

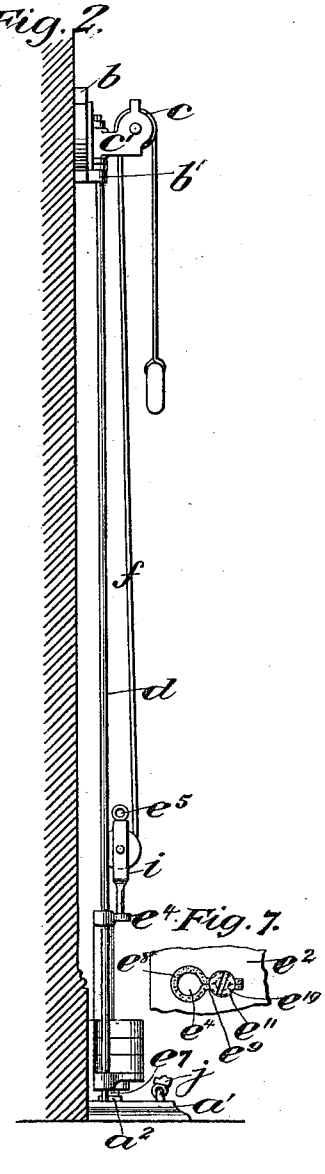


Fig. 3.

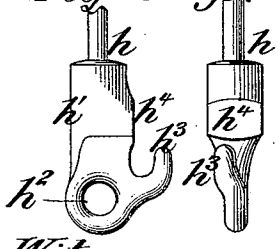


Fig. 4.

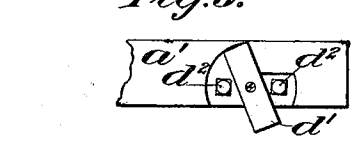
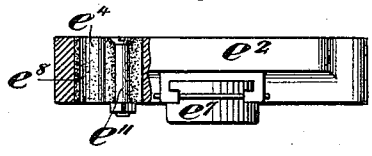


Fig. 5.

Fig. 8.

Fig. 7.

Fig. 6.



Witnesses:-

D. K. Haywood

Annie L. Hayes.

Inventor:

William J. O. Bryon Jr.

by Chas. P. Dane

atty.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM J. O. BRYON, JR., OF NEW YORK, N. Y.

EXERCISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 512,152, dated January 2, 1894.

Application filed December 5, 1891. Serial No. 414,088. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. O. BRYON, Jr., a citizen of the United States, and a resident of the city, county, and State of New York, have invented new and useful Improvements in Exercising-Machines, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

My invention relates more particularly to that class of exercising apparatus in which weights are adapted to be raised and lowered through the medium of suitable pulleys and connecting operating ropes constructed in a manner to be capable of adjustment for adapting the apparatus to various forms of exercise.

My present invention consists more particularly in, first, the construction of the means employed whereby the operating ropes may be shortened or lengthened for adults or children, as may be desired; second, in other details of construction and combinations of parts as will hereinafter be described in detail and pointed out in the claims, the object of my present invention being the general improvement in the arrangement and construction of the parts forming apparatus of the character above referred to, in such manner that the same is more convenient for assembling or putting the parts together and for the adjustment of the same, and also be improved in its operation.

Referring to the drawings:—Figure 1, represents a front view of my improved apparatus arranged in position for operation, also showing one of the operating ropes, in dotted lines, as adapted to be arranged for a different form of exercise, and Fig. 2, represents a side view of the same. Figs. 3 and 4, represent a side and rear view, respectively, of an attachment secured to the upper supporting plate or bracket, for adjustably supporting the stationary ends of the operating ropes. Fig. 5, represents a bottom view of a portion of the base plate, showing the manner and means for securing the lower ends of the vertical guide-rods in position. Fig. 6, represents a rear edge view of the lower supporting plate of the weight-carrier, partly in section, showing the opening for the guide-rod and manner of securing the packing or lining for the same, and also showing the manner of securing the buffer in the bottom of the same. Fig. 7, represents a top view of a portion of one of the weight-carrier plates, showing the guide-rod opening. Fig. 8, represents a top view of one of the weights.

To explain in detail,—a, represents the upper supporting plate, adapted to be secured to the wall or other stationary object, on which the plates or brackets b, b, adapted for the supports of the upper pulleys c, c, and the upper end of the guide-rods d, d, are secured; and a' represents the lower or base plate, adapted to be located on the floor immediately beneath said upper supporting plate a, in which the lower ends of the guide-rods d, d, are secured in a manner as will be described.

The guide-rods d, d, which are adapted for guiding the weight-carriers e, e, when raised and lowered, are secured at their upper ends in arms or lugs b', b', projecting from the plate b, and at their lower ends project through openings in the base-plate a' to a depression or counter-sunk opening in the under side of the latter and are held therein from being raised, by a nut d^2 adapted to be secured thereon as shown in Figs. 1 and 5. It is obvious however that the lower ends of the guide-rods may be provided with a flange or foot formed integral therewith, in lieu of the nut as shown, and the base-board or plate a' be slipped on the guide-rods over the flange or foot at their lower ends, from the upper ends of the same. The lower ends or feet of the guide-rods are locked in their position in the base-plate a', by a plate d', which is adapted to be secured in a depression in the bottom of the base-plate to overlap the ends of said guide-rods.

For convenience in securing the lower ends or feet of the guide-rods in position when the apparatus is being put together, I pivot the said locking-plate d' at or near its center, and have the depression in which it is pivoted or secured, formed in a manner to allow the locking plate to be moved or turned aside from the openings in which the feet of the guide-rods are located, in order to allow for the placing of the same therein, and when placed therein, be simply turned to cover or overlap and lock the said guide-rods in such position,

as will be readily understood by reference to Fig. 5, of the drawings. This described method of securing the lower ends of the guide-rods in position, is a modification and improvement of the means illustrated and described in an application of mine now pending, bearing Serial No. 338,480, and filed January 29, 1890.

The weight-carriers, represented at *e*, consist of the upper and lower plates e' and e^2, which are provided with the guide-eyes or openings e^4 through which the guide-rods extend, and the connecting standard e^3 which forms the saddle for holding the weights (represented at e^6) in position on the carrier. This standard or saddle e^3 is formed diamond-shape in order to hold the weights, which are provided with openings of corresponding form as shown in Fig. 8, in position on the carrier and prevent horizontal displacement of the same. The upper end of the standard is provided with a diminished portion in order to allow the weights, which are provided with a slot connecting with the diamond shaped opening therein, to be slipped on to the standard and drop into position to be held by the same.

The guide-eyes or openings e^4 in the supporting and guide-plates e' and e^2 of the weight-carriers, are provided with a lining formed of felt or other suitable flexible material e^8 in order to prevent noise as the carriers are moved up and down on the guide-rods, as is usual in apparatus of this character. According to my present invention however, I employ an improved means for securing the lining in its position in the guide-eyes, which consists of forming a connecting narrow vertical slit or opening e^9, as more clearly shown in Fig. 7, into which the ends of the lining are inserted, and providing an enlargement or depression in the walls of the same to form a vertical opening e^{10} for the admission of a screw, plug or similar device e^{11}, which is adapted to be inserted therein between the ends of the lining to bind and hold the latter from vertical displacement as will be readily understood. This described means for holding the lining in position in the guide-eyes of the weight-carrier, is also an improvement or modification of the means shown and described for the same purpose in my said pending application Serial No. 338,480.

In my present invention, I have also provided a device by which the operating ropes *f* may be readily adjusted to different lengths to adapt the apparatus for grown persons or children as may be desired. This device, as in the present instance illustrated, is formed by the peculiar construction of the head h' of the vertical bolt or pivot-pin *h* on which is hinged the arm or bracket c' in which the upper pulley wheel *c* is supported, said bolt or pivot-pin being inverted with its head at the lower side as shown. This head is provided with an eye h^2, and with an arm or hook h^3 on its rear side which projects therefrom to one side of its center, as more clearly shown in Fig. 4, in such manner that the rope *f* when drawn over the same as will be described, may hang or draw in a straight line central with the eye h^2 as shown in Fig. 1, the function of the same being as follows:—To have the ropes shortened, they are drawn over the arms h^3 and fastened in the eyes of the opposite parts *h* as shown in Fig. 1, and when it is desired to lengthen the same, they are detached from the opposite eyes h^2 and connected in the eyes of the parts *h* belonging to that portion of the apparatus of which they form part, thus increasing the length of rope an amount equal to the distance between the parts h' as will be readily understood.

The parts h' are provided with a flattened surface h^4 adapted for contact with the supporting plate *b* in order to be held from rotation. It is obvious that the parts h' may be formed integral with the supporting plates *b* in lieu of being formed by the head of the bolts *h*, or be otherwise supported without departing from the spirit of my invention.

The upper guide-plate e' of the weight-carrier is provided with a bracket *i* formed or secured thereon in which a pulley-wheel is supported and which is also provided with a hook or eye e^5 on its upper end (as more clearly shown in Fig. 2) adapted as a means for the detachable connection with the weight-carrier of the inner end of the operating rope when arranged for floor exercise "so-called," in which case the inner end of the operating rope is disconnected from the attachment h' and attached to the said eye e^5, and the free end is passed under a swiveled pulley *j* secured to the floor or sole-plate, as shown in dotted lines in one of the parts of the apparatus in Fig. 1. By this means, the apparatus may be adapted for the floor-exercise so-called, with the use of two pulleys only,—that is, the upper pulley *c* and the lower swiveled pulley *j*. The advantage of this method of arranging the operating rope by attaching one end of the same direct to the eye e^5 of the weight-carrier in lieu of passing the same through the pulley thereon and thus get the same resistance with a reduced number of weights, is obvious.

The upper guide-plate e' is provided with an arm or extension on its front face, adapted to support the said bracket *i* at a point central with the draft of the weight-carrier in order that the latter may draw evenly to prevent binding of the guide-rods in the eyes of the guide-plates of the carrier.

The lower plate e^2 of the carrier is provided, as more clearly shown in Fig. 6, with a groove in its lower side having under-cut sides, into which a buffer e^7, formed of rubber or other suitable flexible material and provided with grooved sides to conform to the said grooves in the plate e^2, is adapted to be inserted and may, as in the present instance illustrated, be secured therein by a pin passing through the same and into the walls of the plate, al-

though it is obvious that it might be held therein by friction, or be glued or otherwise secured therein in lieu of by the pin as shown. This buffer engages with a raised lug or projection a^2 on the upper surface of the baseboard a' when the carrier descends, in order to relieve the force of the blow, and prevent noise and liability of breakage of the parts.

Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an exercising apparatus, the combination with the upper supporting brackets, and the lower supporting or sole plate provided with a depression or counter-sunk opening on its under side and vertical connecting openings, of guide-rods supported at their upper ends in said supporting brackets, and at the lower ends projecting through said vertical openings in the sole plate and provided with enlarged feet at the under side thereof, and a plate secured in said depression or counter-sunk opening to support the ends of the guide-rods, substantially as described and for the purpose set forth.

2. In an exercising apparatus, the combination with the guide-rods and their upper and lower supports, of a weight-carrier provided with a groove in its lower side having under-cut sides, and a buffer formed to correspond with said grooves, adapted to be inserted therein with one side projecting beyond the lower face of the same to engage with the lower support or sole plate or a part thereof, substantially as described and for the purpose set forth.

3. In an exercising apparatus the combination, with the weight carriers, of the two devices secured one above each weight carrier and constructed with guiding arms or supports and with attaching eyes or their equivalents, and the operating ropes or similar flexible connections, whereby each of said ropes may be lengthened by connecting its end directly with that one of said eyes which is above the weight carrier from which the rope leads, or may be shortened by passing it over the guiding arm of one of said devices and then transversely to the attaching eye of the other device, substantially as set forth.

4. In an exercising apparatus, the combination with the weight-carrier and means for operating the same, consisting of the pulleys and operating ropes substantially as set forth, of a device supported by the upper supporting frame or bracket, provided with an eye or opening therein and with an arm, both being adapted for the support of the operating ropes, said arm extending to one side of the center of the eye or opening in a manner to support the operating rope in a line central with said eye or opening, substantially as described and for the purpose set forth.

5. The combination in an exercising apparatus with the guide-rods, of a weight-carrier provided with guide-eyes or openings for the admission of the guide-rods, a connecting groove or slit having an enlarged vertically arranged opening therein, a lining, formed of felt or similar suitable material, located within said guide-eyes with its ends projecting into said connecting slit, and a screw or plug adapted to be inserted into the said enlarged vertically arranged opening between the ends of the lining to hold the latter in position, substantially as described and for the purpose set forth.

6. In an exercising apparatus the combination of the upper supporting brackets, the lower supporting plate having vertical openings, guide rods supported at their upper ends in said brackets and at their lower ends projecting through said openings in the lower plate and provided with enlarged feet at the under side thereof, and a pivoted plate on the under side of the lower supporting plate for engaging the heads of said rods and confining them, substantially as set forth.

WILLIAM J. O. BRYON, JR.

Witnesses:
CHAS. F. DANE,
ANNIE L. HAYES.