J. P. MARSH.

EXERCISING-MACHINE.

No. 193,528. Patented July 24, 1877.

Fig. 1

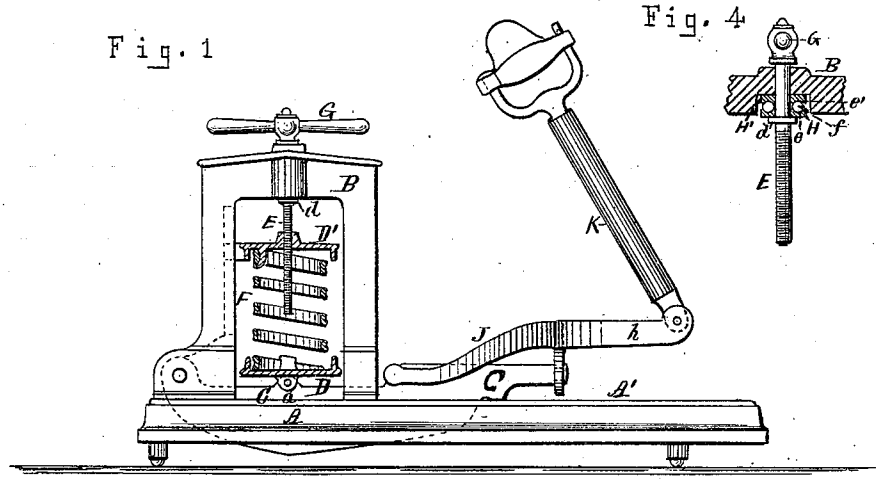


Fig. 4

Fig. 2

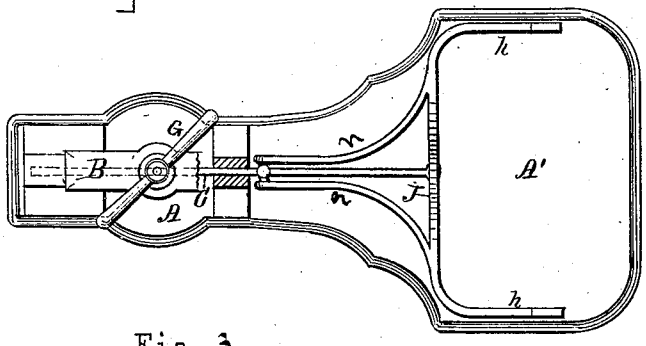
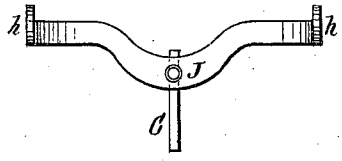


Fig. 3



WITNESSES:

Julius Wilcke

C. H. Sherburne,

INVENTOR:

James P. Marsh,

By Gridley & Sherburne,

Attys

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

UNITED STATES PATENT OFFICE.

JAMES P. MARSH, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN EXERCISING-MACHINES.

Specification forming part of Letters Patent No. **193,528**, dated July 24, 1877; application filed July 27, 1876.

To all whom it may concern:

Be it known that I, JAMES P. MARSH, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Exercising-Machines or Health-Lifts; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side elevation of an exercising-machine embodying my said invention; Fig. 2 represents a general plan or top view of the same; and Figs. 3 and 4 represent detail portions of the same.

Like letters of reference indicate like parts.

The object of my invention is to improve the exercising-machine or health-lift, for which I obtained Letters Patent June 15, 1875.

My invention consists in the arrangement of the lifting-lever whereby the resisting-force is equalized, also in the means employed in connecting the spring to the adjusting-screw and lifting-lever, as hereinafter more fully described and claimed.

In the drawing, A represents the base of the health-lift, and A′ the platform, both of which are arranged as shown and described in the aforesaid Letters Patent.

B is the frame-work, which may be arranged as shown, or in any other suitable form that will receive the operating parts.

C is the lifting-lever, which is fulcrumed at its forward end to the front side of the frame near the base, as shown in Fig. 1, and extends horizontally backward to a point near the front edge of the platform A′.

D is an annular disk, which is provided at its lower surface with a depending hub, *a*, centrally located, and connected to the upper edge of the lifting-lever, as shown.

E is an adjusting-screw, which is journaled centrally within the frame B, and extends downward to a point near the center of the frame. Mounted upon the threaded portion of the adjusting-screw is a disk, D′, arranged to admit of being raised or lowered by a forward or backward rotary movement of the screw.

F is the resisting-spring, coiled in a spiral form, and located between the disks D and D′, and is permanently attached at its ends to the said disks, respectively, as shown in Fig. 1.

G is the handle for operating the adjusting-screw.

H is an annular collar, loosely fitted upon the adjusting-screw immediately above a boss, *d*, on the shank of said screw, as shown in Fig. 4, and is provided with an annular concaved groove, *e*, formed in its upper surface, and which corresponds with a like annular concaved groove, *e′*, in the lower surface of a like collar, H′, mounted on the shank of said screw and adjusted to bear against the lower surface of the cross-bar of the frame. Loosely fitted within said grooves is a series of spherical metal balls, *f*, arranged to bear against collar H′, and to freely revolve, as the collar H′ is made to rotate by the rotation of the screw, the object being to reduce friction of the collars when bearing against each other, and thereby enable the operator to more easily tighten the screw to produce the required tension of the spring.

J is an equalizing-yoke, which is provided with horizontal arms *n n*, extending parallel with, and on opposite sides of, the lifting-lever, and journaled to the said lever at two points, so as to allow the yoke to rock independent of the lever. The yoke is provided at each end with arms *h*, extending forward over the platform, as shown in Fig. 2.

K represents the lifting handles, which are pivoted to the end of the arms *h h* of the yoke, in the manner described in my aforesaid Letters Patent. The object of journaling the yoke to the lifting-lever, as described, is to allow the yoke to rock sufficiently to adjust the handles to the position of the person lifting, and thereby equalize the force or resistance to be overcome in lifting through all parts of the body.

It will be observed that the ends of the resisting-spring are attached to disks D D′, respectively, the object being to relieve the lifting-lever of weight and resistance of the

spring by an upward movement of the screw when desired.

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

1. In an exercising-machine or health-lift, the combination, with the lifting-lever C, of the equalizing-yoke J, provided with the arms *h h* journaled to the lever, substantially as and for the purpose specified.

2. In an exercising-machine or health-lift, the combination, with the lifting-lever C, adjusting-screw E, and disks D D′, of the resisting-spring F permanently connected at its ends to the said disks, substantially as and for the purpose specified.

JAMES P. MARSH.

Witnesses:
N. H. SHERBURNE,
JULIUS WILCKY.