

J. P. MARSH.  
 Exercising Machines or Health-Lifts.

No. 164,574.

Patented June 15, 1875.

Fig. 1

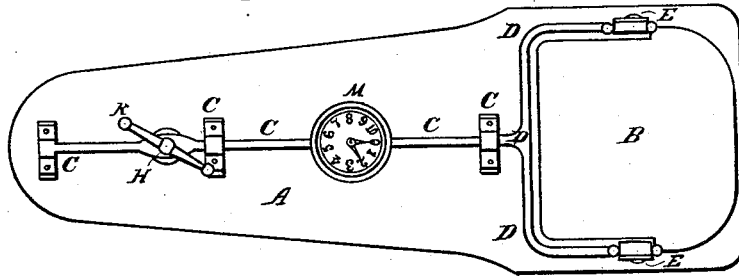


Fig. 2

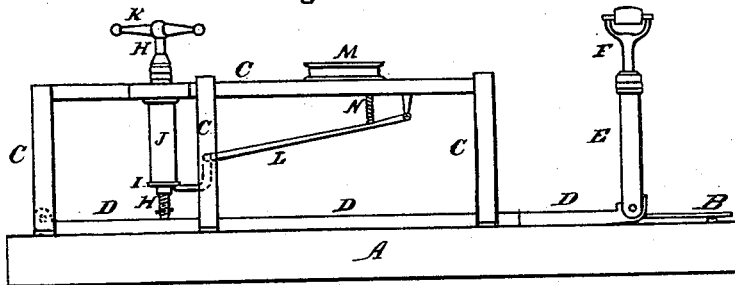


Fig. 3

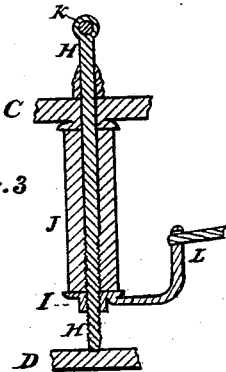
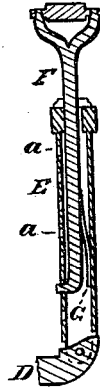


Fig. 4



WITNESSES.

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# UNITED STATES PATENT OFFICE

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## IMPROVEMENT IN EXERCISING-MACHINES OR HEALTH-LIFTS.

Specification forming part of Letters Patent No. 164,574, dated June 15, 1875; application filed April 24, 1875.

*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 a new, useful, and Improved Health-Lift, of which the following is a full, clear, and exact description, 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 drawing forming a part hereof, and in which—

Figure 1 is a top or plan view of my improved device; Fig. 2, a side elevation of the same; Fig. 3, a detail section, and Fig. 4 a vertical central section, of the handle and lifting-arm.

Like letters of reference indicate like parts.

In the drawing, A represents the base of the apparatus. This part may be made in any suitable form. B is a platform, arranged on one end of the base-piece. C is a vertical frame arranged longitudinally along the base. D is a forked lever, pivoted at its rear end to the frame C, and partly embracing the platform B. E E are vertical tubular pieces pivoted at their lower ends to ends of the arms of the forked part of the lever D, and in such a manner as to be capable of a forward and back tilting or vibrating movement. These pieces are perforated in a vertical line, as shown at *a a*. F F are rods hook-shaped at their lower ends, and provided at their upper ends with handles. These rods are arranged in the parts E E in such a manner that the hooked ends will enter the perforations *a a*, and G G are springs arranged to hold the hooks in the perforations. H is a vertical post passing freely through the horizontal bar of the frame C, and resting on the lever D. The lower part of this post is screw-threaded, as represented in Fig. 3, and I is a collar run upon this screw-threaded part. J is a spring, preferably, but not necessarily, of rubber. This spring surrounds the post H, and is arranged between the frame C and the collar I. K is a horizontal bar, by means of which the post H may be rotated. L is an arm or lever connected to the collar I and to the frame C. M is a gage also attached to the frame. N is a yielding rod or arm entering the gage and resting on the lever L.

By turning the post H the collar I will be moved either up or down on the post, according to the direction in which the latter is turned, thus either compressing or releasing the spring J, as may be desired, and thereby creating a greater or less pressure upon the lever D. The upward and downward movement of the collar I actuates the arm or lever L, which, through the instrumentality of the pin N, so sets the gage as to indicate the degree of pressure exerted upon the lever D.

It will be perceived, therefore, that the spring J is adjustable, and that the degree of pressure or resistance it exerts may be controlled and indicated with facility. The handles may also be easily adjusted at any desirable height by moving them in such a direction as to draw the hooked ends from the perforations *a a*. When the handles are carried to a proper height the hooked ends may be allowed to enter other perforations at a corresponding height, the springs G G aiding to make this engagement, and preventing a disengagement until another adjustment is desired.

The person using the apparatus first adjusts the spring J until a pressure equal to that which he desires to overcome at the beginning of his attempt is indicated. He then mounts the platform B, and adjusts the handles at such a height that while grasping them for the purpose of lifting his body may assume a nearly erect position, the legs being bent slightly at the knees before the act of lifting is begun. The knees are then straightened, thus causing the lever D to be drawn upward, and, when the body is in this position, the pressure exerted by the spring J at starting will not only be overcome, but also the resistance it exerts during the upward movement of the lever D. The total lifting force is also indicated by the gage. If the lifter wishes to lift still more than this the handles may either be adjusted to a lower position, or the spring J may be adjusted for the same purpose, and I deem the latter method the better, as the legs should not be too much bent at starting. In this manner too great a strain of particular muscles is avoided. After the upward movement ceases the legs are allowed to assume the position they occupied at

starting. The resistance overcome will then be gradually diminished until the lever D again rests on the base-piece.

An important feature of this device is that the operator may begin each effort by overcoming a resistance represented by O, and that the resistance will increase gradually as he draws upward on the handles; or he may begin by lifting against any given degree of resistance or pressure, the same, in effect, as lifting a dead weight, and, as he continues to lift, he will also overcome the varying resistance of the spring J, thus having the advantage, during the same effort, both of a dead-weight-lift and of a spring-lift.

I deem it preferable to use a gage having two index-hands, one to represent the pressure at starting, and the other to indicate the total amount lifted, the latter hand remaining in position after the maximum has been reached. By this means the operator is enabled to ascertain by glancing at the index how much he has lifted, and as he finds his strength increasing he can set the apparatus accordingly. Any index may be used which will perform the functions described, but an index is only essential for the purposes set forth.

I am aware that a spring health-lift has

heretofore been in use, and I do not here claim such, broadly; but

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

1. The combination, substantially as specified, of the yielding post or bar H, adjustable collar I, mounted on the said post, spring J, confined at one end by the said collar, and by a fixed stop at the other, and the lifting-lever, for the purposes set forth.

2. The combination, substantially as specified, of the yielding post or bar H, adjustable collar I, mounted on the said post, spring J, confined at one end by the said collar, and by a fixed stop at the other, the lifting-lever, and the gage M having its operating lever connected to the collar I, for the purposes set forth.

3. The combination of the lifting-lever of a health-lift, the tubular and perforated parts E E, and the hook-shaped and yield-rods F F, provided with handles, substantially as and for the purposes specified.

JAMES P. MARSH.

Witnesses:

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JOHN F. GREENLEAF.