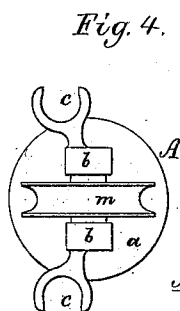
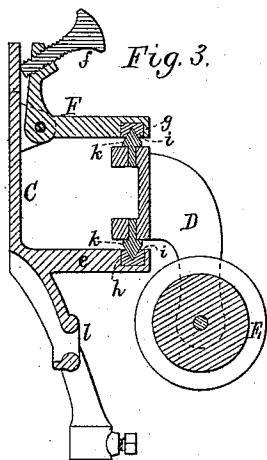
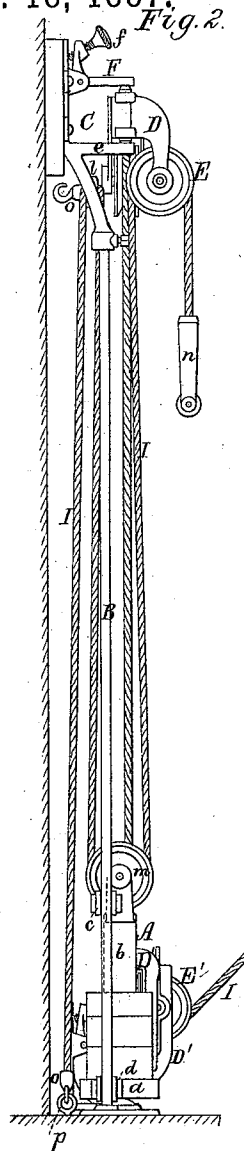
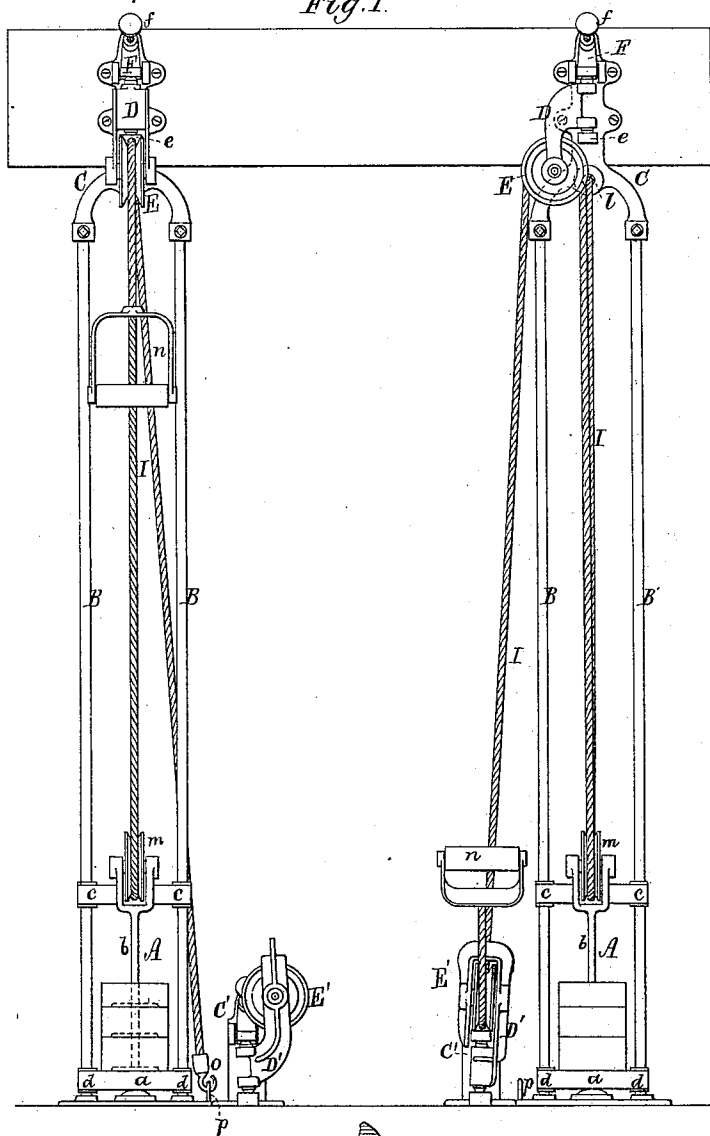


(No Model.)

A. H. HOWARD.
EXERCISING MACHINE.

No. 356,126.

Patented Jan. 18, 1887.



Witnesses.

S. N. Piper
W. B. Terry

Inventor.

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UNITED STATES PATENT OFFICE.

ALFRED HENRY HOWARD, OF BOSTON, MASSACHUSETTS.

EXERCISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 356,126, dated January 13, 1887.

Application filed November 1, 1886. Serial No. 217,682. (No model)

To all whom it may concern:

Be it known that I, ALFRED HENRY HOWARD, of Boston, in the county of Suffolk, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Exercising-Machines; and I do hereby declare the same to be described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and Fig. 2 a side view, of mechanism or apparatus containing my invention, the nature of which is defined in the claims hereinafter presented. Fig. 3 is a vertical section, on an enlarged scale, of the swivel and its supporting bracket. Fig. 4 is a top view of the weight-carrier.

The improvement relates to that class of gymnastic exercising-machines in which, when in use, a weight-carrier, or one or more weights, are drawn upward by a person by means of a rope connected therewith, and led around one or more supporting-sheaves or grooved wheels, the exertion made by the person in so doing serving to exercise his muscular system or physical powers.

In the said drawings, A denotes a weight-carrier, consisting of a base, *a*, and a furcated column, *b*, erected thereon, such base and column being provided with projections *c c* and *d d* extending from them, as shown, and notched or grooved vertically to span and slide on two stationary vertical and parallel rods, B, extending downward from a bracket, C, which, when the mechanism is in use, is to be fastened to a suitable support, as the side of a room, for instance, the rods at their lower ends being secured to the floor of such room, or to a bar fixed thereto.

The bracket C supports a swivel, D, within which is a sheave or grooved wheel, E, that is arranged between the arms of the swivel and sustained so as to be capable of freely revolving. The upper part of the swivel extends between a stationary arm, *e*, projecting from the bracket, and an angular lever, F, fulcrumed to the bracket and arranged directly over the said arm.

A screw, *f*, screws into and through the shorter or upper arm of the lever F and against the bracket, such screw being inclined, as represented, to the arm, in order that the

bearing end of the screw may rest at its periphery, instead of its center against the bracket, whereby the screw is less liable to be accidentally revolved than would be the case were it pointed or conical at its lower end and the point bore at its apex against the bracket. Both the arm *e* and the longer arm of the lever F are socketed, as shown at *g* and *h*, to receive and hold wooden or other suitable bearings, *i*, into which project the metallic conical pivots *k*, extending from the swivel. By unscrewing the screw *f* the lever F may be moved to admit of the detaching of the swivel from the bracket. By having the lever and its screw to the bracket the pivoting the swivel on a screw provided with a check-nut is avoided, as used in some other exercising-machines of the above-mentioned class, such screw being liable to work loose under the friction and lateral movements of the swivel.

Going through the eye *l* in the lower part of the bracket is a rope, I, provided at its free end with a hook, *o*, large enough to keep the rope from being drawn back through or out of the eye. The rope from the said eye *l* continues down to the floor, in which is inserted an eyebolt, *p*, to receive the hook *o*. From the eye *l* the rope is led downward to and partly around a sheave or grooved wheel, *m*, arranged within the fork of the column *b* of the weight-carrier, and adapted thereto, so as to be freely revoluble. From the said grooved wheel *m* the rope is led upward to and around the upper half of the grooved wheel E of the swivel, such rope having fixed to its free end a stirrup or handle, *n*. A person on taking hold of the said handle and thereby pulling the rope may cause the weight-carrier to be raised between its guides. In practice such weight-carrier is provided with a series of weights, each of which is notched to enable it, when in place, to receive and span the weight-carrier column, the lowest of such weights resting directly upon the base of the carrier.

The above-described mechanism, with the exception of the hook *o*, the eyebolt *p*, and the extension of the rope I from the eye *l* to the said eyebolt, is such as is described in an application for a patent filed by me on January 13, 1886, and having the Serial number 188,433. Consequently I do not, independently of the

additions I have made to it and now describe herein, claim such mechanism.

In carrying out my present invention I, besides the above-mentioned additions to such mechanism, have combined with it an auxiliary bracket, C', provided with a swivel, D', carrying a sheave or grooved wheel, E'. This auxiliary bracket is without the projection or arm provided with the eye l, and is fastened to the floor near the support of the feet of the rods B B. The swivel D' of the auxiliary bracket projects upward therefrom, as represented. When the said swivel is to be used, the rope I is first to be unhooked from the eyebolt, and the handle is to be pulled downward, so as to draw the hook up to the eye l, after which the part of the rope drawn downward is to be carried around the lower part of the sheave E'. Under these circumstances a person in exercising pulls upward on the handle. In so pulling the weight-carrier will be raised. With the rope I hitched to the eyebolt the person in exercising pulls the handle downward; but with the rope unhitched from the eyebolt and engaged with the auxiliary swivel, he pulls the handle upward, and in so doing exercises other muscles of the body.

In Fig. 1 one rope, I, is represented with its hook o in connection with the eyebolt p, the swivel D' not being in use and turned aside, the handle n having the same position shown in my former application, hereinbefore referred to. The other rope, I, of said figure is shown as disconnected from the eye p, the hook o bearing against the back of the eye l, and the swivel D' and handle n are in or about in the proper

position for use, in accordance with my present improvement.

I claim—

1. The combination of the auxiliary swivel D', provided with the sheave E', and connected with the floor by the stationary supporting-bracket C', with an exercising mechanism, substantially as set forth, consisting of the rope I, secured at one end to or near the floor by suitable detachable devices, the bracket C, with its swivel D and sheave E, and the weight-carrier A and its guide-rods B B, and sheave m, as described, such rope I going through an eye, l, of the bracket C, being extended downward under the sheave m, and then upward to and over the sheave E, and fastened to a handle, n, as set forth, the whole being for use as explained.

2. The combination of a sheave or wheel, E, suitably connected with the floor, with an exercising mechanism, substantially as set forth, consisting of the rope I, secured at one end to or near the floor by suitable detachable devices, the bracket C, with its swivel D and sheave E, and the weight-carrier A and its guide-rods B B, and sheave m, as described, such rope I going through an eye, l, of the bracket C, being extended downward under the sheave m, and then upward to and over the sheave E, and fastened to a handle, n, as set forth, the whole being for use as explained.

ALFRED HENRY HOWARD.

Witnesses:

R. H. EDDY,
R. B. TORREY.