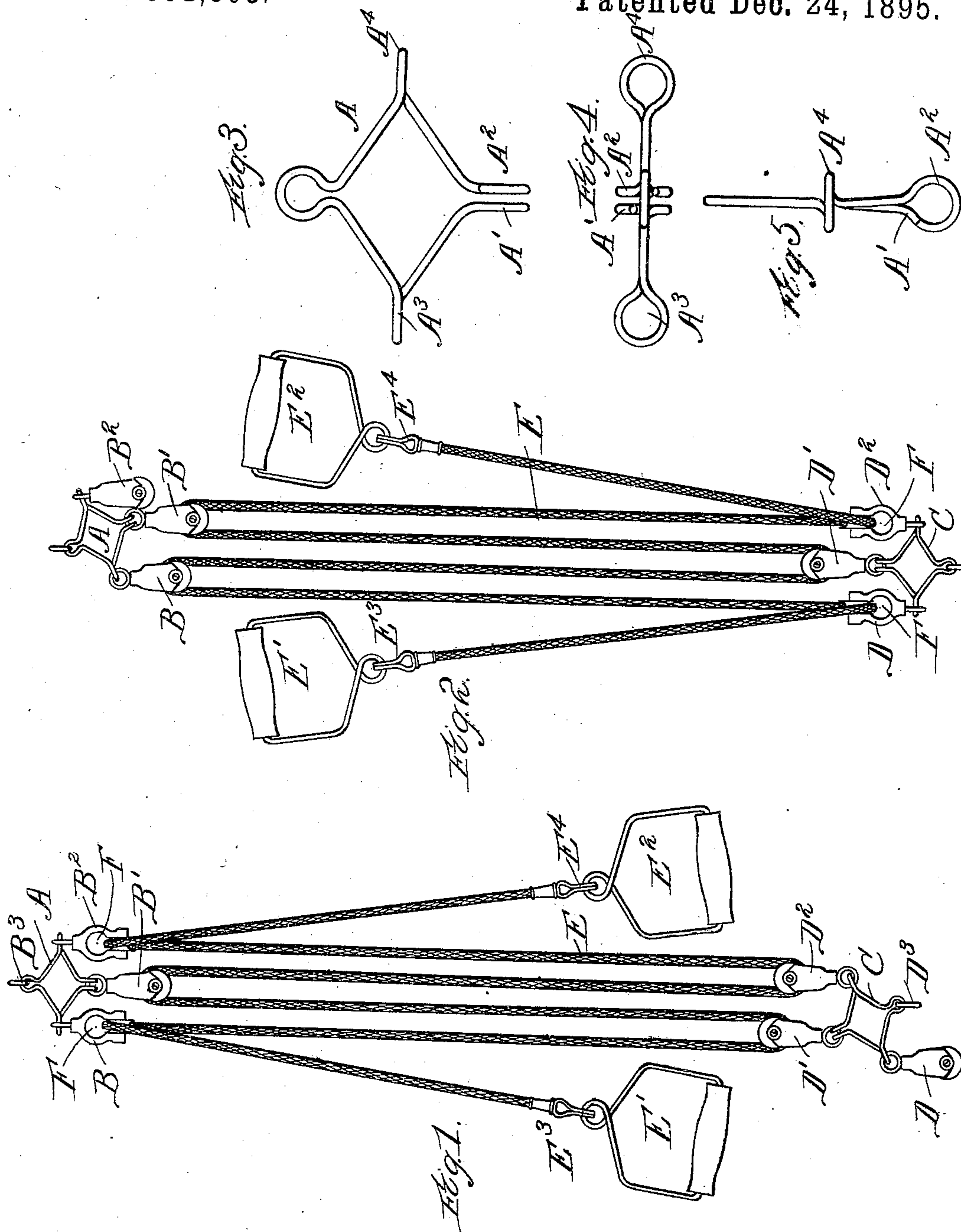


(No Model.)

A. A. WHITELY.  
EXERCISING MACHINE.

No. 551,803.

Patented Dec. 24, 1895.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

ALEXANDER A. WHITELY, OF CHICAGO, ILLINOIS.

## EXERCISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 551,803, dated December 24, 1895.

Application filed August 11, 1894. Serial No. 520,001. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER A. WHITE-  
LY, a citizen of the United States, and a resi-  
dent of Chicago, in the county of Cook and  
State of Illinois, have invented a new and use-  
ful Improvement in Exercising-Machines, of  
which the following is a specification.

My invention relates to exercising-ma-  
chines, and has for its object to provide an  
improved exercising-machine, of which the  
following is a description, reference being had  
to the accompanying drawings, wherein—

Figure 1 shows the exerciser with the han-  
dle ends running over the top pulleys. Fig.  
2 is a view of exerciser with handle ends run-  
ning over the lower pulleys. Figs. 3, 4, and  
5 are enlarged views of the pulley-supporting  
frame.

Like letters refer to like parts throughout  
the several figures.

A quadrangular-shaped frame A, carry-  
ing the pulleys B B' B<sup>2</sup>, is supported by the  
hook B<sup>3</sup>.

C is a frame similar to A and carries the  
pulleys D D' D<sup>2</sup>. Said frame is supported by  
the hook D<sup>3</sup>. A continuous elastic cord E  
passes over these pulleys, as shown, and is  
provided with the removable handles E' E<sup>2</sup>,  
held in place by the hooks E<sup>3</sup> E<sup>4</sup> on the ends  
of said cord. The case of each pulley is of  
such shape that the hooks E<sup>3</sup> E<sup>4</sup> will readily  
pass through the opening F in each case.  
Figs. 3, 4, and 5 are detailed views of the  
quadrangular-shaped pulley-supporting  
frame A. Fig. 4 is a plan view, and Fig. 5  
a side view, of Fig. 3. This frame is made of  
one continuous piece of wire or the like bent  
in the shape of a quadrangle and looped at  
the corners or angles, as shown. The two  
ends meet at one angle of the quadrangle and  
are formed into the oppositely-curved hooks  
A' A<sup>2</sup>, which support the middle pulley B'.  
The loops A<sup>3</sup> A<sup>4</sup> are of such shape that the  
two sides inclosing the angle at which they  
are located must be sprung apart to allow the  
pulleys to be placed in position, and hence  
they cannot be removed while the pulley B'  
is in position on the hooks A' A<sup>2</sup>. The hook  
A<sup>5</sup> engages the supporting-hook on the wall.

I have shown an exerciser provided with  
six pulleys; but it is evident that the exer-  
ciser may be inverted without changing the

position of the pulleys when four or more  
pulleys are used, the only condition neces-  
sary being that the number of pulleys at the  
bottom shall be equal to the number of pul-  
leys at the top, for when both handle ends  
project from the same set of pulleys the cord  
engages one pulley more in such set than in  
the other, and hence the handle ends can be  
changed around, as described above. It is  
evident that these several parts may be some-  
what modified without departing from the  
spirit of my invention, and I therefore do not  
wish to be limited to the exact construction  
shown.

The use and operation of my invention are  
as follows:

In using the exerciser the ends of the cord  
to which the handles are attached must pass  
over the upper pulleys (see Fig. 1) for some  
of the movements performed, and for others  
must pass over the lower pulleys, as shown  
in Fig. 2. In an exerciser of this kind it is  
desirable to have a very long cord, so that the  
resistance of the cord will be approximately  
uniform throughout the movements that the  
operator makes. This length of cord must  
also be along the wall between the pulleys at  
each end—i. e., said pulleys must be placed  
far apart—as the distance of the handle ends  
of the cord from the pulleys cannot be satis-  
factorily increased.

The practice in changing the position of the  
handle ends or inverting such exercisers her-  
etofore has been to remove the pulley-carrying  
frames from the hooks, Fig. 1, and change  
them around—i. e., put the lower frame on  
the upper hook and the upper frame on the  
lower hook. This is very inconvenient when  
an exerciser with a long cord is used, on ac-  
count of the distance between the hooks and  
the tendency of the cord to become entangled  
in the process. With my device all such in-  
conveniences are obviated, for when it is de-  
sired to invert the exerciser—i. e., bring it to  
the position shown in Fig. 2—the handles E'  
E<sup>2</sup> are removed, Fig. 1, and the hook E<sup>3</sup> is  
passed through the opening F in the case of  
pulley D. On releasing the hook E<sup>4</sup> it readily  
slips through the hole F in the case of pulley  
B<sup>2</sup>. The handles are now replaced and the  
exerciser is in the position shown in Fig. 2.

It will be noticed that when all three pul-



leys B B' B<sup>2</sup> are used the axes of the pulleys B B<sup>2</sup> are in a plane approximately at right angles to the plane of the axis of the pulley B', (see Fig. 1,) but that when only the two  
 5 pulleys B and B' are used the pulley B swings around so that its axis is parallel to that of pulley B'. (See Fig. 2.) If the center of the pulleys B and B' remained the same distance apart in both positions, it is evident that if  
 10 they are the right distance apart in Fig. 1 the pulleys will be too close together in Fig. 2. This is obviated by the quadrangular frame A, for, as soon as the pressure is relieved from pulley B<sup>2</sup>, the frame swings around  
 15 and takes the position shown in Fig. 2, thus increasing the distance between the centers of the pulleys, so as to keep the convolutions of the cord approximately the same distance apart in each case. It will also be noticed  
 20 that the pulley B is lowered and the pulley B' raised, so that they are both approximately on the same level. The frame C acts in a manner similar to frame A.

The frames A and C are so constructed that  
 25 the pulleys may be easily placed in position, but when in position are securely held and cannot become displaced. The pulley B<sup>2</sup> is placed in position by slipping the eye over the hook A<sup>2</sup>, and then springing the wires  
 30 apart at each side of loop A<sup>4</sup>, so that the eye of the pulley will slip past them. The wires then spring back to place. The pulley B is placed in position in the same manner and then when the oppositely-turned hooks A' A<sup>2</sup>  
 35 are inserted in the eye of pulley B' the pulleys are all securely held in place.

The machine here described is intended as a fixed or gymnasium machine, though of

course this machine might be carried about, if desired. It is also designed to permit the  
 40 inverting of the machine or the changing the direction of pull in the use of the machine without having to remove the pulleys from their hooks.

I claim—

1. An exercising machine comprising quadrangular pulley supporting frames, each having pulleys connected to three of its angles and being suspended by the other angle, and a long elastic cord normally passing over all  
 50 but one of said pulleys, and adapted to pass through or be removed from the pulley housing, whereby the machine may be inverted without changing the position of the pulley frames, the shape of the frames being such  
 55 that the active pulleys in each set are substantially equidistant.

2. An exercising machine comprising pulley supporting frames, each having pulleys connected thereto, and each having a point  
 60 from which it may be suspended, and a long elastic cord normally passing over one more of said pulleys in one set than in the other, said cord adapted to pass out of or to be removed from the pulley housing, whereby the  
 65 machine may be inverted without changing the position of the pulley frames, the shape of the frames being such that the active pulleys on each set are removed from each other by a safe operating distance.

Dated the 23d day of July, A. D. 1894.

ALEXANDER A. WHITELY.

In presence of—

DONALD M. CARTER,  
 JEAN ELLIOTT.