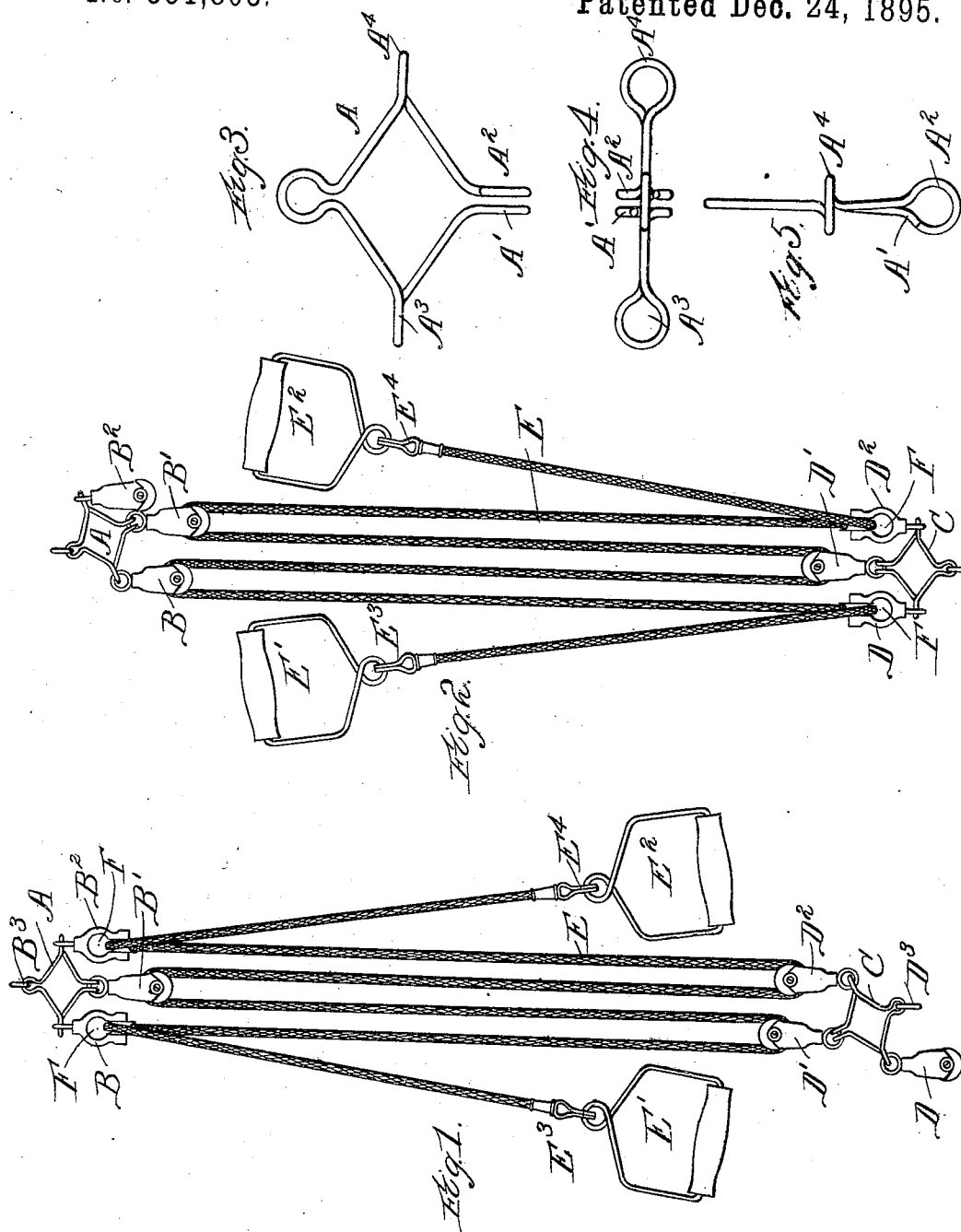


(No Model.)

A. A. WHITELY.
EXERCISING MACHINE.

No. 551,803.

Patented Dec. 24, 1895.



Witnesses:
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ALEXANDER A. WHITELEY, 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. WHITELEY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Exercising-Machines, of which the following is a specification.

My invention relates to exercising-machines, 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 handle ends running over the top pulleys. Fig. 2 is a view of exerciser with handle ends running 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, carrying the pulleys B B' B², is supported by the hook B³.

C is a frame similar to A and carries the pulleys D D' D². Said frame is supported by the hook D³. A continuous elastic cord E passes over these pulleys, as shown, and is provided with the removable handles E' E², held in place by the hooks E³ E⁴ on the ends of said cord. The case of each pulley is of such shape that the hooks E³ E⁴ 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' A², which support the middle pulley B'. The loops A³ A⁴ 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' A². The hook A⁵ engages the supporting-hook on the wall.

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

position of the pulleys when four or more pulleys are used, the only condition necessary being that the number of pulleys at the bottom shall be equal to the number of pulleys 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 somewhat 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 satisfactorily increased.

The practice in changing the position of the handle ends or inverting such exercisers heretofore 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 account of the distance between the hooks and the tendency of the cord to become entangled in the process. With my device all such inconveniences are obviated, for when it is desired to invert the exerciser—i. e., bring it to the position shown in Fig. 2—the handles E' E² are removed, Fig. 1, and the hook E³ is passed through the opening F in the case of pulley D. On releasing the hook E⁴ it readily slips through the hole F in the case of pulley B². 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' B² are used the axes of the pulleys B B² 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 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 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 B², the frame swings around 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 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 the pulleys may be easily placed in position, but when in position are securely held and cannot become displaced. The pulley B² is placed in position by slipping the eye over the hook A², and then springing the wires apart at each side of loop A⁴, 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' A² 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 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 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 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 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 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.