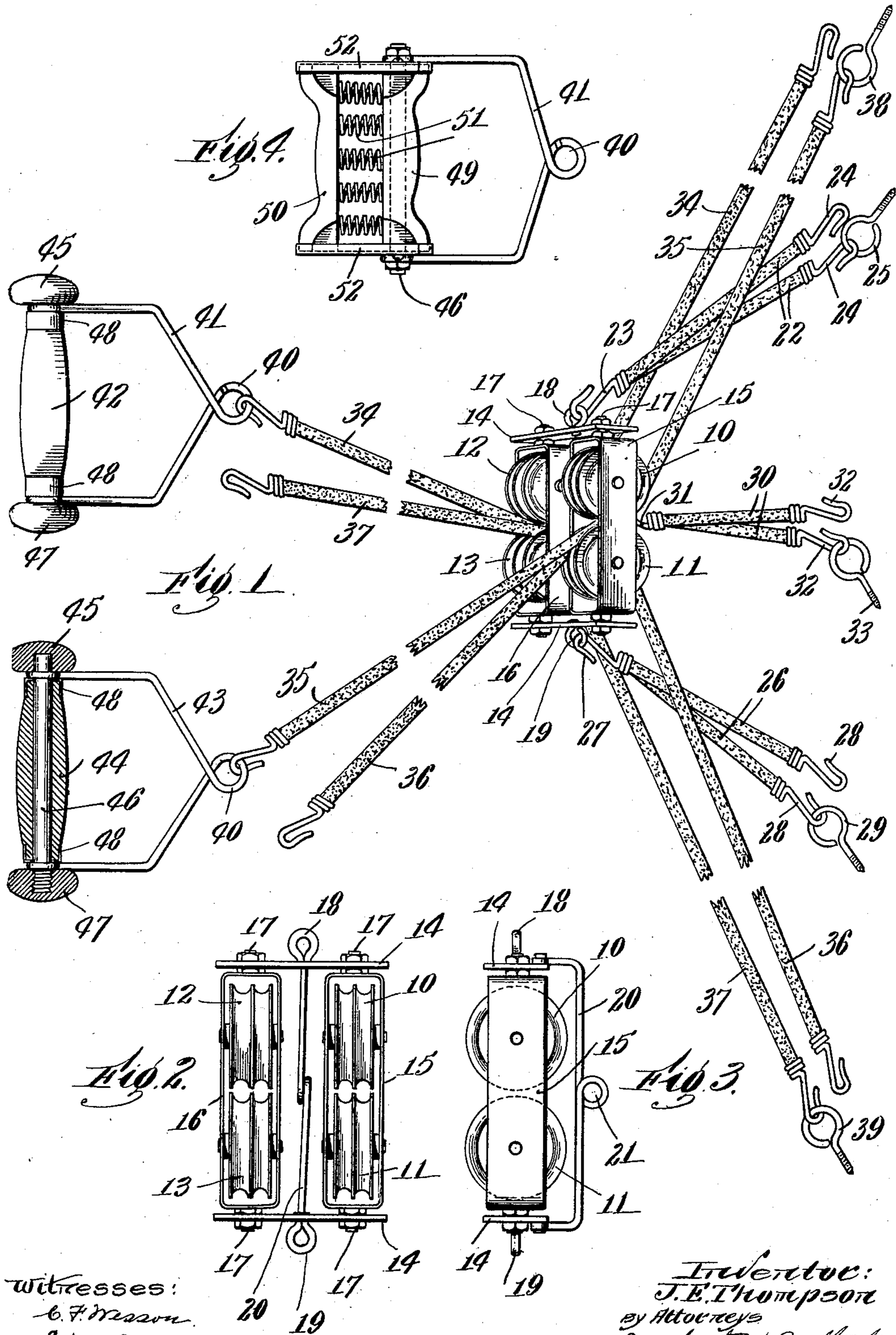


No. 861,620.

PATENTED JULY 30, 1907.

J. E. THOMPSON.  
EXERCISING MACHINE.  
APPLICATION FILED APR. 26, 1906.



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# UNITED STATES PATENT OFFICE.

JOHN E. THOMPSON, OF WORCESTER, MASSACHUSETTS.

## EXERCISING-MACHINE.

No. 861,620.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed April 26, 1906. Serial No. 313,881.

*To all whom it may concern:*

Be it known that I, JOHN E. THOMPSON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Exercising-Machine, of which the following is a specification.

My invention relates to that type of exercising machines in which elastic cords or the like, passing over pulleys or through a movable frame and connected with handles, are employed.

The principal objects of the invention are to provide means whereby a greater variety in tension may be secured, means whereby tension in certain directions may be reduced without affecting that in other directions, means for connecting the several elastic cords in such a manner as to provide a more flexible support and give better results for exercising purposes, and means for mounting the handles in such a way as to avoid unnecessary friction, and to generally improve exercising machines of this type.

Reference is to be had to the accompanying drawings in which,

Figure 1 is a side view showing a wall machine set up in operative position and embodying the principles of my invention, parts being shown in section. Fig. 2 is a front elevation of a movable frame for supporting the pulleys. Fig. 3 is a side elevation of the same, and Fig. 4 is an elevation of a handle grip which can be employed for certain purposes.

For the purpose of affording a guide for the elastic cords or supports which are employed, a frame 14 is provided. It also supports several pairs of pulleys 10, 11, 12 and 13 and in the form illustrated this frame comprises two parallel and ordinarily horizontal plates, each plate being connected with the other through pivoted frames 15 and 16. These pivoted frames are each in the form of a rectangular band having studs or screws 17 projecting from their opposite ends, these screws being connected with the plates of the frame 14 by nuts which can be adjusted and secured in position in such a manner as to regulate the distance apart of the two plates of the frame 14 and at the same time permit free swinging of the frames 15 and 16 on them as pivots.

The frame 15 carries the pair of pulleys 10 and 11 while the frame 16 carries in a similar manner, the two pulleys 12 and 13.

Mounted at the top and bottom of the frames 14 are eyes 18 and 19 and extending to the rear of the frame and secured to each of the plates thereof is a wire 20 bearing an eye 21 preferably located behind the center of the main frame. This eye is preferably formed integral with the wire.

The manner in which this frame is supported and connected with the other parts of the apparatus and its motion yieldingly restrained will now be described.

A pair of elastic cords 22 both secured to a hook 23

are each provided with a hook 24 on one end. The hook 23 is designed to pass into the eye 18 and the hooks 24 to be connected with an eye 25, or the like, secured to the wall of the building or to any stationary object. A similar pair of elastic cords 26 provided with a hook 27 and two hooks 28 is connected with the eye 19 below the frame and with an eye 29, or the like, to the wall. In the same manner a pair of elastic cords 30 provided with a hook 31 and a pair of hooks 32 is connected with the eye 21 and with an eye 33 in the wall. These cords diverge from the frame at an angle to each other, so that the frame can be held out from the wall in any direction and the strain will come upon one or more of the double or single elastic cords which have been described; a downward pull of the frame coming chiefly on the cords 22, an upward pull on the cords 26 and an outward one on the cords 30, although it will be understood that as a usual thing, one or more other cords will assist in resisting the motions of the frame.

The main elastic cords, with which the machine is provided are preferably four in number; 34, 35, 36 and 37. Each of these cords is provided with a hook at its end, those on the first two mentioned being adapted to be supported by an eye 38 located above the eye 25 and those on the latter two being intended to engage an eye 39 below the eye 29.

The cord 34 passes under one of the pulleys 12 and its hook engages an eye 40 in a bail 41 for supporting a handle-grip 42 and the cord 35 passes under one of the pulleys 10, and its hook engages an eye in a second bail 43 for supporting the other handle 44. The cord 36 passes over one of the pulleys 11 and its hook is adapted to engage the eye of the bail 43, while the cord 37 passes over one of the pulleys 13 and its hook is adapted to engage with the bail 41.

It will be seen that with this construction, when all of the hooks are connected to the eyes which have been specified, the user of the machine can pull on either of the handles 42 or 44 and he will stretch two of the cords which pass through the pulleys on one side of the frame, one of these cords passing upwardly and the other downwardly. Also, the strain will be transmitted to the cords 22, 26 and 30 in accordance with the direction of the pull. It will be seen, moreover, that in case it is desired to avoid the resistance of an elastic cord in either direction, up or down, on one hand or both, one of the elastic cords can be detached from the desired handle bail and then the principal resistance which this bail will encounter will be in one direction. For instance, the cord 36 may be detached from the bail 43 and the cord 37 from the bail 41, as is indicated in the drawing, and in this case, there will be no resistance to an upward pull on the cords 36 and 37, the only resistance being from the cords 26 and a slight amount from the cords 30; obviously, this will reduce the resistance in this

direction materially while not affecting in the slightest degree the resistance to a downward pull. Moreover, either one of any of the pairs of cords 22, 26 and 30 may be disengaged from its eye so as to decrease the resistance to the movement of the frame on the part of these cords. It will be clear, also, that any desired kind of combination may be secured by casting off one or more of the several cords from their respective eyes. One or both of the upper cords can be cast off from the eye 38 or the lower ones from the eye 39 with the result of securing additional variations. Moreover, the three pairs 22, 26 and 30, may be cast off in various ways. One cord of each pair can be cast off thus reducing the whole resistance of the machine uniformly or to get certain kinds of exercising actions, both of the cords 26 may be cast off or both of the cords 30 or either of those with one of the other cords. Both the connections 34 and 37 may be attached to the same hook 38 or 39, or the connections 35 and 36 may be connected in this way.

It will be seen that the extent of possible variations of resistance in all directions is almost unlimited and that an intelligent user or instructor can secure any desired results within a wide and practical range. Moreover, four handles can be attached to the main cords so that the machine can be used by two persons at once.

I have shown two forms of handles. In Fig. 1, a light weight head 45 is secured to a bolt 46, passing through eyes in the bail 43 and through a longitudinal perforation in the grip 44. This bolt has a screw-thread with which an internally screw-threaded head or nut 47 is connected. The ends of the grip are provided with ferrules 48 which may, if desired, loosely rotate on the grip. The purpose of this construction is to provide for reducing friction and permitting the grip to rotate with the movement of the hand without affecting the position of the bail. This loose arrangement secures better results than where the grip is fast to the bail or where there is considerable friction between them. It is to be noted that the grip and heads are both preferably formed of light material, such as wood, in order to avoid any undue weight at this point.

In Fig. 4 I have shown a construction in which the grip is formed of two parts 49 and 50, these two parts being held away from each other by springs 51, the part 49 being secured to the bail in a manner such as that illustrated in Fig. 1 and the part 50 sliding toward and from it in guides 52. This construction is provided in order to secure the advantages of the spring grip in connection with the advantages of my improved wall machine or any other exercising apparatus of this type, but I do not herein claim this specific construction of the handle as the same is covered by my Patent No. 835,487, granted Nov. 13, 1906. This combination affords means whereby an additional variety of movements and exercising actions can be secured on one and the same machine.

While I have illustrated and described certain forms in which my invention may be conveniently embodied, I am aware that many modifications may be made therein by any person skilled in the art without departing from the scope of my invention as expressed in the claims. Therefore, I do not wish to be limited to the exact forms shown but

What I do claim and desire to secure by Letters-Patent is:—

1. In an exercising machine, the combination of a frame, two flexible members movably connected with the frame and extending from one side of the frame in diverging directions, and a pair of handles or grips on the other side of the frame, one connected with each of said members.

2. In an exercising machine, the combination of a frame, two flexible members movably connected with the frame and extending from one side of the frame in diverging directions, a pair of handles or grips on the other side of the frame, one connected with each of said members, and a plurality of flexible connections yieldingly holding the frame in position.

3. In an exercising machine, the combination of a plurality of elastic cords having their ends connected to a stationary object at a distance apart, a frame, pulleys mounted on said frame, one pulley for receiving each cord, said frame being located at a point between those at which the ends of the cords are connected, and resilient means for restraining the motion of said frame.

4. In an exercising machine, the combination of two pairs of elastic cords having their ends connected to a stationary object, the ends of one pair of cords being secured in a position spaced from the ends of the other pair of cords, a pair of handle-grips, one cord of each pair extending to each of said handle-grips, a frame for receiving said cords, and resilient means for restraining the motion of said frame in all directions away from the stationary object to which the cords are connected.

5. In an exercising machine, the combination of two pairs of elastic cords having their ends connected to a stationary object, the ends of one pair of cords being connected in a position spaced from the ends of the other pair of cords, a pair of handle grips, one cord of each pair extending to each of said handle grips, and a frame for receiving said cords.

6. In an exercising machine, the combination of a pair of elastic cords, means for connecting their ends at adjacent points to a stationary object, a frame, a pair of pulleys on said frame, a pair of handle grips, one connected to each of said cords, and resilient means for restraining the motion of said frame.

7. In an exercising machine, the combination of a frame, a second frame pivotally mounted on the first frame, pulleys journaled in the second frame, and means for resiliently connecting the first frame with a stationary object.

8. In an exercising machine, the combination of a frame, a pair of frames pivotally mounted on the first named frame, pulleys journaled in each of the pivoted frames, and means for yieldingly connecting the first named frame with a stationary object.

9. In an exercising machine, the combination of a frame comprising two plates spaced apart, a pair of rectangular frames mounted between said plates, each frame having a stud extending from each end thereof and passing through one of said plates, means for securing the studs to the plates to permit the rectangular frames to swing about the studs as pivots, and pulleys mounted on said rectangular frames.

10. In an exercising machine, the combination of a frame comprising two plates spaced apart, a pair of rectangular frames mounted between said plates, each frame having a stud extending from each end thereof and passing through one of said plates, means for securing the studs to the plates to permit the rectangular frames to swing about the studs as pivots, and pulleys mounted on said rectangular frames, each of said plates being provided with an eye, and an additional eye located behind the main frame and connected with both of said plates, said eyes being adapted for connecting the frame with means for supporting it.

11. In an exercising machine, the combination of a frame, means for pivotally supporting a plurality of rotatable pulleys on said frame, a pair of eyes, one located at the top and the other at the bottom of said frame, a third eye located in the center of and at the rear of said frame, and three elastic connections, one engaging each of said eyes, said connections extending from the frames at an

angle to each other and being secured to a stationary object.

12. In an exercising machine, the combination of a frame, means for rotatably supporting a plurality of pulleys on said frame, three elastic connections, one connected with the top of the frame, one with the bottom, and the third with a point in the center and at the rear of said frame, said connections having their other ends secured in stationary position.

13. In an exercising machine, the combination of a frame, pulleys pivotally supported thereon, a pair of eyes, one at the top and the other at the bottom of said frame, a third eye behind the center of said frame and connected with the frame, a pair of elastic cords connected with each of said eyes, said cords diverging from said frame at an angle to each other and having means for removably connecting them with a stationary eye or the like.

14. In an exercising machine, the combination of a frame having means for supporting pulleys, and a plurality of supports for said frame, each of said supports comprising a pair of elastic cords, each cord having a hook adapted to be removably connected with a stationary eye.

15. In an exercising machine, the combination of a yieldingly mounted frame, pulleys mounted thereon, elastic cords in engagement with said pulleys and hand grips connected with said cords, each of said hand grips comprising a bail having an eye, a bolt passing through said eye, and a rotatable grip mounted on said bolt.

16. In an exercising machine, the combination of a frame, two pairs of flexible members movably connected with said frame, and a pair of handles or grips, one of each pair of flexible members being connected with each handle or grip.

17. In an exercising machine, the combination of a frame, two pairs of flexible members movably connected with said frame and extending therefrom on one side in diverging directions, and a pair of handles or grips, one of each pair of flexible members being connected with each handle or grip.

18. In an exercising machine, the combination of a frame, two pairs of flexible members movably connected with said frame, a pair of handles or grips, one of each pair of flexible members being connected with each handle or grip, and flexible members connected with said frame for yieldingly supporting it.

19. In an exercising machine, the combination of a frame, two flexible members movable freely through said frame and extending from one side of the frame in diverging directions, and a handle or grip on the other side of the frame connected with said members.

20. In an exercising machine, the combination of a frame, two flexible members movable freely through said frame and extending from one side of the frame in diverging directions, a handle on the other side of the frame connected with said members, and flexible members connected with said frame and yieldingly supporting it.

21. An exercising machine, comprising a frame and resilient supporting connections therefor extending therefrom in different directions, each of said connections comprising a plurality of elastic cords all connected with said frame and individually connected with a stationary object, whereby any one or more of the cords of each connection can be cast off so as to reduce the tension in any direction, and can be connected with the stationary object at different points.

22. In an exercising machine, the combination of a plurality of stationary eyes, a frame, and a plurality of elastic cords or connections each passing freely from one side of the frame to another, and each adapted to be connected with any one of said eyes at one end, and having a handle or grip at the other end at the other side of the frame.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JOHN E. THOMPSON.

Witnesses:

ALBERT E. FAY,

WILLIAM A. WARDEN.