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CA 2528548 C 2011/06/14

(11)(21) 2 528 548

(12) BREVET CANADIEN
CANADIAN PATENT

(13) C

(22) Date de dépôt/Filing Date: 2005/12/19

(41) Mise à la disp. pub./Open to Public Insp.: 2007/06/19

(45) Date de délivrance/Issue Date: 2011/06/14

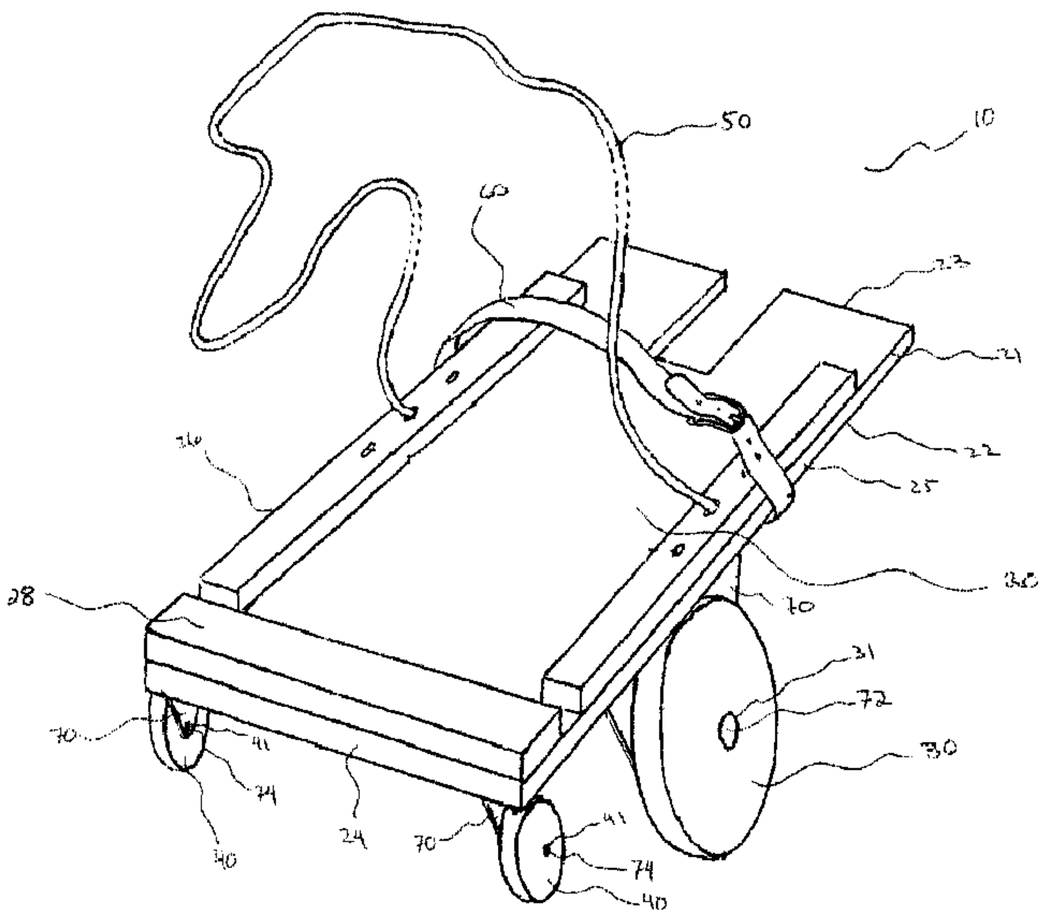
(51) Cl.Int./Int.Cl. *A63B 23/035* (2006.01),
A63B 23/04 (2006.01)

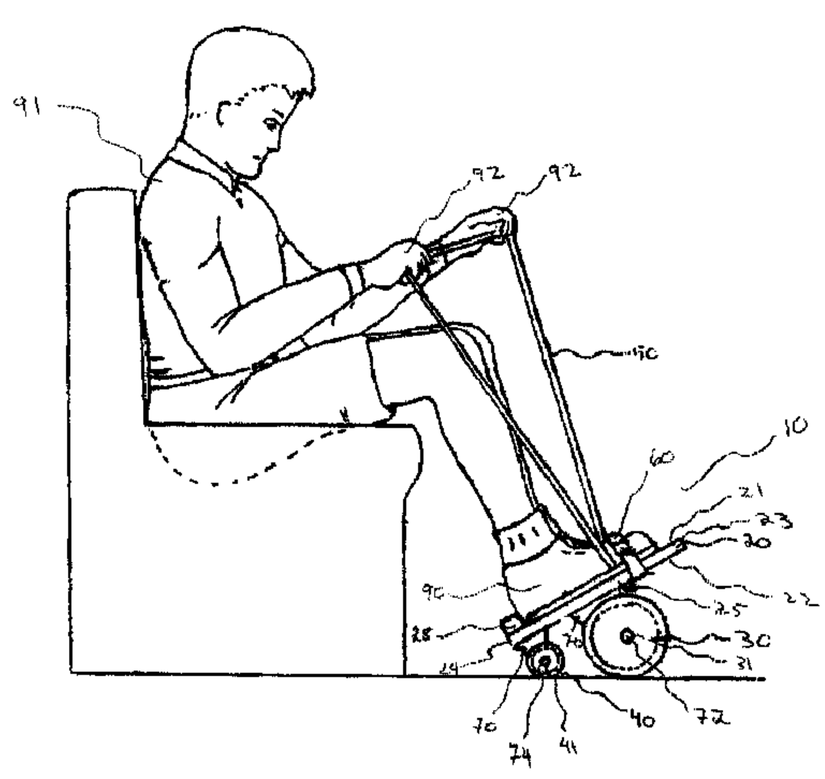
(72) Inventeur/Inventor:
HOLIZKI, GEORGE ALBERT, CA

(73) Propriétaire/Owner:
HOLIZKI, GEORGE ALBERT, CA

(74) Agent: MACPHERSON LESLIE & TYERMAN LLP

(54) Titre : EXERCISEUR POUR PIEDS EN POSITION ASSISE "PUSHY FOOT ON THE COUCH EXERCISER"
(54) Title: WHEELED EXERCISE DEVICE





(57) Abrégé/Abstract:
An exercise device supported on wheels and having a sloped platform for receiving a user's foot is provided. The exercise device is adapted for use in leg and foot shuffle-type exercises and has at least one front wheel with a greater diameter than at least one rear wheel mounted on the underside of the platform, which causes the platform to tilt downward toward the rear of the device. The front wheel and rear wheel are configured to permit the user's foot to pivot on a plane substantially parallel to the floor and allows for full extension of the leg. A tensioning cord is also provided which is held by the user's hands and provides resistance to the forced movement of the platform away from the user. When the resistance force of the cord is decreased, the user's feet can be used to pull the platform toward the user.

ABSTRACT

An exercise device supported on wheels and having a sloped platform for receiving a user's foot is provided. The exercise device is adapted for use in leg and foot shuffle-type exercises and has at least one front wheel with a greater diameter than at least one rear wheel mounted on the underside of the platform, which causes the platform to tilt downward toward the rear of the device. The front wheel and rear wheel are configured to permit the user's foot to pivot on a plane substantially parallel to the floor and allows for full extension of the leg. A tensioning cord is also provided which is held by the user's hands and provides resistance to the forced movement of the platform away from the user. When the resistance force of the cord is decreased, the user's feet can be used to pull the platform toward the user.

WHEELED EXERCISE DEVICE

This invention is in the field of exercise devices, and more specifically, to such devices that are used by the human legs while in a seated position.

BACKGROUND

With the realities of modern life, it is becoming increasingly difficult to find time to do the exercise required for a healthy lifestyle. Physical activity is necessary and promotes good health in a myriad of ways, for example, by increasing muscle strength, keeping a healthy heart, and maintaining a desirable weight. However, for many people, much of the day is spent sitting while doing office work. This limits the time that can be spent doing leisure activities such as going to the gym or going jogging, and makes it overall very difficult to obtain adequate levels of physical activity.

There are a number of exercise devices which can be used in the home or at a gym which allow a user to attain a healthy level of physical activity, such as treadmills, elliptical machines, or free weights. However, these types of devices tend to be large and unwieldy such that a separate room, or even a gym, is required to house and use the apparatuses. Furthermore, typically these devices and apparatuses require a user to focus all of their attention on the devices and the exercise being done such that the exercise needs to be done separate and apart from any other activity. This means that time must be taken away from work or relaxation time to get in a workout.

Frequently, a person has very limited segments of time to use a piece of exercise equipment; usually limited to less than an hour. The typical office worker will have only a lunch hour to spare, or short periods of time while on speaker phone or performing other typical office tasks such as reading on a computer screen or the like. In order to save time, it is desirable to have a device which allows a user to contemporaneously get exercise, while also being able to sit at a desk and perform office functions or watch television on a couch or chair. While devices such as these exist in the prior art, typically these devices are aimed toward a specific group of muscles

in the legs or the arms, but not both. It is well-known in science that the greater the number of muscle groups that are exercised, the better the workout. Since the devices existing in the prior art are aimed toward only a single group of muscles in either the arms or the legs, these prior art devices are not maximizing the efficiency of the workout. Other devices which can be used to exercise the legs or arms while sitting in a chair require specific configurations of the chair to allow for attachment of the devices to the chair. This type of device does not allow for use of the device, for example, while on a couch. The typical device that exercises a user's legs while seated furthermore does not permit full extension of the user's legs, such that the user's muscles do not receive the full range of motion, and therefore do not receive the full benefit of the exercise.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an exercise device that overcomes problems in the prior art.

In an embodiment of the present invention, an exercise device adapted for use in leg and foot shuffle-type exercises comprises a platform having a topside, an underside, a front edge, a rear edge, a first side edge, and a second side edge; at least one front wheel mounted on the underside of the platform for rolling directly on a floor; at least one rear wheel mounted on the underside of the platform for rolling directly on the floor; and at least one tensioning cord. The at least one front wheel is greater in diameter than the at least one rear wheel in such a way that the at least one front wheel tilts the platform downwardly toward the rear edge of the platform. The at least one front wheel and the at least one rear wheel are configured to permit a sitting user to rest a foot on the platform and extend a leg while bending a knee while the foot rests substantially flat against the platform when the wheels are rolling on the floor.

In a method of using the exercise device, an exercise device comprising a platform having a topside, an underside, a front edge, a rear edge, a first side edge, and a second side edge; at least one front wheel mounted on the underside of the platform for rolling directly on a floor; at least one rear wheel mounted on the underside of the platform for rolling directly on the floor; and at

least one tensioning cord, is provided. The exercise device's at least one front wheel is greater in diameter than the at least one rear wheel, and the greater diameter of the at least one front wheel tilts the platform downwardly toward the rear edge of the platform. The method further comprises positioning at least one foot on the topside of the platform and grasping the tensioning cord with at least one hand. The method further comprises extending a leg while bending a knee while the at least one foot rests substantially flat against the platform when the wheels are rolling on the floor.

The present invention effectively allows the full range of motion of the quadriceps to improve one's physical condition while seated, while also working other muscles in the arms and legs. The platform is guided along a plane away from and toward the user and the tensioning cord is held by the user's hands which provides resistance to the forced movement of the platform away from the user. When the resistance force of the cord is decreased, the user's feet can be used to pull the platform toward the user. This action can be repeated as desired.

DESCRIPTION OF THE DRAWINGS

While the invention is claimed in the concluding portions hereof, preferred embodiments are provided in the accompanying detailed description which may be best understood in conjunction with the accompanying diagrams where like parts in each of the several diagrams are labeled with like numbers, and where:

Fig. 1 is a perspective view of an exercise device; and

Fig. 2 is a schematic view of the exercise device shown in Fig. 1 as used by a person.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

As outlined above, the invention is an exercise device that allows a user to exercise both the arms and legs while remaining seated in any type of chair, stool, couch, or seat, and which permits the

full extension of his or her quadriceps, in order to maximize the benefits and efficiency of the exercise.

Figs. 1 and 2 show an exercise device 10 in an embodiment of the present invention. Exercise device 10 has a platform 20, at least one front wheel 30, at least one rear wheel 40, and an adjustable tensioning cord 50.

Platform 20 is defined by a topside 21, an underside 22, a front edge 23, a rear edge 24, and a first side 25 and a second side 26, and is configured for receiving at least one foot 90 of a user 91 in a seated position. Platform 20 could optionally be equipped with a U-shaped bracket 28 comprising a set of elevated edges configured to prevent the user's foot 90 from slipping off of the rear edge 24 or sides 25 and 26 of the platform 20 and which can be attached to the topside 21 of the platform 20.

The platform 20 could also optionally be provided with a toe strap 60. The toe strap 60 is an adjustable holding mechanism such as a belt strap such as is shown in Figs. 1 and 2. The user 91 can place his or her feet 90 onto the platform 20 and in the embodiment shown in Figs. 1 and 2, the user 91 tightens a belt strap 60 around the foot 90 using the appropriate belt loop and then straps the foot 90 to the platform 20 using the belt buckle. One skilled in the art will appreciate that the adjustable holding mechanism of the toe strap 60 can take other forms, such as a buckled securing means.

At least one front wheel 30 and at least one rear wheel 40 are attached to the underside 22 of the platform 20. Wheels 30 and 40 are of any conventional design and are mounted on the ends of axles 72 and 74, respectively. The at least one front wheel 30 is of greater diameter than the at least one rear wheel 40 such that the topside 21 of the platform 20 slopes downward toward the rear edge 24. The at least one rear wheel 40 will typically be of great enough diameter to prevent the heel of the user 91 from scuffing the floor. The wheels 30 and 40 are attached to the underside 22 of the platform 20 through any conventional means. The platform 20 could be provided with, for example, downwardly extending side members 70 supporting conventional bearings. Front and back axles 72 and 74 would be supported on the bearings. Typically, a pair

of wheels 30 or 40 are attached to opposite sides 25 and 26 of the platform 20 and are supported by downwardly extending side members 70 that allow the wheels 30 or 40 and corresponding front axle 72 or rear axle 74 to rotate freely. In one embodiment, each set of the front wheels 30 and rear wheels 40 are connected via an assembly of lock nuts, washers, and an axle 72 or 74. An axle 72 or 74 is attached at one end to the platform 20 by a downwardly extending member 70 and a washer is inserted over the axle 72 or 74; the other end is inserted through a centrally located aperture 31 or 41 of the front wheel 30 or rear wheel 40, respectively. Next, another washer and finally a lock nut are mounted on the axle 72 or 74 to secure the at least one front wheel 30 or the at least one rear wheel 40 in place on the axle 72 or 74. The wheels on each the first and second sides 25 and 26 are connected in this way and are free to independently rotate on the axle 72 or 74. The wheels 30 and 40 attached in this way allow for smoothly translating the platform 20 along the floor, while allowing full extension of the user's legs and furthermore allows the user 91 to maintain a comfortable angle between the legs and the feet 90 when exercising.

The platform 20 is coupled to at least one adjustable tensioning cord 50. The tensioning cord 50 allows a user 91 to manipulate the resistance of the exercise using the user's arms and hands 92. In one embodiment, the tensioning cord 50 comprises a continuous loop of cord attached around the bottom of the device 10. The tensioning cord 50 may be removably attached at the distal end to the sides 25 and 26 of the platform 20. The tensioning cord 50 could be made out of a variety of materials, including rope. The tensioning cord 50 is grasped by the user 91 at one end, and is attached to the platform 20 at the other end. To obtain balance throughout the length of the device 20, one end of the tensioning cord 50 is connected to each side 25 and 26 of the platform 20 equal distance from the center of the platform 20. To increase the force required by the user's feet 90 to push the platform 20 away from the user 91, the user 91 simply increases the pulling force exerted by the user's hands 92 on the tensioning cord 50. It is contemplated within the scope of the present invention that the tensioning cord 50 could also be adjustable to different lengths to accommodate differing user heights. The length of the tensioning cord 50 can be adjustable to accommodate the various leg and arm lengths and strengths of the various users 91.

Fig. 2 schematically shows the exercise device 10 being used by a user 91 in a sitting position. To use the exercise device 10, the device 10 is placed in a position in front of a user 91 in a seated position, allowing the user 91 to place his or her feet 90 on the platform 20. To exercise, the user 91 grasps the tensioning cord 50 with the user's hands 92 and repeatedly straightens and bends his or her legs translating the platform 20 in a plane away from the user 91 against the resisting force on the platform 20 by the tensioning cord 50. The exercise device 10 is moved in the reciprocal directions of the arrows A and B while the wheels 30 and 40 roll smoothly on the floor. The adjustable tensioning cord 50 provides resistance to the forced movement of the platform 20 away from the user 91. When the resistance force of the cord 50 is decreased, the user's feet 90 can be used to pull the platform 20 toward the user 91. The cord 50 enables the user 91 to use his or her arms and hands 92 to provide resistance to the motion of the legs and furthermore to exercise the arms. Thus, with the cord 50 in place, the exercise device may be used for exercising the arms of the user 91 and to aid the therapeutic or orthopedic exercise of the knee and legs. The device 10 may be moved in any direction by the user 91 and at any speed. Alternatively, the platform 20 can be held away from the user 91 at a distance by extending the user's legs almost completely, and by using short alternating oscillations between the legs which will produce a rocking motion of the platform 20 to exercise the arms and legs in an alternating fashion.

The embodiments described herein have described an exercise device and method of using such device that allows a user to fully exercise his or her legs and arms without disturbing other daily activities, particularly those activities that are done while seated. The exercise device rolls on a plane on the floor toward and away from the user, thus allowing it to be used under a desk or at a computer station. In this way, the exercise device allows for use during common activities in the workday. The user can remain completely seated while exercising, thus making the exercise device ideal for use in front of a television. Furthermore, the device does not require a specific connection to a chair in any manner, which allows for greater portability and without limiting the types of seats that a user must occupy in order to use the device.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous changes and modifications will readily occur to those skilled in the art, it is not desired

to limit the invention to the exact construction and operation shown and described, and accordingly, all such suitable changes or modifications in structure or operation which may be resorted to are intended to fall within the scope of the claimed invention.

CLAIMS

WHAT IS CLAIMED IS:

1. An exercise device comprising:

a platform having a topside, an underside, a front edge, a rear edge, a first side edge, and a second side edge;

at least one front wheel mounted on the underside of the platform for rolling directly on a floor;

at least one rear wheel mounted on the underside of the platform for rolling directly on the floor; and

a tensioning cord attached to the first and second side edges of the platform,

wherein the at least one front wheel is greater in diameter than the at least one rear wheel, and whereby the greater diameter of the at least one front wheel tilts the platform downwardly toward the rear edge of the platform,

and further wherein the at least one front wheel and the at least one rear wheel are configured to permit a sitting user to rest a foot on the platform and extend a leg while bending a knee while the foot rests substantially flat against the platform when the wheels are rolling on the floor.

2. The exercise device of claim 1 wherein the platform is provided with a bracket to prevent the user's foot from slipping off of the rear edge and first and second side edges of the platform.

3. The exercise device of claim 1 further comprising a toe strap.

4. The exercise device of claim 3 wherein the toe strap is adjustable.

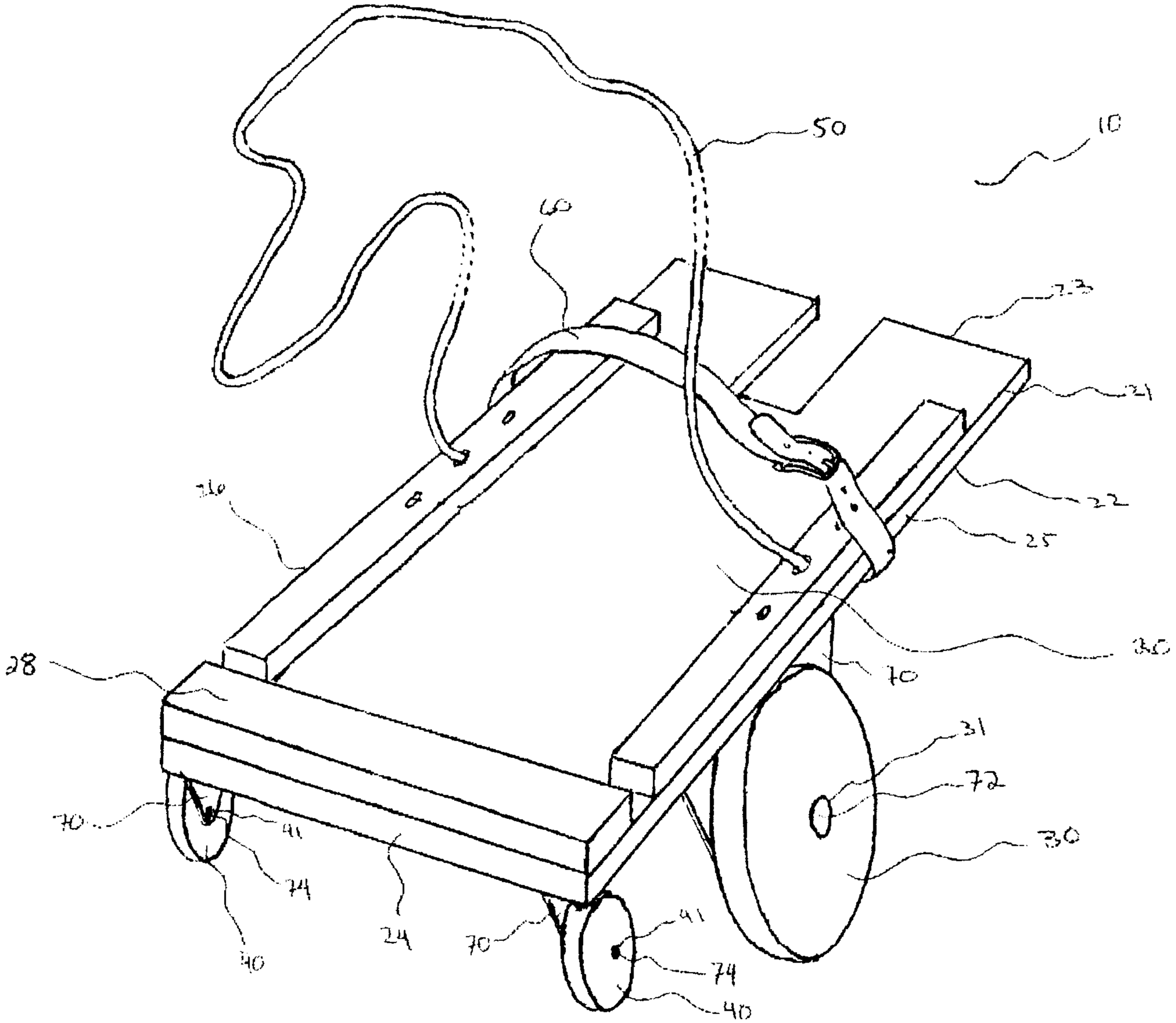


FIG. 1

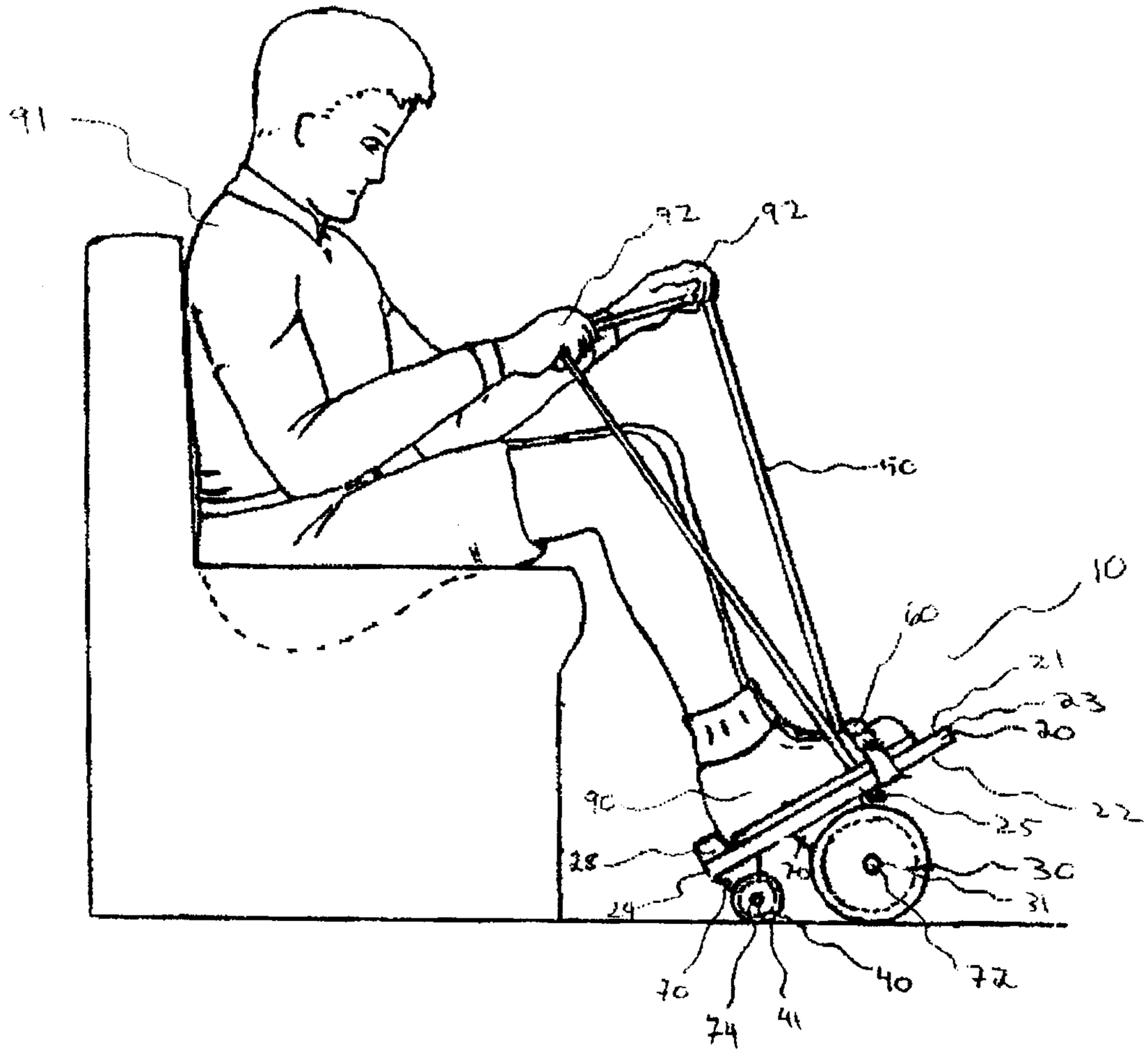
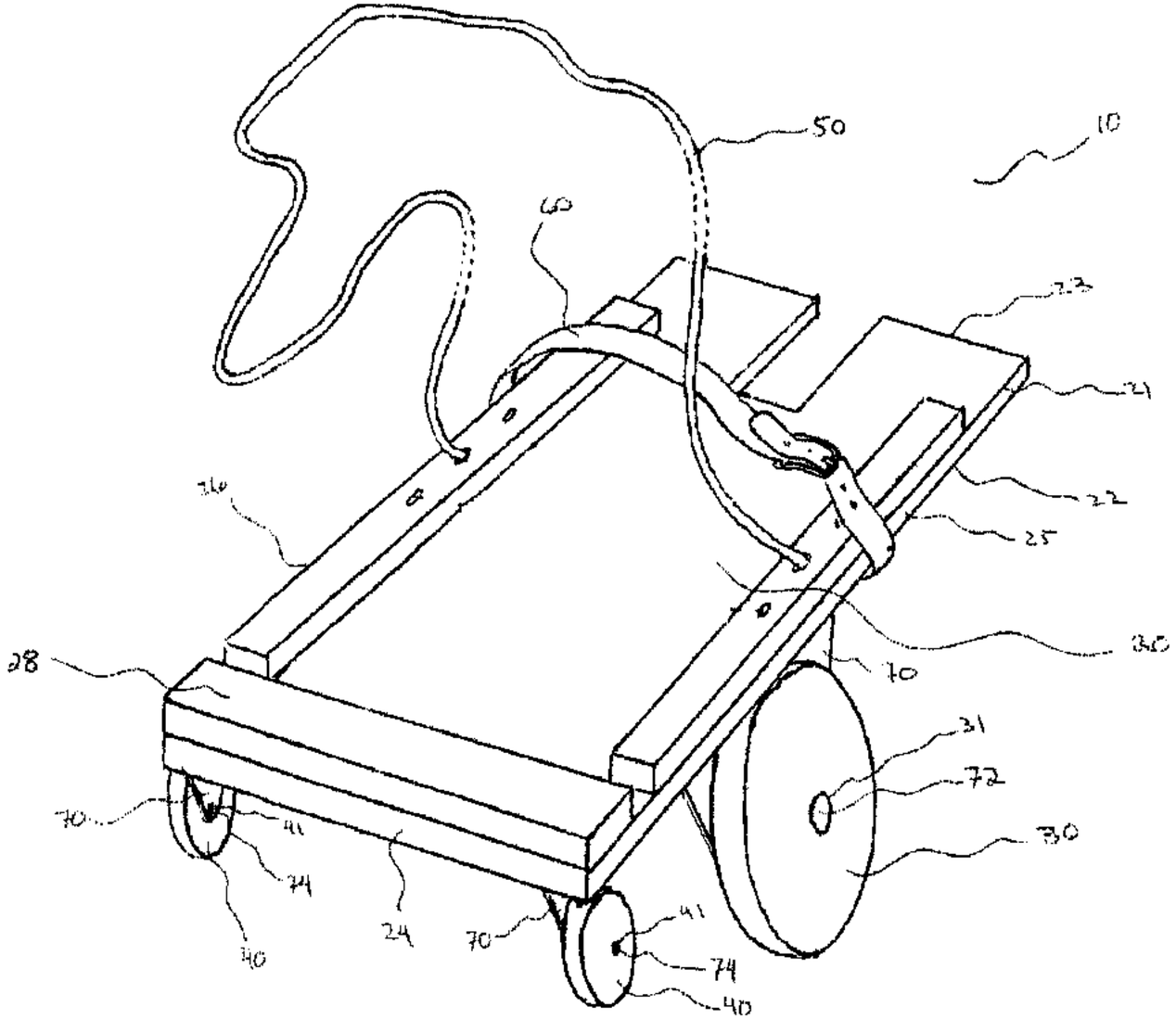


FIG. 2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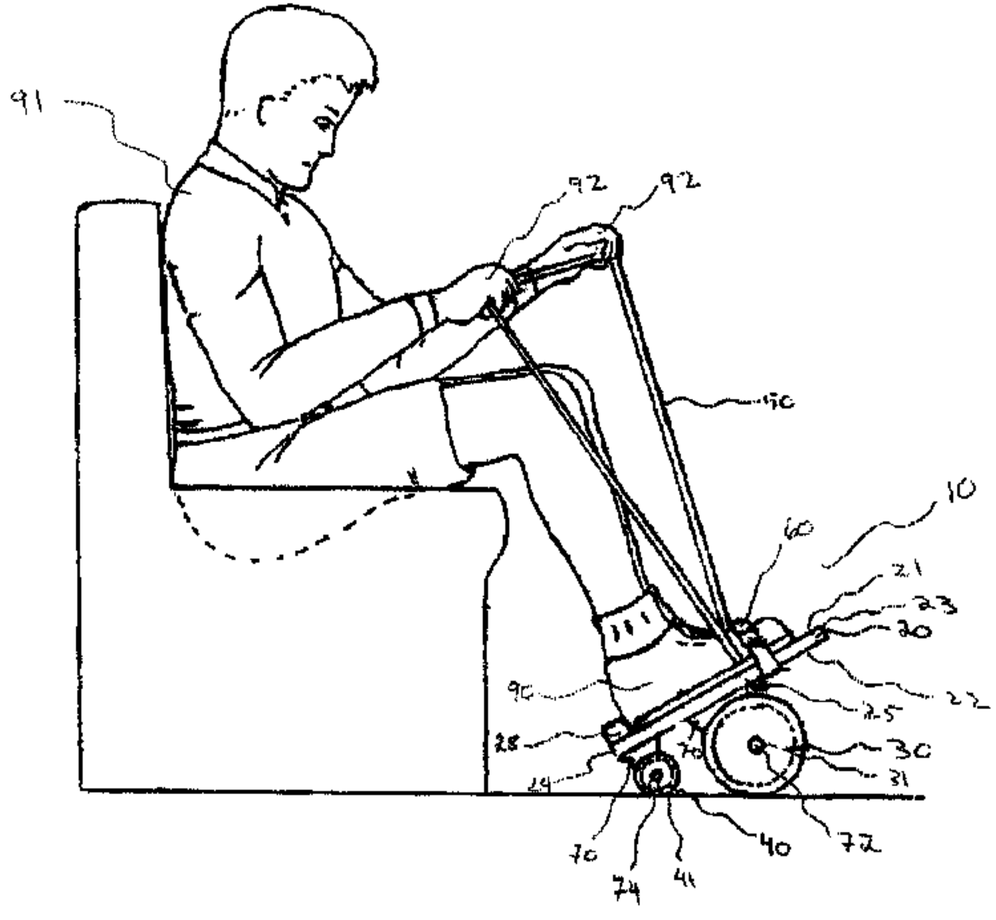
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