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REHABILITATION AND EXERCISE APPARATUS

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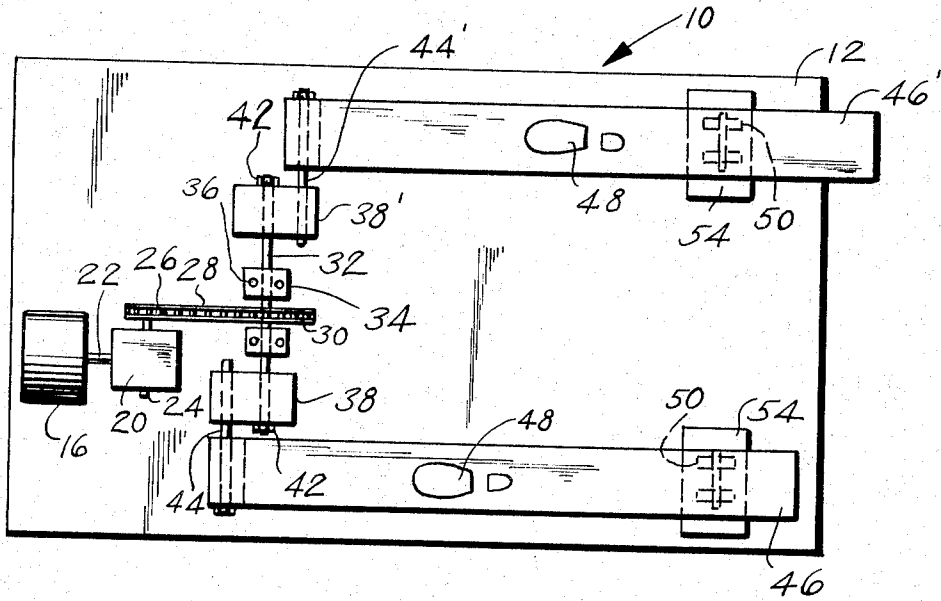


Fig. 1

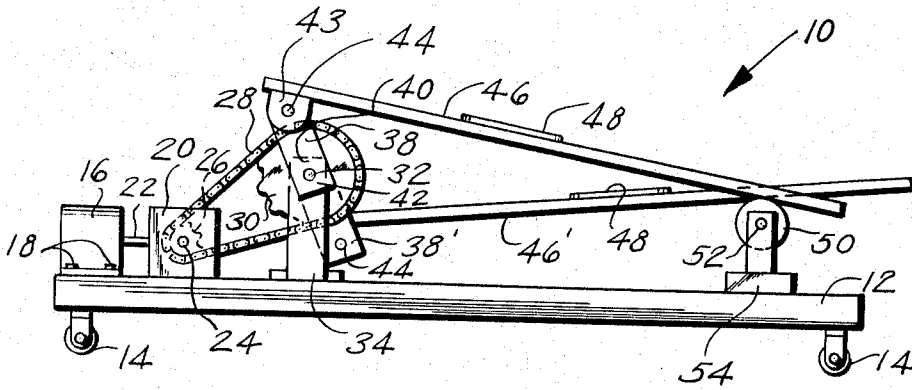


Fig. 2

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REHABILITATION AND EXERCISE APPARATUS
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This invention relates to exercise machines, and more particularly to a machine for exercising the legs and hips.

It is an object of the present invention to provide a rehabilitation and exercise apparatus which will serve to strengthen the muscles of the legs and hips while the person using the apparatus is sitting in a chair.

Another object of the present invention is to provide an exercise apparatus which will simulate walking by moving the legs and hips of the user by power means.

A further object of the present invention is to provide an exercise apparatus which will have a pair of parallel, reciprocating plates upon which the feet of the user are placed, and the apparatus will have adjustment means for changing the degree of reciprocation when desired.

Other objects of the invention are to provide an exercise apparatus bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation and use.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawing, in which:

FIGURE 1 is a top plan view of the present invention; and

FIGURE 2 is a side view of FIGURE 1 shown in elevation.

Referring now more in detail to the drawing, a rehabilitation and exercise apparatus 10 made in accordance with the present invention is shown to include a base 12 of rectangular configuration made of metal or other suitable material having a plurality of pivotable casters 14 secured beneath it to provide a means for easily moving the apparatus when desired. An electric motor 16 is secured to the upper surface of base 12 by means of a plurality of bolt fasteners 18, and a speed reducer 20 is secured to the shaft 22 of motor 16, providing a means of reducing the revolutions per minute of motor 16 to a useful speed for apparatus 10. Shaft 24 of speed reducer 20 is fixedly secured to a sprocket 26 which receives an endless chain 28. Chain 28 is also received by a sprocket 30 which is supported and secured to a shaft 32. Shaft 32 is supported by a pair of brackets 34 which are secured by a plurality of fasteners 36. A pair of crank rods 38 and 38' are secured to shafts 32 and are rotatable when sprocket 30 is rotated. Shaft 32 is received within an opening 40 through crank rods 38 and 38' and opening 40 may be an elongated slot which provides a means of changing the degree of reciprocation of the foot plates of apparatus 10 when desired. A nut 42 is received upon the end of shaft 32 and provides a means of securing crank rods 38 and 38' to shaft 32 of apparatus 10. Crank rods 38 and 38' are received within brackets 43 by means of pivot pins 44 and 44' and bracket 43 are secured to the underside of a pair of parallel and elongated plates 46 and 46' which execute a reciprocating motion when crank rods 38 and 38' respectively are rotated. A foot pad 48 is secured to the top of plates 46 and 46' and provides a position

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point for the user to place his feet upon the plates 46 and 46'. The underside of plates 46 and 46' is in rolling engagement with a plurality of spaced apart rollers 50 which are received upon shafts 52. Shafts 52 supporting rollers 50 are secured within a pair of spaced apart brackets 54 which are fixedly secured to base 12.

In operation, the user places his feet upon foot pads 48 of the reciprocating plates 46 and 46' and when motor 16 through speed reducer 20 rotates sprocket 26, chain 28 rotates sprocket 30 to which is secured the crank rods 38 and 38'. The rotation of crank rods 38 and 38' through pins 44 and 44' impart a reciprocating motion to plates 46 and 46' to exercise the ankles, legs and hips of the user.

It shall be noted that side guides may be constructed upon brackets 54 or base 12 to guide the reciprocating plates 46 and 46' or the underside of plates 46 and 46' may be grooved to receive rollers 50 to provide guide means for reciprocating plates 46 and 46' when motor 16 is on.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. A rehabilitation and exercise apparatus comprising in combination a rectangular base, a plurality of pivotable casters carried by said base providing a means for easy mobility of said apparatus, a motor on said base, a speed reducer driven by said motor, a first sprocket being driven by said speed reducer and a shaft extending through said second sprocket and being fixed thereto, said shaft being rotatably mounted on said base, an endless chain drivingly connected to the two sprockets, a crank rod on each side of said and sprocket at 180° part having one end rigidly mounted on said rotatable shaft, a pair of parallel and rectangular reciprocating plates carried above said base providing support means for exercising the ankles, legs, and hips of the user, one end of said plates being pivotally attached to the other ends of said crank rods and so constructed and arranged for permitting circular movement of that end of said plates, a plurality of parallel rollers carried by said base providing support means for the other ends of said plates.

2. The combination according to claim 1 wherein said second sprocket is larger in diameter than said first sprocket which further decreases the speed of operation of said apparatus.

3. The combination according to claim 1 including foot rest means for the user of said apparatus comprising a sole configured pad secured to the upper surface of said reciprocating plates and said pads provide foot rest means and guide means for placing the foot in the proper position upon each of said reciprocating plates.

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