

May 16, 1933.

J. SACHS

1,909,190

EXERCISING APPARATUS

Filed Feb. 3, 1931

2 Sheets-Sheet 1

Fig. 1.

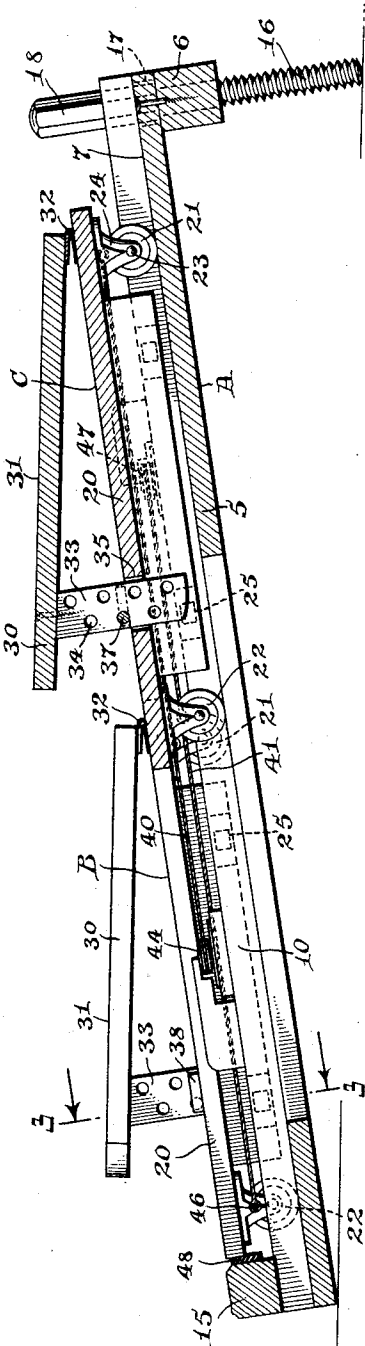
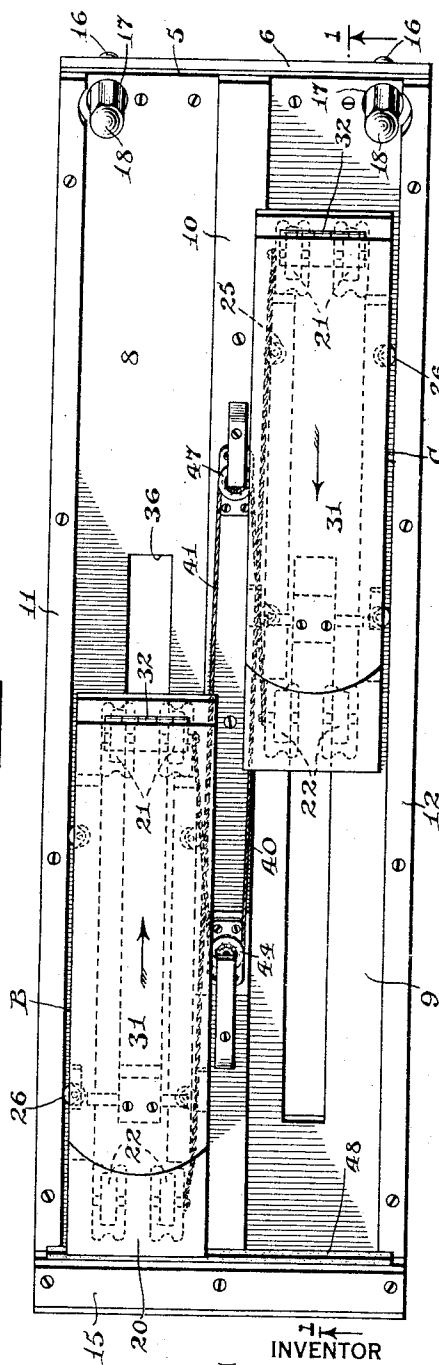


Fig. 2.



WITNESSES

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Fig. 3.

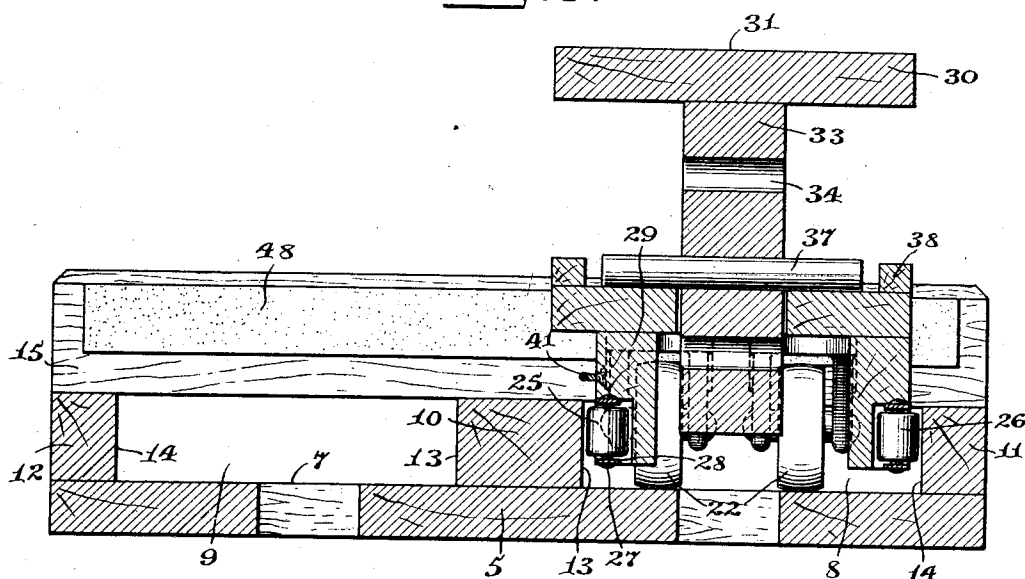
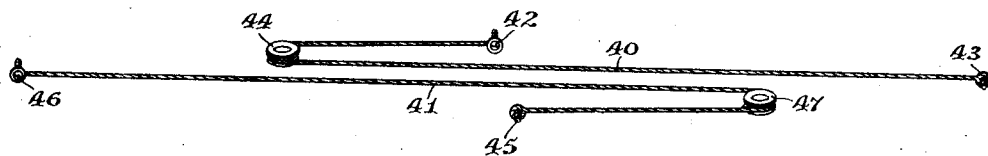


Fig. 4.



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EXERCISING APPARATUS

Application filed February 3, 1931. Serial No. 513,196.

This invention relates generally to the class of exercising devices, and has more particular reference to an apparatus by virtue of which all the advantages of walking are gained, while some of the disadvantages thereof, under present conditions, are eliminated.

It is a well recognized fact that walking under proper conditions is one of the most healthful and beneficial exercises known to mankind, but under the conditions in which we now live, especially those of us who are located in large centers of population, walking cannot be classed in the category of a healthful and beneficial exercise. Some of the principal reasons for this are: First, the lack of a proper surface upon which to walk without subjecting the nervous system to a jarring and tiring effect, and, second, the lack of an atmosphere free of contamination by dust, dirt, smoke, noxious fumes from motor vehicles and other impure and objectionable matter with which the usual city air is laden.

It is, therefore, the main object of the present invention to provide an improved apparatus or device, by the use of which there may be obtained as complete a walking exercise as is possible, including the proper knee bend, a correct walking posture with a slight forward inclination of the body and the weight shifted onto the ball of the foot, and this without subjecting the system to the jars, shock, strain and fatigue which accompany actual walking on hard city pavements, streets or roadways.

The invention more particularly resides in an apparatus of the indicated character which includes a mobile platform for each foot, mounted for guided and practically unhampered limited movement in defined paths parallel to each other and in the same inclined plane, and in which said platforms are connected so as to permit of their manual reciprocation simultaneously but in opposite directions.

The invention further comprehends an apparatus as previously set forth, which is adjustable to increase or decrease the inclination of the plane of the path of movement

of the platforms, so that in so doing, the user may gain the effect of either ascending or descending an inclination or hill which is of varying degrees by facing in opposite directions while using the device.

The invention still further embodies in such an apparatus, an inclined support for foot platforms, in which said platforms are independently adjustable from a position to afford a foot supporting surface coincident with the plane of the support to a position affording a horizontal surface, and further to afford a supporting surface variously inclined opposite to the inclination of the support for the foot platforms.

Other objects of the invention reside in the simple and novel features of construction of the apparatus, the economy with which it may be produced and maintained in operating condition and the general efficiency derived therefrom.

With the above recited and other objects in view, reference is had to the following description and accompanying drawings, in which there is exhibited one example or embodiment of the invention, while the claims define the actual scope of the same.

In the drawings:

Figure 1 is a longitudinal sectional view through an exercising apparatus constructed in accordance with the invention, said section being taken on a vertical longitudinal plane indicated by the line 1—1 of Figure 2.

Figure 2 is a plan view of the apparatus.

Figure 3 is an enlarged transverse sectional view therethrough, taken approximately on the line indicated at 3—3 in Figure 1.

Figure 4 is a diagrammatic view illustrating the form of connection employed to cause the carriages to simultaneously move in opposite directions.

Referring to the drawings by characters of reference, A designates a supporting base, which may be of any suitable material, and which in the present instance is illustrated as including a wooden plank or panel 5 of substantially oblong configuration, provided at one end with a transversely disposed depending cleat or cross element 6, which when supported on a horizontal surface disposes

the base and its upper surface 7 at an inclination to the horizontal. The upper surface 7 is subdivided transversely to define a pair of laterally spaced parallel guideways or channels 8 and 9 by means of a medial longitudinally extending upstanding strip 10 and by marginal longitudinally extending upstanding strips 11 and 12, the said structure defining the guideways or channels 8 and 9, each of which is formed by portions of the upper surface 7 and by the confronting side faces 13 and 14 of the intermediate and marginal strips 10, 11 and 12. The guideways or channels 8 and 9 may be obviously formed in other equivalent ways, such as by employing a thick panel 5 which is provided with parallel longitudinal grooves, or if constructed from metal, by bending, stamping, pressing or otherwise. The base is also provided at the lower end, namely, that end opposite to the one provided with the depending cleat 6, with a transversely disposed upstanding element or cleat 15 which is secured to and projects upwardly from the upper surfaces of the strips 10, 11 and 12.

In order to provide means for increasing the inclination of the base 5 so as to support the upper surface 7 at various inclinations, a pair of jackscrews 16 are threaded vertically through the transverse depending element or cleat 6 and extend loosely through openings 17 in the base panel 5. The upper ends of the jackscrews 16 are formed with manipulating heads or handles 18 for rotating the jackscrews to effect the adjustment of the inclination of the base.

The apparatus further includes a pair of foot supporting carriages, designated generally by the reference characters B and C, of identical construction, each of which consists of a chassis plate 20 having front and rear pairs of supporting rollers 21 and 22 which are journaled on axles 23 carried by bearings 24 which depend from the under side of the chassis plate adjacent the four front and rear ends thereof. The rollers 21 and 22 afford antifriction means, by virtue of which the carriages may be moved over the inclined upper surface 7 of the panel 5 of the base member A, it being understood that the carriages B and C are respectively arranged in the guideways or channels 8 and 9. In order to guide and insure a substantially true rectilinear movement of the carriages B and C in the respective guideways, each carriage is provided with means, which in the present instance consists of guide rollers 25 and 26, which are adapted to engage respectively with the faces 13 and 14 respectively of the intermediate and marginal strips 10, 11 and 12. The guide rollers 25 and 26 are mounted on axes perpendicular to the plane of the chassis plates 20 and parallel to the faces 13 and 14, and, as shown,

said axes are in the nature of shafts 27 which are journaled in bearings 28 carried by longitudinal supporting strips 29 which depend from the under sides of the chassis plates 20. Each carriage B and C further includes a foot supporting platform 30 which is of an appropriate size to accommodate the foot of the user on the upper surface 31 thereof. The foot supporting platform 30 is connected at one of its ends, preferably the forward end, to the chassis plate 20 for vertical swinging movement, by means of a hinge 32 or equivalent connection. Adjacent its opposite free end, means is provided for supporting the platform 30 in relative angular positions from its lowermost position in a parallel plane with the chassis plate, and, as herein illustrated, said means is disclosed as a depending leg or stud 33 which is formed with a plurality of vertically spaced transverse apertures 34. The chassis plate 20 is provided with a vertical slot 35 which accommodates the leg or stud 33, while the panel 5 of the base is correspondingly provided with longitudinal slots 36, also serving to clear the studs or legs 33 of the carriage platforms when they are adjusted to their lowermost positions. The apertures 34 are designed to selectively receive there-through a pin 37 which is of a sufficient length to project beyond the opposite sides of the stud or leg 33 and engage with the upper surface of the chassis plates 20. In order to avoid the possibility of accidental displacement of the pin 37, each chassis plate is provided with marginal upstanding ribs 38 which are transversely spaced apart a distance approximately equaling the length of the pin 37, so as to offer an obstruction to axial movement of the pin sufficient to allow for its displacement, it being understood that displacement of the pin can only be accomplished by raising the platform 30 to dispose the pin above the plane of the upper surfaces of the ribs 38.

The apparatus further embodies means for connecting the carriages B and C so that they are compelled to move in opposite directions, the connection being such that when one carriage is at one limit of its movement, the other is at the other limit of its movement. The particular means of connection illustrated by way of example consists of a pair of cables 40 and 41, the former cable having one extremity anchored as at 42 to the forward end of the carriage B and its other extremity anchored as at 43 to the forward extremity of the carriage C, while said cable is trained around a guide or sheave 44 which, as shown, is journaled on the intermediate strip 10 of the base. The other cable 41 has one extremity anchored as at 45 to the rear portion of the carriage C and its other extremity anchored as at 46 to the rear extremity of the carriage B,

the said cable being trained around a guide or sheave 47 which, as illustrated, is shown as journaled on the intermediate strip 10. The forward face of the upstanding element 5 or cleat 15 is provided with a resilient buffer strip 48, with which the rear extremities of the chassis plates 20 are adapted to engage, whereby the shock of the engagement is absorbed and the sound incident thereto is 10 deadened. This arrangement also provides means for limiting the rearward movement of one carriage and, incidentally, due to the connection between the carriages, limits the forward movement of the same.

15 In use and operation, the device is initially adjusted, both as to the inclination of the supporting base A and as to the relative position of the platforms 31 with respect to the chassis plates 20 of the carriages B 20 and C. The user, either with or without assistance, places one foot on the upper surface 31 of the platform of one carriage and the other foot on the upper surface of the platform of the other carriage. The user is 25 cautioned to always put the first foot on the platform of the carriage which is at the lower end of the incline or, in other words, that carriage which has its chassis plate abutting the element or cleat 15, and, likewise, in dismounting, the user must remove 30 the first foot from the carriage which is at the uppermost end of the incline, it being apparent that otherwise a fall and possible injury may result. After the user has properly mounted the apparatus, the foot on the 35 uppermost carriage is moved rearwardly and, simultaneously, the foot on the lowermost carriage is moved forwardly when the user is facing the uppermost end of the device, 40 the reverse being obviously true if the user is facing the lowermost end of the device.

The use of the machine follows closely the action of skating as practiced by a novice, and in starting, the user may be assisted 45 to balance himself by holding onto another person or object in close proximity to the device. The action at first may be slow and gradually increased as the user becomes accustomed to the apparatus. By facing in 50 reverse directions, the result will be similar to ascending or descending an incline, and by adjusting the device the inclination may be varied from a very slight incline to a pronounced grade. It is also apparent 55 that the platforms 30 of the carriages may be independently adjusted, so that one is disposed at a different inclination to the other, or one substantially horizontal and the other inclined. In use, as distinguished 60 from walking, the jar and shock incident to the striking of the heel is entirely eliminated. The steady rhythmic movements by use of the device make for an increased supply of blood and oxygen, arousing the heart 65 and lungs to greater activity, thus improving

circulation and promoting assimilation and elimination. Its regular use develops, stretches and strengthens all the muscles and ligaments of the foot, leg and thighs, the hip joint, the muscles of the lower back and 70 the muscles of the abdomen. Preferably, the device will be used out of doors or adjacent an open window where a supply of fresh and uncontaminated air is available. When not 75 in use, the device may be collapsed or folded to its minimum and will occupy but a small amount of space for either storage or transportation.

While there has been illustrated and described a single and preferred embodiment 80 of the invention, no limitation is necessarily intended to the precise structural details shown, and it is to be clearly understood that the right to variations and modifications which constitute a full range of equivalents, is reserved. 85

What is claimed is:

1. An exercising apparatus of the class described including a pair of foot supporting platforms mounted for guided parallel 90 reciprocatory movement in the same inclined plane and means connecting said platforms for relative movement in opposite directions, said platforms being independently adjustable to present horizontal or inclined supporting surfaces. 95

2. An exercising apparatus of the class described including a pair of foot supporting platforms mounted for guided parallel 100 reciprocatory movement in the same inclined plane and means connecting said platforms for relative movement in opposite directions, said platforms being adjustable to present horizontal or inclined supporting surfaces 105 at the same or various inclinations relative to the path of movement.

3. An exercising apparatus of the class described including a pair of foot supporting platforms mounted for guided parallel 110 reciprocatory movement in the same inclined plane and means connecting said platforms for relative movement in opposite directions, said platforms being independently adjustable to present horizontal or inclined supporting surfaces at the same or various inclinations relative to the path of movement. 115

4. An exercising apparatus of the class described including a pair of foot supporting platforms mounted for guided parallel 120 reciprocatory movement in the same inclined plane and means connecting said platforms for relative movement in opposite directions, said platforms being adjustable to present horizontal or inclined supporting surfaces 125 at the same or various inclinations relative to the path of movement or at an opposite inclination thereto.

5. An exercising apparatus of the class described including a pair of foot supporting platforms mounted for guided parallel 130

reciprocatory movement in the same inclined plane, means connecting said platforms for relative movement in opposite directions and means for varying the inclination of the plane of movement of said platforms, said platforms being adjustable to present horizontal or inclined supporting surfaces.

6. An exercising apparatus of the class described including a pair of foot supporting platforms mounted for guided parallel reciprocatory movement in the same inclined plane, means connecting said platforms for relative movement in opposite directions, and means for varying the inclination of the plane of movement of said platforms, said platforms being adjustable to present horizontal or inclined supporting surfaces at the same or various inclinations relative to the path of movement.

7. An exercising apparatus of the class described including a pair of foot supporting platforms mounted for guided parallel reciprocatory movement in the same inclined plane, means connecting said platforms for relative movement in opposite directions and means for varying the inclination of the plane of movement of said platforms, said platforms being adjustable to present horizontal or inclined supporting surfaces at the same or various inclinations relative to the path of movement or at an opposite inclination thereto.

8. In an exercising apparatus of the class described, a base presenting an upper supporting surface, a pair of carriages mounted for guided parallel reciprocatory movement on the upper supporting surface thereof, said carriages including foot supporting platforms swingably connected at one end to one end of the carriage and means for supporting the platforms respectively in a position parallel to or inclined with respect to the plane of the carriage.

9. In an exercising apparatus of the class described, a base presenting an upper supporting surface, a pair of carriages mounted for guided parallel reciprocatory movement on the upper supporting surface thereof, said carriages including foot supporting platforms swingably connected at one end to one end of the carriage, means for supporting the platforms respectively in a position parallel to or inclined with respect to the plane of the carriage and means connecting said carriages to permit of and cause the same to move relatively in opposite directions.

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