Sept. 16, 1941. R. L. TITUS 2,256,001

EXERCISER

Filed March 18, 1940

Fig. 1.

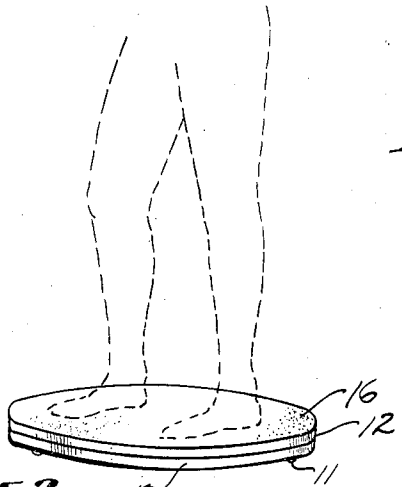


Fig. 2.

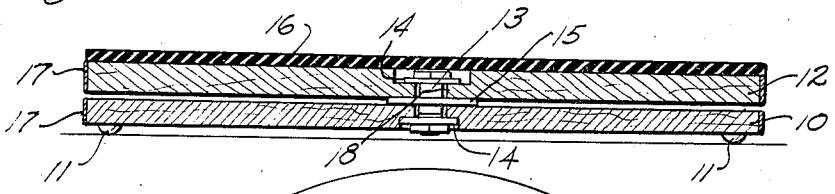
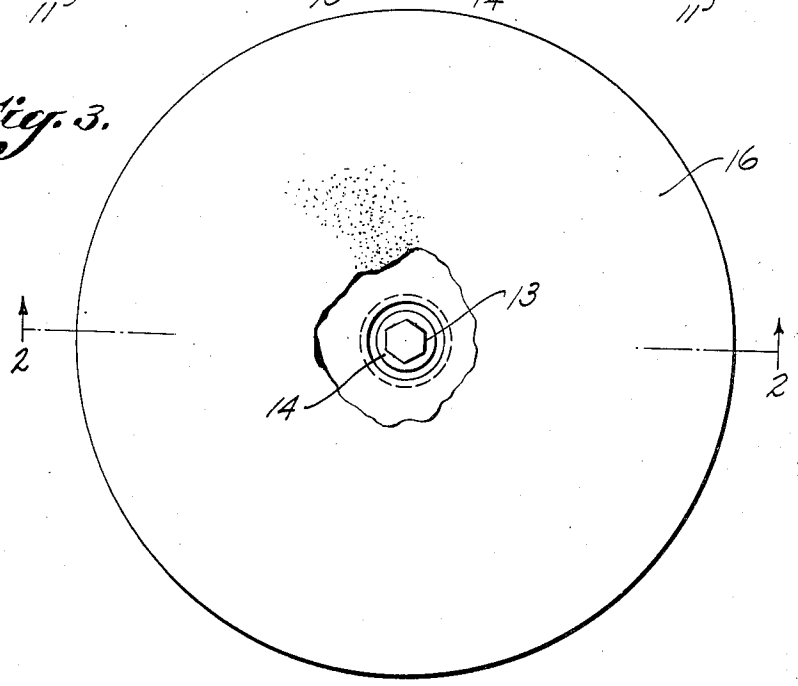


Fig. 3.



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Patented Sept. 16, 1941

2,256,001

UNITED STATES PATENT OFFICE

2,256,001

EXERCISER

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Application March 18, 1940, Serial No. 324,477

3 Claims. (Cl. 272—57)

My invention relates generally to exercisers, and more particularly to portable exercisers that are designed to exercise the legs and trunk of the person using them.

Many portable exercisers have been known and used in the past, but these have usually required the use of weights or resilient members, such as springs or elastic cords, and in addition have usually been directed to developing the arms and chest of the user without regard for the rest of the torso and the legs. Many of these have required mounting on a wall, while nearly all of them have required a considerable space in which to use them properly. Another objection to such devices is that it is comparatively easy for a person unaccustomed to them to overexert and thus injure instead of improving himself.

It is, therefore, a major object of my invention to provide an exerciser which will furnish exercise for the major portion of the body in an extremely simple and efficient manner.

It is another object of my invention to provide such an exerciser which may safely be used even by young children or elderly people without danger of injuring themselves.

It is also an object of my invention to provide such an exerciser which is simple in construction and equally simple to use.

It is further object of my invention to provide an exerciser which requires a minimum of space to store and to use.

These and other objects of my invention will become apparent from the following description of a preferred form thereof, and from the drawing illustrating that form, in which:

Fig. 1 is a utility view of my improved exerciser,

Fig. 2 is a sectional view taken through the center of my exerciser, and

Fig. 3 is a plan view thereof.

Referring now to the drawing, and particularly to Fig. 2 thereof, the numeral 10 indicates a flat plate of ply-wood or other suitable material of a sufficient diameter so that a person may place both feet on it. Attached to the lower surface of the plate 10, I provide rubber feet 11 which serve the double purpose of preventing the plate from slipping on the floor or support, and also raising it a slight distance above the support to prevent irregularities thereof from interfering with the proper support of the plate. A plate 12 similar to plate 10 is placed on top of the latter plate and the two are loosely held together by suitable means such as a centrally-disposed bolt or rivet 13 passing through a hole 18. Washers 14 may of course be provided, but since the two plates 10 and 12 are not held tightly together, the function of the washers will be to reduce frictional wear rather than to distribute stress. However, if desired, means may be provided for forcing one plate against the other with varying degrees of pressure, and in this case washers 14 will be desirable.

I prefer to provide a washer 15 between the plates 10 and 12, and to form the hole 18 of a sufficient size so that plate 12 will tilt sufficiently to allow the edges of the plates to bear against each other while the center portions will not, though the device will operate quite satisfactorily if the washer 15 is omitted. To improve the appearance of the exerciser, and to provide a better grip for the feet, I prefer to place a covering 16, such as sponge rubber or other suitable material, on the upper surface of the plate 12, while metal bands 17 around the edges of the plates give the device a more finished appearance.

To use the exerciser, a person steps upon the upper plate 12 and places his feet in an approximately diametrically opposed position, as shown in Fig. 1. By then moving his legs, or his legs and his torso so as to rotate the plate 12, he secures a surprisingly large amount of exercise. With the choice of a suitable material for the plates 10 and 12, the coefficient of friction between their bearing surfaces is such as to require a fair amount of energy to be expended in order to rotate the upper plate in addition to the energy expended in overcoming the inertia of the body, and it is this expenditure of energy which provides the exercise. With a little practice, it is possible to exercise the various portions of the body, and thus by keeping the torso stationary and moving the legs, the legs are exercised; whereas, if the hips are held rigid and the torso is swung, the abdominal muscles are given exercise. Likewise, by extending the arms out sidewardly and by swinging them back and forth while holding the torso and legs rigid, the torso is exercised along with some of the muscles in the upper arm.

It will be seen that it is possible to control very accurately the amount of exercise one secures from this device, and hence it is ideally suited for elderly people as well as for convalescents who need exercise, but must be careful not to overexert. By using this device, it is possible for them to secure a mild form of exercise and the amount is always under their control, so that as their strength increases, the amount may be proportionately increased so as to secure the maximum benefit from the exercise.

Because of the small size of the device, it may conveniently be kept in the bathroom, where it occupies approximately the same space as the customary bathroom scales. The size of the device and the simplicity of its use make it well-suited for use by every member of the family, and it has been found that the systematic use of this exerciser aids in reducing the weight of overweight people. Again, the small size of the apparatus makes it adaptable for use in trains, airplanes, etc. where it is particularly beneficial in removing the fatigue and cramps produced by sitting in one position for an extended period of time.

It will be apparent that the size of the plates may be varied to meet varying conditions, and similarly the top plate may be of different material from that of the bottom plate, and the plates may be provided with bearing surfaces of different material from those of which the body of the plate is made. While I have shown and described a preferred form of my invention, I do not wish to be limited to the particular form or arrangement of parts herein described and shown, or particularly covered by my claims.

I claim as my invention:

1. An exerciser which includes: a lower plate; an upper rotatable plate mounted thereon, said plates being of sufficient size to accommodate a person's feet; and means centrally disposed in said plates holding them loosely in spaced relation at their centers but permitting said upper plate to tilt and thereby frictionally engage the outer portion of said lower plate throughout a considerable portion of its surface, whereby when a person stands on said upper plate the frictional drag between said plates will be sufficient to impede free rotation of said upper plate.

2. An exerciser which includes: a lower plate; an upper rotatable plate mounted thereon, said plates being of sufficient size to accommodate a person's feet; a bolt centrally disposed in said plates and holding them loosely together; and a washer on said bolt between said plates, said bolt and washer fitting loosely enough in said plates to permit the outer portions thereof to be frictionally engaged, whereby when a person stands on said upper plate the frictional drag between said plates will be sufficient to impede free rotation of said upper plate.

3. An exerciser which includes: a lower plate having a centrally located hole therein; an upper rotatable plate mounted thereon, and also provided with a centrally located hole, said plates being of sufficient size to accommodate a person's feet; a bolt loosely fitting in said holes and holding said plates together; and a washer on said bolt and between said plates to maintain them in spaced relation at their centers but permitting them to frictionally engage towards their perimeters, whereby when a person stands on said upper plate the frictional drag between said plates will be sufficient to impede free rotation of said upper plate.

ROBERT L. TITUS.