This invention relates to exercise apparatus and, more particularly, to a device requiring muscle coordination and strength for fulfillment of the exercise procedure.

An important object of the present invention is to provide a completely self-contained coin controlled exercise apparatus in which fulfillment of the exercise procedure automatically locks the apparatus against continued use until another coin is deposited to release the same for use.

Another object of the present invention is to provide a coin controlled exercise device of the type described which can be manually adjusted to increase or reduce the amount of strength required to achieve fulfillment of the exercise procedure.

All of the foregoing and still further objects and advantages of this invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings, wherein:

FIGURE 1 is a perspective view of an exercise apparatus made in accordance with the present invention in a locked initial position;

FIGURE 2 is an enlarged fragmentary cross sectional view of certain parts of the present invention, illustrating the parts in a released position ready for manual manipulation;

FIGURE 3 is a fragmentary side elevation view of certain parts of the apparatus shown in FIGURE 1, showing the construction of the setting indicator mechanism;

FIGURE 4 is an enlarged fragmentary cross sectional view taken along line 4-4 of FIGURE 1; and

FIGURE 5 is an enlarged fragmentary cross sectional view showing the coin controlled release mechanism of the present invention.

Referring now to the drawing, exercise apparatus 10 made in accordance with the present invention is shown to include a base plate 12 having a platform 14 and an upwardly extending stanchion 16. A housing 18 is secured upon the lower end of the stanchion 16.

An anchor post 20, bifurcated at one upper end, is secured at its lower end of the housing 18. A cross shaft 22 is received through an elongated eye 24 in the upper terminal 26 of a depending shaft 28. This shaft 28, intermediate the upper and lower ends thereof, is provided with a radially outwardly extending indicator lug 29 which is slidably received within a vertical slot 30 in the enclosure 44, thus preventing rotation of the carrier 56. It will be recognized that by rotating the sleeve 46, the bolt 52 which rotates therewith effects a vertical adjustment of the spring carrier 56 to vary the initial loading upon the compression spring 58, thus providing means for adjusting the resistance of the plate 36 to movement into the annular opening 42 of the enclosure.

The periphery of the disc 36 is provided with a radially outwardly opening indent 66 for releasably receiving a detent 68 of a latch bar 70 which is mounted by means of a pair of pins 80 upon the vertical flange 74 of an L-shaped mounting plate having an upper flange 76 secured to the upper wall 78 of the housing 18. The latch bar 70 is provided with a pair of longitudinally spaced apart elongated slots 72 which receive the mounting pins 80, thus supporting the latch bar 70 for reciprocating movement to effect engagement of the detent 68 with the indent 66 of the disc 36, as well as the release thereof.

The upper wall 78 is provided with a coin slot 82 directly above a cutout 84 in the latch bar 70 which is normally urged toward an engaged position with the disc 36 by means of a tension spring 86.

A control bar 88, slidably mounted between a pair of guide bars 90 upon the mounting plate flange 74, is normally urged by means of a compression coil spring 92 acting at one end against a stop 93, into locking engagement within a recess 94 in a cam 96 that is rotatably carried by the housing 18 upon an actuating shaft 98. A handle 100 is secured to the outer end of the shaft 98 for manual actuation. The control bar 88 is provided with an upstanding guide plate 102 having an inclined surface 104 for engagement by a coin 106. Beneath the inclined surface 104, the guide bar 102 is provided with an arcuate surface 108 which is substantially diametrically opposite a similar arcuate surface 110 formed by a cutout in the cam 96. The distance between the arcuate surfaces 108, 110 of the guide 102 and cam 96 is slightly less than the diameter of the coin 106 to be used to release the mechanism. Thus, as the coin 106 is depressed into the coin slot 82, the periphery thereof acts against the inclined surface 104 of the guide 102 and thus displaces the guide 102 and the control bar 88 out of locking engagement with the cam 96 to permit rotation thereof by the handle 100. The undersurface of the top plate 78 of the housing 18 is provided with an undercut 109 to allow longitudinal displacement of the guide 102.

Thus, with the coin 106 supported between the arcuate surfaces 108, 110, the cam 96 is free to rotate in a counterclockwise direction, as viewed in FIGURE 5, to bring the eccentric cam surface 112 thereof into engagement with a sloping surface 114 formed in the cutout 84 of the latch bar 70.

As the surface 112 engages the surface 114 of the latch bar 70, the latch bar 70 is moved in the direction of the arrow in FIGURE 5, to withdraw the detent 68 from engagement within the indent 66 of the disc 36, to allow the spring 58 to unseat the disc 36 from the enclosure. As the cam stop 116 approaches the latch bar 70, the coin 106 is released for reception within the housing 18, whereby return movement of the handle 100 to the initial position will allow insertion of another coin.

As soon as the latch bar 70 has been moved by the cam to release the disc 36, and the disc 36 has been returned to its initial position, the spring 86 will return the latch bar 70 to a locked position. Thus, after the disc 36 has been manually returned to a seated position within the enclosure 44, the inclined surface of the latch bar 70 will automatically engage the detent 68 within the indent 66, to retain the disc in its initial locked position.
It will thus be observed that the object of the apparatus is for the operator to manually cause the disc 36 to be locked within the recess 42 by manual manipulation of the hand grips 32. The amount of strength required to achieve this result, may be adjusted by rotation of the sleeve 46 in the manner hereinbefore described. The sleeve 46 may be calibrated, as shown in FIGURE 1, for visual indication of the adjustment made, as can the slot 64 be calibrated to indicate the position of the indicator 62 for similar purposes.

It will also be appreciated that the coin responsive means may be varied to accommodate different size coins, or may include a coin changer, of the type well known to those skilled in the art.

While this invention has been described with particular reference to the construction shown in the drawing, it is to be understood that such is not to be construed as imparting limitations upon the invention, which is best defined by the claims appended hereto.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. Exercise apparatus comprising, in combination, a base having an upright stanchion, a housing carried by said stanchion, an anchor post carried by and overlying said housing, a shaft longitudinally displaceable and pivotally supported at one end upon said anchor post, a disc mounted upon the opposite end of said shaft, a cross bar having hand grips at each end secured horizontally to a mid portion of said shaft, said housing having a circular recess for receiving said disc, adjustable spring means carried by said housing acting against said disc yieldably resisting movement of said disc into said recess, latch means releasably securing said disc within said recess, and release means for releasing said latch means to unseat said disc from said recess for manual return thereto.

2. Exercise apparatus as set forth in claim 1, wherein said housing comprises an upright cylindrical enclosure, said enclosure at one upper end defining said recess, a sleeve rotatably supported upon the opposite end of said enclosure, a bolt secured to said sleeve in axial alignment with said recess, said spring means comprising a spring cap threadedly mounted upon said bolt, means acting between said spring carrier and said enclosure for resisting rotation of said carrier relative to said enclosure, and said spring means comprises a compression coil spring carried at one end upon said carrier acting at its opposite end against said disc.

3. Exercise apparatus as set forth in claim 2, wherein said enclosure defines a longitudinal slot intermediate its opposite end, and said means acting between said spring carrier and said housing comprises an indicator integral with said spring carrier slidably received within said slot, whereby rotation of said sleeve relative to said enclosure effects longitudinal adjustment of said spring carrier relative to said disc to effect adjustment of the loading of said spring upon said disc.

4. Exercise apparatus as set forth in claim 3, wherein said release means releasing said latch means comprises a coin controlled mechanism.

No references cited.

RICHARD C. PINKHAM, Primary Examiner.
W. R. BROWNE, Assistant Examiner.