ABDOMINAL EXERCISE MACHINE

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ABSTRACT
An abdominal exercise machine for exercising the abdominal muscles while the user is in a reclined position, which includes a stationary back pad having an upper surface and a lower surface, with a pair of handle bars attached to one end of the back pad. The upper surface of the back pad is for receiving the back of the person exercising. A seat pad is provided having an upper surface and a lower surface, with the lower surface having rollers attached thereto for allowing the seat pad to roll relative to the back pad. The upper surface of the seat pad is for receiving the seat of the person exercising. A pivot assembly is provided having a first support member attached to the bottom surface of the back pad, a second support member attached to the bottom surface of the seat pad, and a connecting pivot member pivotally connected to the first support member and fixedly connected to the second support member, wherein said connecting pivot member is pivotally connected to pivot relative to said back pad. In this manner, movement of the seat pad relative to the back pad by the person exercising allows the person to pivot and provides up to 180° of exercise movement to strengthen the abdomen and the abdominal muscles.
ABDOMINAL EXERCISE MACHINE

FIELD OF THE INVENTION

[0001] The present invention is directed to a novel and simple structure for an abdominal exercise machine that is inexpensive, is easy to use, and provides improved results.

BACKGROUND OF THE INVENTION

[0002] Although the prior art discloses numerous exercise devices for exercising the abdomen, they are not as effective as the present invention, and are not as simple.

[0003] For example, U.S. Pat. No. 6,440,045 entitled "Abdominal Exercise Apparatus and Method" discloses an abdominal exercise apparatus which is pivotally adjustable. The apparatus is configured to rest on a floor and support a user's hands and knees during operation and includes a guide member having at least one elongate rail, a movable support member mounted to the elongate rail for sliding movement thereon and a stationary base with the guide member being pivotally mounted to the stationary base for angular adjustment of the guide member relative to the stationary base about an axis substantially perpendicular to the floor. The guide member can be pivoted to the stationary base to position the guide member angularly from the stationary base for conditioning abdominal oblique muscles. Furthermore, the guide member can be pivoted approximately 180° to facilitate storage and transport of the apparatus. In one embodiment, control over the sliding resistance between the movable support member and the elongate rail of the guide member is provided. Also disclosed is a method for exercising and conditioning the abdominal muscles of a human.

[0004] As shown in FIGS. 6 and 7, the removable hinge allows either the guide member or the stationary base to be rotated relative to the other about an axis. The axis is substantially perpendicular to the planar surface upon which the stationary base rests during use. As shown in FIG. 6, the guide member is rotated about the axis which passes through the removable hinge for a user of the exercise apparatus to condition the abdominal muscles located towards the side of the abdomen. As shown in FIG. 7, the guide member can be rotated approximately 180° about the axis until the guide member is located above the stationary base to produce a compact exercise apparatus that is easily stored or transported.

[0005] U.S. Pat. No. 7,232,405 entitled "Twister and Sit-Up Combination Exerciser" discloses a twister and sit-up combination exerciser including a base, two V-shaped levers each having a front end with a grip and a rear end, a supporting frame adjustable attached to the rear ends of the levers, and at least one twister rotatably mounted on the base. The two V-shaped levers are pivotally attached to the base to provide a sit-up auxiliary structure. By combining the twister with the sit-up auxiliary structure, the exerciser has at least two functions. Moreover, the base further has a base twister rotatably attached under the base to make the exerciser have more versatility in use. FIG. 9 shows another embodiment of this invention, wherein the user sits on the top rotating disk, reclines on the supporting frame, holds the resilient sleeving body, and retracts the feet to put on the ground. Because the base is rotatable on the bottom rotating disk, the user is enabled to twist the waist and the upper body by driving the base to rotate so that the exerciser can selectively train the waist and the back in this operation.

[0006] U.S. Pat. No. 5,545,114 entitled "Abdominal Exercise Device" discloses an exercise device for exercising all of the major muscles comprising the upper and lower abdomen and back, while avoiding undue stress on the lumbar and cervical spinal discs and the muscles comprising the lower back and hip flexors. The device provides rigid upper and lower back supports which are pivotally joined at a point which restricts flexure of the spine to the T10-L1 region. Resistance means attach to the pivotal portions of the device to allow adjustable resistance to exercise motions.

[0007] None of these prior patents disclose the structure, operation, and advantages of the present invention.

OBJECTS OF THE PRESENT INVENTION

[0008] It is an object of the present invention to provide a device which is simple to use and is inexpensive, and substantially improves the results of exercising the abdominal muscles.

[0009] It is another object of the present invention to provide a device wherein the back pad is pivotally attached to the seat pad by a pivoting arm or a swing arm in order to provide a wide degree (180°) of movement to provide improved results.

SUMMARY OF THE INVENTION

[0010] The invention is for an abdominal exercise machine for exercising the abdominal muscles while the user is in a reclined position. Specifically, the abdominal exercise machine features a stationary back pad with handle bars. The back pad is pivotally attached to a seat pad by means of a swing arm which permits the seat pad to pivot 180° about the back pad. The bottom of the seat pad has rollers which facilitate the seat pad's pivot movement about the stationary back pad.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Further objects, features and advantages of the present invention will become apparent upon the consideration of the following detailed description of the presently-preferred embodiment when taken in conjunction with the accompanying drawings, wherein:

[0012] FIG. 1 is a perspective view of the abdominal exercise machine of the present invention;

[0013] FIG. 2 is a bottom plan view of the abdominal exercise machine of the present invention;

[0014] FIG. 3 is an exploded perspective view of the abdominal exercise machine of the present invention;

[0015] FIG. 4 is a top plan view of the abdominal exercise machine of the present invention; and

[0016] FIG. 5 is an elevation view of the abdominal exercise machine of the present invention showing a person in dotted lines in a reclined position performing abdominal exercises.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] The abdominal exercise machine 10 of the present invention includes a stationary back pad 12, having an upper surface 12a and a lower surface 12b. A pair of handle bars 14 and 16 are attached by screws 18 to the bottom surfaces 12b of the back pad 12. Also, 4 stationary support legs 20, 22, 24, and 26 are connected to the bottom surface 12b. A head rest 28 is also attached to the upper surface 12a.
The machine 10 also includes a seat pad 30 that has an upper surface 30a, and a curved surface 32 which matches or mates with the curved surface 12c of the back pad 12. The bottom surface 30b has 4 rollers 34, 36, 38, and 40 attached to it for allowing the seat pad 30 to move and pivot relative to back pad 12.

A pivot assembly 50 is also provided which includes a first support member 52 attached to the bottom surface 12b of back pad 12, a second support member 54 attached to the bottom surface 30b of seat pad 30, and a connecting pivot member 56 which is pivotally connected to support member 52, and which is fixedly connected to support member 54. Connecting pivot member 56 is connected to circular member 58 which pivots relative to support member 52 and relative to bottom surface 12b about pivot member or pivot screw 60.

OPERATION

As shown in FIGS. 4 and 5, the person exercising lies down on back pad 12 and seat pad 30 with the legs in an upper position, and the person uses his or her abdominal muscles to pivot seat pad 30 relative to back pad 12, while the person holds on to the right and left handle bars 14 and 16, with his or her right and left hands. As shown in FIG. 4, the arc of movement is at least 90° between points A and B, about center axis C, and about pivot point D. The user can actually pivot up to 90° in either direction about axis C, allowing a total range of exercise movement up to 180°, which maximizes the exercising of the abdominal muscles.

A latitude of modification, change, and substitution is intended in the foregoing disclosure, and in some instances, some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

1) An abdominal exercise machine for exercising the abdominal muscles while the user is in a reclined position, comprising:

   a) a stationary back pad having an upper surface and a lower surface, with a pair of handle bars attached to one end of the back pad; the upper surface of said back pad for receiving the back of the person exercising;
   b) a seat pad having an upper surface and a lower surface, with the lower surface having rollers attached thereto for allowing the seat pad to roll relative to the back pad; the upper surface of said seat pad for receiving the seat of the person exercising;
   c) one end of said back pad and one end of said seat pad each having curved mating surfaces;
   d) a pivot assembly having a first support member attached to the bottom surface of the back pad, a second support member attached to the bottom surface of the seat pad, and a connecting pivot member pivotally connected to the first support member and fixedly connected to the second support member, wherein said connecting pivot member is pivotally connected to pivot relative to said back pad;
   e) movement of said seat pad relative to said back pad by the person exercising allows the person to pivot and provides up to 180° of exercise movement to strengthen the abdomen and the abdominal muscles.

2) An abdominal exercise machine in accordance with claim 1, wherein said back pad has 4 stationary foot supports on the bottom surface of said back pad.

3) An abdominal exercise machine in accordance with claim 1, wherein said seat pad has 4 rollers on the bottom surface of said seat pad.

4) An abdominal exercise machine in accordance with claim 1, wherein said pivot assembly includes a pivot screw or bolt extending through said connecting pivot member about which said seat pad pivots.

5) An abdominal exercise machine in accordance with claim 1, wherein said curved mating surfaces are in the shape of a concave curved surface and a convex curved surface for allowing said seat pad to pivot up to 180° relative to said back pad.

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