Most Muscular Replicator/Multiflexer

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Abstract

One embodiment of an exercise device for the chest wherein to a base two large rotating sheaves are placed in a horizontal plane, turned by poles in the vertical plane to which rotating handles are attached. A cord attached to a pulley wraps around each sheave as the poles are rotated from a position of from behind the back to in front of the chest of the exerciser (or vice versa). The sheaves are placed in horizontal planes above or below the exerciser. Thus two functions of the chest, transverse adduction and medial rotation of the arms are multiplexed into one movement.
FIG. 4

FIG. 11

Prior Art
MOST MUSCULAR REPLICATOR/MULTIFLEXER

[0001] This application claims the benefit of provisional patent application Ser. No. U.S. 60/826,617, filed 2006 Sep. 22 by the present inventor.

FEDERALLY SPONSORED RESEARCH

[0002] Not applicable

SEQUENCE LISTING OR PROGRAM

[0003] Not applicable.

BACKGROUND

[0004] 1. Field Of Invention

[0005] This invention relates to exercise machines, specifically to pectoral muscle developers.

[0006] 2. Prior Art

[0007] Although the pectorals represent the third largest muscle group in the body behind the legs and back, it is one of the hardest to reach when exercising. The following exercises represent the current state of the art in developing the chest: the bench press and pushups, the cable crossover machine, cable and dumbbell flyes, dips and the pec deck. Each is deficient in some regard.

[0008] In the bench press, the pectoral muscles are called upon only in the very beginning of the movement, as the humerus is drawn forward. The shoulder muscles and triceps soon take over and the pectorals are no longer involved. Many people frustrated with their lack of progress in developing the chest resort to using too much weight in the bench press and as a result hurt their shoulders. All the limitations of the bench press apply to pushups and dips as well.

[0009] The cable crossover machine provides resistance over the full course of the exercise movement but is effective only in the vertical plane. There is no resistance in response to any horizontal movement, thereby excluding many chest muscle fibers.

[0010] In cable and dumbbell flyes sideways resistance and pectoral involvement diminish as the arms move upward and the direction of the opposing force points downward (although this effect is lessened when a cable is used).

[0011] The pec deck provides resistance throughout as the arms are adducted transversely, yet does not account for the full range of pectoral involvement in moving the arms.

[0012] The “Gyrotonic” exerciser was designed to work the arms, and cannot be modified to work the chest in the manner of the “Most Muscular Replicator/Multiflexer.” The reasons why are discussed in the “Description of Invention” section under “Advantages.”

SUMMARY

[0013] The arsenal of chest building equipment today is incomplete, comparable to the dilemma that faced Arnold Schwarzenegger when it came to building arms. He realized that all of his biceps muscle fibers were not being called upon in performing the barbell curl because the biceps not only flex the elbow but supinate the forearm. His innovation was to supinate the forearm as he curled with a dumbbell, with stupendous results. Likewise, the pectoral muscles not only adduct the arms transversely, but also rotate the arms medially. The fusion of these two functions into one movement is accomplished uniquely by this embodiment of the “Most Muscular Replicator/Multiflexer.”
This represents medial rotation of the arms and is the pose that many bodybuilders instinctively strike along with the "Most Muscular" (transverse adduction) when showcasing the chest.
In accordance with one embodiment of my invention, two grooved wheels of sufficient circumference to take up an effective length of slack are placed in a horizontal plane, turned by variable-height poles to which rotating handles are attached. The position of the handles are horizontally adjustable. A cord attached to a pulley wraps around each wheel as the poles are moved from a position from behind the back to in front of the exerciser. The pulleys raise a sled holding weights along a vertical track. In one embodiment, a platform with two slots to accommodate the movement of the poles is fitted over the wheels to support the exerciser. The planetary motion thus formed in negative and positive opposition to the resistance of the weights isolates the chest and seamlessly engages it in medial rotation and transverse adduction. Note too that by simply turning around the exerciser can reverse the direction of the resistance.

**DRAWINGS**

**Figures**

The following is a brief description of the drawings:

FIG. 1 shows an exploded view of one embodiment of the invention with a raised platform. This figure gives a comprehensive overview of the first embodiment.

FIG. 2 shows a close-up view of the first embodiment without the platform.

FIG. 3 shows an isolated pole assembly

FIG. 4 is a sectional view of a wheel that is attached to one of the poles

FIG. 5 is an exploded view of a frame of the first embodiment.

FIG. 6 is an exploded view of a rotating handle that sits atop the pole assembly

FIG. 7 is a view of another embodiment of the invention with the wheels overhead.

FIG. 8 is an exploded view of the frame of the other embodiment.

FIG. 9 is an exploded view of the wheel of the other embodiment.

FIG. 10 is a view of pulley.

FIG. 10-b is an exploded view of rotating handle B

FIG. 11 is a top view of a prior art invention, the “Gyrotonic.”

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**DRAWINGS—Reference Numerals.**

**First Embodiment**

| 20 | platform |
| 22 | back brace stanchion |
| 23 | cushioned support |
| 24 | rotating handle |
| 24-a | beveled gear |
| 24-b | handle frame base with non rotating gear post |
| 24-c | handle cover |
| 26 | sleeve for adjusting handle height |
| 28 | pole |
| 30 | wheel |
| 31 | support beam for wheel |
| 33 | pulley wheel |
| 34 | weight sled |
| 36 | welded pulley frame |
| 38 | rear frame bar |
| 40 | side frame bar |
| 42 | front frame bar |
| 43 | anterior frame bar |
| 44 | back brace support beam |
| 45 | posterior frame bar |
| 46 | lateral frame bar |
| 48 | unitized top frame piece |
| 50 | overhead wheels |
| 52 | overhead pole |
| 54 | rotating handle B |
| 54-a | rotating handle B base with stationary post. |
| 54-b | handle housing |
| 56 | longitudinal frame bar |

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**DETAILED DESCRIPTION OF FIRST EMBODIMENT**

**Physical Structure**

Referring to FIG. 1, the first embodiment has a platform 20 on which an exerciser stands. I contemplate that the platform in this embodiment is made of aluminum, but other materials are also suitable. The platform has slots through which two pole assemblies 26, 28 equipped with rotating handles 24 arise. Integrated into the handles of this embodiment are ball bearings and beveled gears FIG. 6 that enable it to rotate. (Although in other embodiments ball bearings alone are contemplated). Returning to FIG. 1, the sleeve 26 of pole 28 can telescope vertically and the rotating handle 24 attaches to the sleeve at variable horizontal lengths. The top of the platform FIG. 1 is fitted with four holes through which bolts secure a back brace 22 and 23 to face either forwards or backwards. The back brace is comprised of a stanchion 22 and a cushioned support 23. The stanchion 22 has holes along its lateral sides to secure the cushioned support 23 at variable heights. The cushioned support 23 has holes on its lateral extensions to attach it to the stanchion 22 at variable depths. The platform 20 is fitted to rest on frame bars 40 and 42 like a box top, with two holes on each side and front flap through which bolts attach it to bars 40 and 42 of the frame. Note that in this embodiment, the horizontal bars that comprise the frame 31, 38 and 42 and contemplated to be made of steel have welded flanges through which bolts connect them to lateral bars 40.

The poles 26 are fitted into grooved wheels 30 and secured with a bolt (best shown in FIG. 4). Referring to FIGS. 1 and 2, the wheels are upheld by support beam 31. Eyelets welded to the wheels FIG. 4 anchor the cords on one end and a welded nut connects them to a unitized weight sled 34 at the other. FIGS. 1 and 2 show that this is mediated by two sets of pulleys 33, one of which rests on rear frame bar 38 and the other perched on welded pulley frame 36. The welded pulley frame 36 fits over the rear frame bar 38 in a sleeve construction that in this case locks it in place FIG. 5 with the help of four bolts.
Operation—FIG. 1

[0030] An exerciser stands on platform 20 between two slots and against a back brace 22,23 which may be aligned towards either the front or back of the machine to reverse the direction of positive and negative resistance. The cushioned support is adjusted in both horizontal and vertical planes as desired. A belt may be easily loops over the cushioned support for additional optional restraint. The arms are medially rotated as far behind the back as is comfortable and the rotating handles 24 are grasped (one at a time if necessary). The rotating handles 24 keep the hands and arms from being twisted (while at the same time allowing for supination and pronation of the arm if desired) and transfer force to the pole assembly 26,28. By adjusting the horizontal distance of the handle 24 to the pole 26,28, the leverage may be changed. The poles 28 turn the grooved wheels 30 around which a cord connected by a pulley 33 to a weight sled 34 is wound. The sled 34 elevates along a track comprised by welded pulley frame 36. As the handles are brought together by positive resistance, they are slowly returned to the starting position employing negative resistance.

ADVANTAGES

[0031] Through this embodiment two major functions of the pectoral muscle, transverse adduction and medial rotation, are seamlessly combined into one movement. A unique full circle of sustained resistance is brought to bear on the pectorals.

[0032] FIG. 11 is a prior art figure of the “Gyrotonic” exerciser which uses radial motion applied to rotors to work the arms. The “Gyrotonic” exerciser was designed to work the arms, and cannot be modified to exercise the chest in the manner that the “Most Muscular Replicator/Multiflexer” does. The reason for this is that when the arm system of the “Gyrotonic” is placed in the horizontal plane needed to facilitate both medial rotation and transverse adduction FIG. 11, the radial extension 44 (Gyrotonic part number) displaces the exerciser in the circle described by the path of the handle. In the “Most Muscular Replicator/Multiflexer,” the radial element (the grooved wheel or sheave) is in a different plane from the exerciser where it causes no obstruction. Thus with the “Most Muscular Replicator/Multiflexer,” the path of motion conforms to the “wheelhouse” of the exerciser, while with the “Gyrotonic” the arm would be compelled along an impossible track, imperiling the rotator cuff. Also with the “Gyrotonic,” the intercession of the exerciser’s body prevents communication of the handles at either the top or the bottom of the movement.
Top View

Most Muscular Replicator/Multiplexer  Gyrotonic Path
DETAILED DESCRIPTION OF SECOND EMBODIMENT

Physical Structure

[0033] Referring to FIG. 7, the second embodiment is equipped with a back brace 22, 23 that is attached to either anterior frame bar 43 or back brace support beam 44, depending on the direction of negative or positive resistance that is desired. Anterior frame bar 43, back brace support beam 44 and posterior frame bar 45 are attached with bolts through welded flanges to lateral frame bars 46. Longitudinal frame bars 56 fit over the sleeves of anterior frame bar 43 and posterior frame bar 45 and are locked in place with two bolts each. The four longitudinal bars 56 in turn form sleeves that the unitized top frame piece 48 fits into and is locked into place with two bolts on each corner. Two long heavy duty bolts pass through the notched shafts of the overhead pole 52 and the overhead wheels 50 and secure both to the crossbeam of the unitized top frame piece 48. Two cords anchored by eyelets wrap around the overhead wheels 50 as they rotate and elevate a weight sled 34 along the track provided by the two rear longitudinal frame bars 56. This is mediated by two pulleys 33 that perch on the unitized top frame piece 48. Two rotating handles B 54 turn the overhead poles 52.

Operation—FIG. 7

[0034] An exerciser adjusts the desired height and depth of the cushioned support 23 to the back brace stanchion 22. From behind his back, the exerciser grasps the rotating handles B 54 that have been adjusted in the proper horizontal and vertical planes to the overhead poles 52, one at a time if necessary. The revolving handles 54 turn the poles 52 that rotate the overhead wheels 50 around which cords attached through pulleys to a weight sled 34 wind.

CONCLUSION, RAMIFICATION AND SCOPE

[0035] Thus the reader will see that in at least two embodiments of the “Most Muscular Replicator/Multiflexer” chest exerciser that the chest is isolated and worked to a highly efficient degree.

[0036] While my above description contains many specificities, these should not be construed as limitations on the scope of the invention, but rather as an exemplification of two preferred embodiments thereof. Many other variations are possible. For example in the second embodiment FIGS. 7 and 8 the overhead pole 52 and the crossbeam of the unitized top frame piece 48 may be designed with auxiliary parallel holes through which a safety chain may be drawn. Or the flame may be designed in both the first and second embodiments to support the grooved wheels 30, 50 in bunk bed fashion with corresponding horizontal and vertical elongations of the poles 28, 52.

[0037] Accordingly, the scope of the invention should be determined not by the embodiments illustrated, but by the appended claims and their legal equivalents.

I claim:

1. A method for exercising the muscles of the chest, comprising the steps of:

   a. grasping two communicating man-machine interfaces connected to a source of resistance and drawing them apart and bringing them together in one motion of bodily circumnavigation in the transverse plane, whereby transverse adduction and medial rotation are achieved in one movement

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