



US 20110275499A1

(19) **United States**

(12) **Patent Application Publication**
Eschenbach

(10) **Pub. No.: US 2011/0275499 A1**

(43) **Pub. Date: Nov. 10, 2011**

(54) **PUSH-UP AND DIP ASSIST EXERCISE APPARATUS**

(52) **U.S. Cl. 482/141**

(57) **ABSTRACT**

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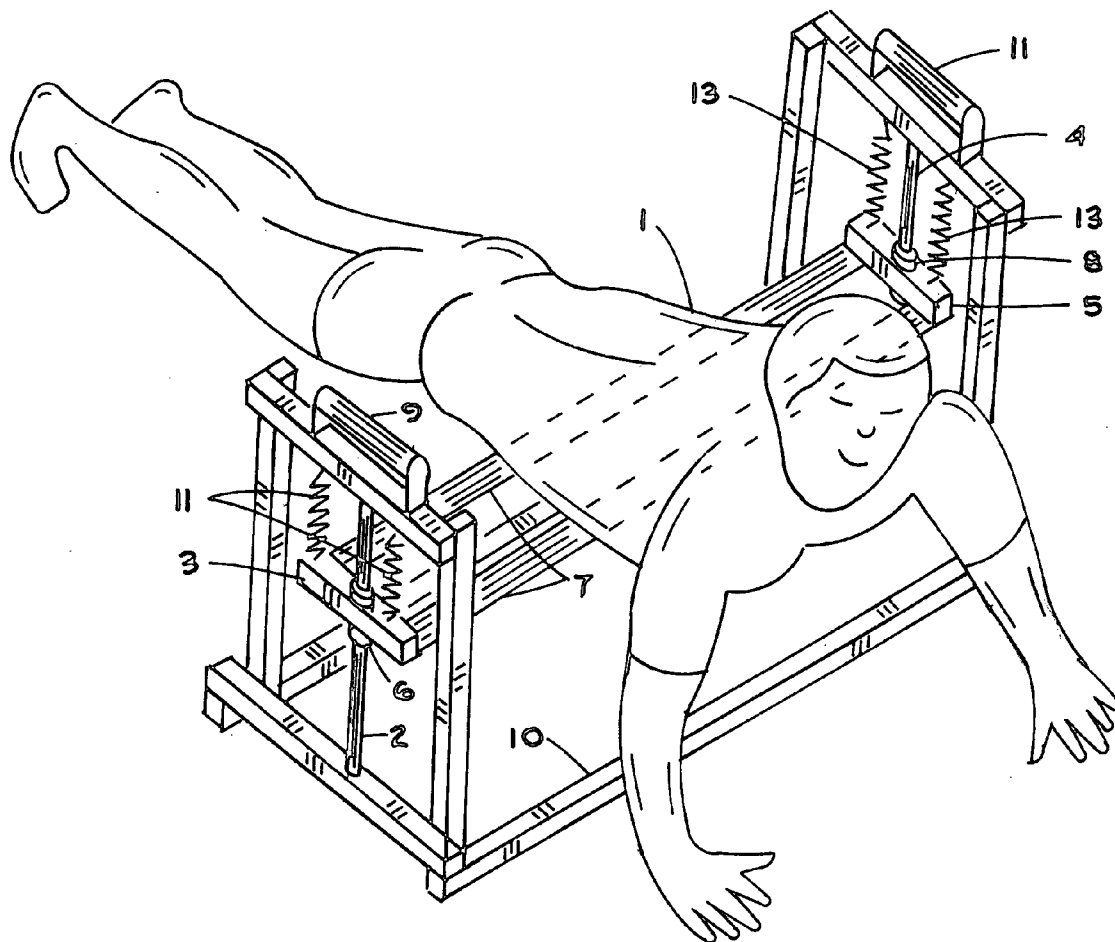
The present invention relates to a upper body exercise apparatus that combines upper body movements to achieve assisted push-up and dip exercise. More particularly, the present invention is associated with an exercise apparatus having separately supported platform for a portion of a user combining coordinated upper body exercise with the motion of the platform. When the torso of a user is positioned on the platform, energy storage devices absorb energy during the down stroke of push-up exercise. As the user begins the up stroke, the absorbed energy assists the user during the up stroke. A pair of handles are provided for dip exercise where the lower body contacts the platform. Further, the exercise apparatus provides adjustable energy storage.

(21) **Appl. No.: 12/799,908**

(22) **Filed: May 5, 2010**

Publication Classification

(51) **Int. Cl.**
A63B 26/00 (2006.01)



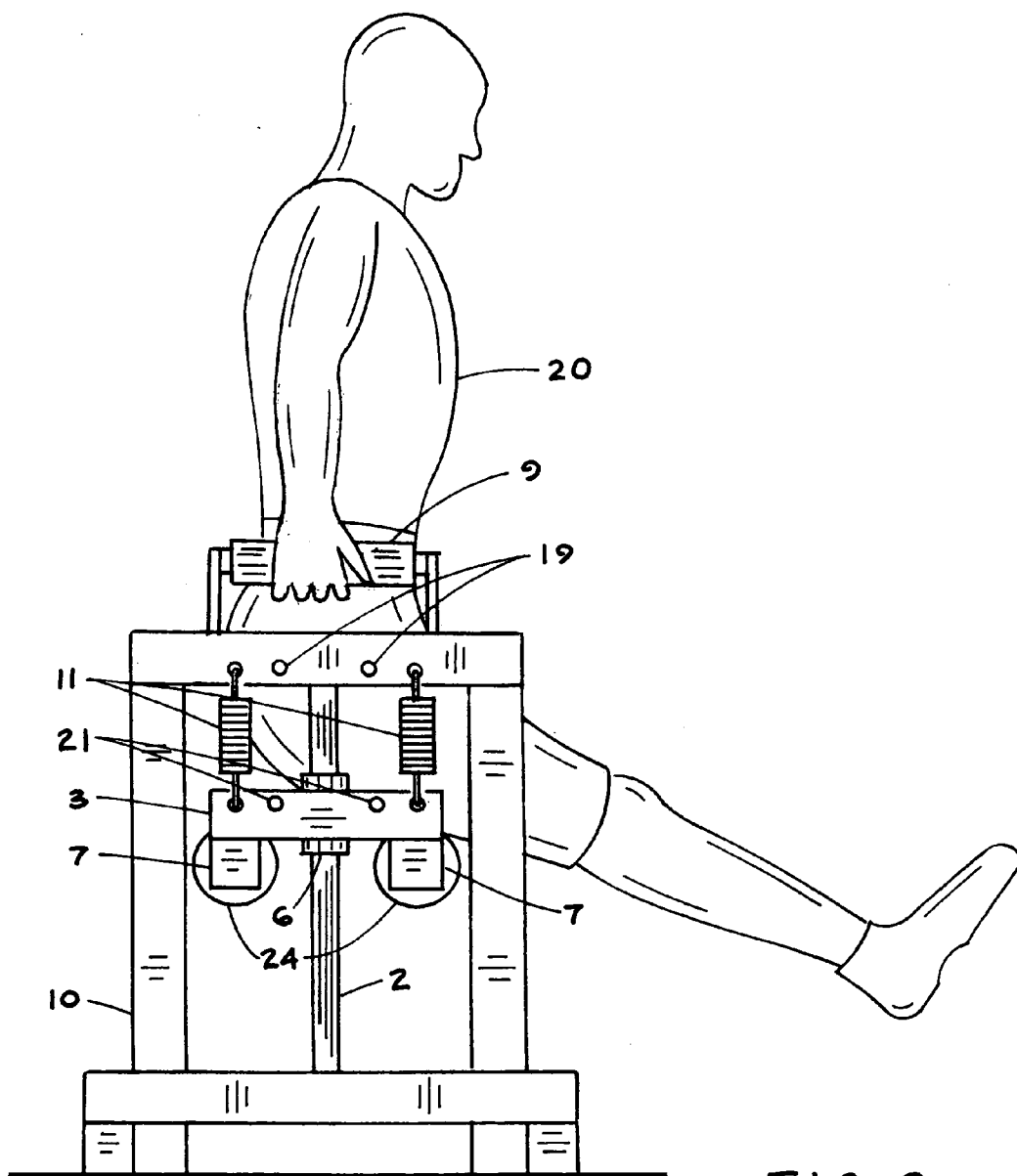


FIG. 2

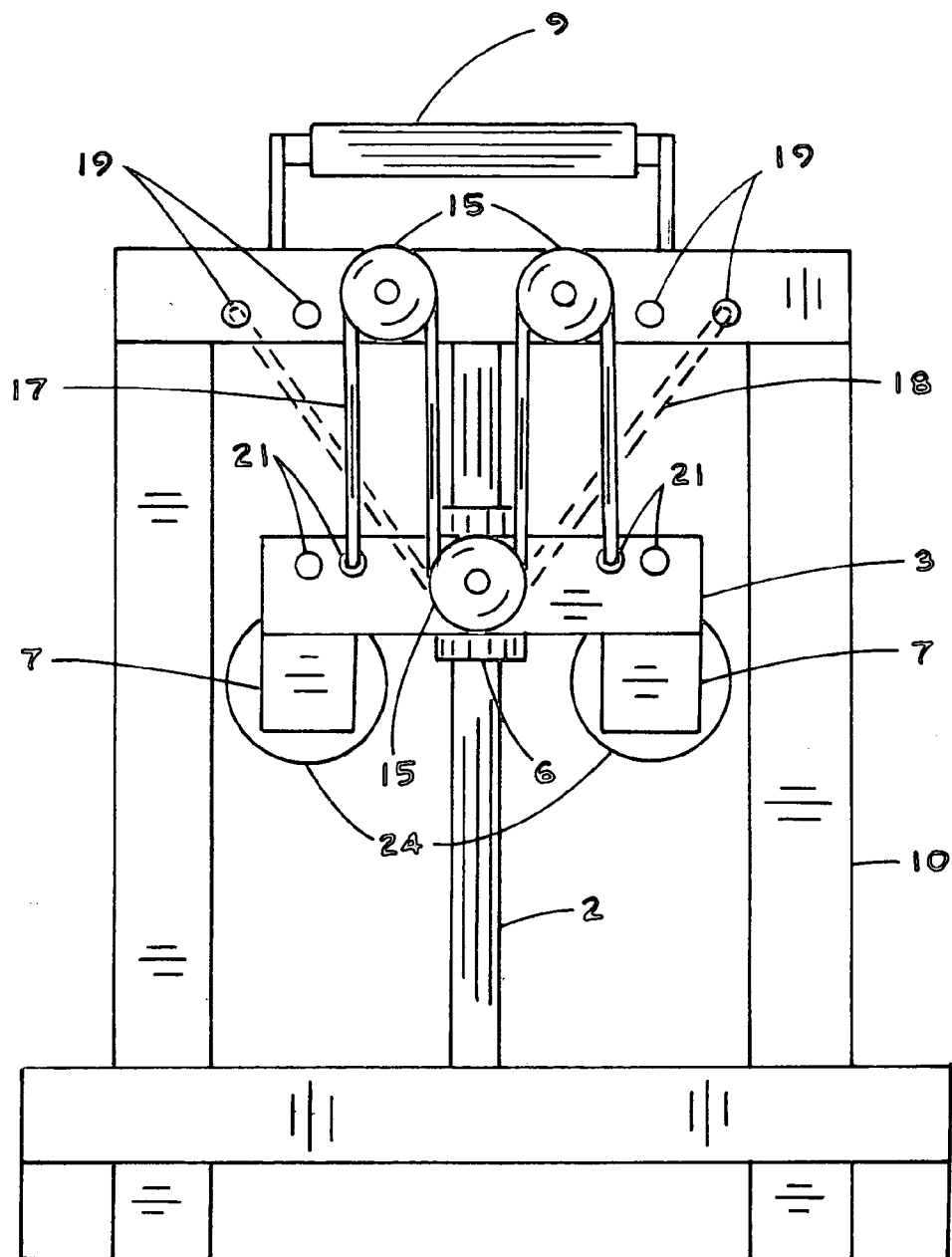


FIG. 3

PUSH-UP AND DIP ASSIST EXERCISE APPARATUS

BACKGROUND OF THE INVENTION

[0001] 1. Field

[0002] The present invention relates to an upper body exercise apparatus that combines upper body movements to achieve assisted push-up and dip exercise. More particularly, the present invention is associated with an exercise apparatus having separately supported platform for a portion of a user combining coordinated upper body exercise with the motion of the platform. When the torso of a user is positioned on the platform, energy storage devices absorb energy during the down stroke of push-up exercise. As the user begins the up stroke, the absorbed energy assists the user during the up stroke. A pair of handles are provided for dip exercise where the lower body contacts the platform. Further, the exercise apparatus provides adjustable energy storage.

[0003] 2. State of the Art

[0004] The benefits of regular exercise to improve overall health, appearance and longevity are well documented in the literature. For exercise enthusiasts the search continues for safe apparatus that provides exercise for maximum benefit in minimum time.

[0005] The prior art is abundant with apparatus intending to aid the push-up exercise. One category of push-up exercise apparatus makes the push-up exercise more difficult. Gauzer in U.S. Pat. No. 5,033,741 shows an isometric push-up machine that positions a spring loaded pad to the back of a user to increase to difficulty of push-ups. Escobedo et al. in U.S. Pat. No. 5,106,079 shows an apparatus to add weights to the back of a user to increase the difficulty of push-ups.

[0006] Another category of push-up type exercise has torso or chest contact. Costa in U.S. Pat. No. 5,242,358 shows a counting device which contacts the chest of a user performing push-ups. Roberts in U.S. Pat. No. 5,269,736 shows a stationary torso support to position a user for operation of a hand crank. Westmoreland, Jr. in U.S. Pat. No. 5,330,408 shows a stationary torso support and a set of moving handles for push-up type movements. Bergman in U.S. Pat. No. 7,060,014 shows an apparatus for assisting a user to perform push-up exercise where the user is positioned upon a lengthy platform that is pivoted beyond the feet with a spring bias for push-up assist. Dubrul et al. in U.S. Pat. No. 7,318,793 shows a floor device that contacts the chest for push-up assist.

[0007] A category of dip exercise apparatus usually includes a framework having handles to support the user. Wilson in U.S. Pat. No. 4,638,995 shows a convertible exercise chair that may be repositioned for dip exercise. Marples in U.S. Pat. No. 5,096,187 shows a framework with handles for dip exercise. Potts in U.S. Pat. Nos. 5,540,639 and Re. 34,212 shows devices for assisted dip exercise where the user stands on a moving platform that provides assist. Holmes et al. in U.S. Pat. Nos. 5,312,313 and 5,499,959 also shows devices for assisted dip exercise. Ropp in U.S. Pat. No. 5,372,556 shows an assisted dip exercise apparatus that has a counterweighted knee platform. Webb et al. in U.S. Pat. No. 5,322,489 also uses a knee platform to assist with dip exercise. Towley, III in U.S. Pat. No. 5,011,139 provides a foot bar to assist dip exercise. Killian et al. in U.S. Pat. No. 5,407,404 also provides a foot bar to assist dip exercise.

[0008] There remains a need for a simple push-up and dip apparatus that assists in the performance of push-up and dip exercise that provides the additional versatility of adjustable assist.

SUMMARY OF THE INVENTION

[0009] The present invention relates to the motion control of a platform where the platform supports the torso or lower body of a user. More particularly, apparatus is provided that offers push-up and dip assisted exercise in conjunction with upper body motion.

[0010] In the preferred embodiment, the exercise apparatus is configured for upper body exercise. The framework is positioned upon a supporting surface and comprises a pair of parallel frame rails and connecting members. A pair of handles are attached to the framework for dip exercise. A platform for torso support contacts the chest of a user preparing to perform push-ups. A pair of guide tracks are vertically attached to the framework. A pair of guides are attached to the platform at either end and are in slidable contact with the guide tracks.

[0011] A pair of energy storage devices are attached to either side of the platform and to the framework. One embodiment uses springs as the energy storage devices where the number of springs used can vary the intensity of exercise. Another embodiment uses elastic cords as the energy storage devices where the cord routing and connections to the framework may be adjusted to vary the intensity of exercise.

[0012] To operate the exercise apparatus, the user kneels on the supporting surface and positions the torso upon the platform. The hands of the user are placed upon the supporting surface and the legs are straightened. The arms then allow the torso of the user to be lowered allowing the energy storage devices to absorb energy during the down stroke. After sufficient lowering occurs, the user then applies additional muscle effort to begin the up stroke assisted by the force supplied upon the platform by the energy storage devices.

[0013] For dip exercise, the user grasps the handles and allows the lower body to rest upon the platform. As the arms of the user lowers the user, the platform is lowered and energy is stored in the energy storage devices. As the arms of the user raise the user, the platform assists the user due to the added upward force provided by the energy storage devices.

[0014] Adjustment of the energy storage devices allow higher levels of assist for the novice performing push-ups or dips to low levels for the better conditioned athlete. The hands may be positioned closer together on a side to side basis or further apart to change the effort and muscles used for push-up exercise.

[0015] In summary, this invention provides the user with assisted push-up and dip exercise provided by the platform movement and energy storage devices. The energy storage devices are adjustable to vary the intensity of exercise.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] The foregoing and other objects and features of the present invention will become more fully apparent from the following description and claims, taken in conjunction with the drawings. Understanding that these drawings depict only typical embodiments of the invention and are, therefore, not to be considered limiting of its scope or combinations, the invention will be described with additional specificity and detail through use of the accompanying drawings in which:

[0017] FIG. 1 is an overall view of the preferred embodiment of the exercise apparatus with the user in contact with the platform preparing to perform push-up exercise constructed in accordance with the present invention;

[0018] FIG. 2 is a side view of the preferred embodiment shown in FIG. 1 with the user preparing to perform dip exercise;

[0019] FIG. 3 is a side view of an alternate embodiment.

DETAILED DESCRIPTION OF THE EMBODIMENT

[0020] Referring to the drawing FIG. 1 in detail, the framework 10 is depicted as resting upon a supporting surface. The user 1 is shown in a posture ready to perform push-ups with hands positioned upon the supporting surface and the torso of the user in contact with platform 7. Handles 9,11 are positioned upon framework 10 with the user 20 shown in FIG. 2 preparing to perform dip exercise.

[0021] Guide tracks 2,4 are positioned vertical and attached to framework 10. Guides 6,8 are slidable along guide tracks 2,4. Platform 7 has cushions 24 in contact with the torso of the user 1 or lower body of user 20 with side bars 3,5 on either side of platform 7. Guides 6,8 are attached to sidebars 3,5. The energy storage devices are springs 11,13 attached to sidebars 3,5 and to framework 10. Additional springs may be added to the extra holes 19 in the framework 10 and sidebar holes 21.

[0022] In an alternate embodiment shown in FIG. 3, the energy storage devices are elastic members, that is, elastic cords 17 wrapped around pulleys 15. Pulleys 15 are connected to framework 10 and connected to sidebars 3,5. The ends of cords 17 are attached to sidebars 3,5 at holes 21. Elastic cord 18 may alternately be routed around the pulleys 15 on sidebars 3,5 with ends secured by holes 19 in the framework to provide adjustable energy storage devices.

[0023] The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative, and not restrictive. The scope of the invention is, therefore, indicated by the claims, rather than by foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

- 1) An exercise apparatus configured for assisted push-up exercise comprising;
 - a free standing framework, said free standing framework configured to be positioned upon a supporting surface without attachment;
 - a pair of singular guide tracks, each said singular guide track attached to a side of said framework;
 - a pair of singular guides, each said singular guide operably associated with a respective said singular guide track;
 - a pair of elongated linear platforms, said pair of elongated linear platforms being positioned traverse to a user and having a left sidebar and a right sidebar, each sidebar configured for a respective said singular guide positioned intermediate the ends of each said sidebar and connecting the ends of said pair of elongated linear platforms;
 - said pair of elongated linear platforms, said pair of singular guides and said pair of singular guide tracks being con-

figured to support the chest of said user in a prone position while the hands and feet of said user contact said supporting surface;

a pair of energy storage devices for each said sidebar, each pair of energy storage devices connected to a respective said sidebar and said free standing framework;

said pair of elongated linear platforms configured to provide support for said chest of said user during said push-up exercise whereby the energy absorbed in said energy storage devices during the down stroke of said user is returned during the upstroke to assist said user.

2) The exercise apparatus according to claim 1 wherein said energy storage devices are springs, said springs attached to either said sidebar and said free standing framework.

3) The exercise apparatus according to claim 1 wherein said energy storage devices are elastic members, said elastic members attached to either said sidebar and said free standing framework.

4) The exercise apparatus according to claim 1 wherein said energy storage devices are adjustable to vary the amount of energy stored during the down stroke of said exercise apparatus.

5) The exercise apparatus according to claim 1 further comprising a pair of cushions, each said cushion encasing a respective said elongated linear platform and positioned to be in contact with said chest of said user.

6) The exercise apparatus according to claim 1 further comprising a pair of handles, said handles attached to said free standing framework.

7) The exercise apparatus according to claim 6 wherein said handles are positioned upon said free standing framework to facilitate dip exercise.

8) An exercise apparatus configured for assisted dip exercise comprising;

a free standing framework, said free standing framework configured to be positioned upon a supporting surface and repositioned to stowage after said assisted dip exercise;

a pair of elongated linear platforms, said pair of elongated linear platforms being positioned traverse to a user and having a left sidebar and a right sidebar connecting the ends of said pair of elongated linear platforms;

a left guide, said left guide attached to said left sidebar intermediate the ends of said left sidebar;

a right guide, said right guide attached to said right sidebar intermediate the ends of said right sidebar;

a left guide track, said left guide track slidably associated with said left guide and attached to said free standing framework;

a right guide track, said right guide track slidably associated with said right guide and attached to said free standing framework;

a pair of energy storage devices, each energy storage device connected to a respective said sidebar and said free standing framework;

said pair of elongated linear platforms configured to provide support for the lower portion of said user during said assisted dip exercise whereby the energy absorbed in said energy storage devices during the down stroke of said user is returned during the upstroke to assist said user.

9) The exercise apparatus according to claim 8 wherein said energy storage devices are springs, said springs attached to said sidebars of said pair of elongated linear platforms and said free standing framework.

10) The exercise apparatus according to claim 8 wherein said energy storage devices are elastic members, said elastic members attached to said sidebars of said pair of elongated linear platforms and said free standing framework.

11) The exercise apparatus according to claim 8 wherein said energy storage devices are adjustable to vary the amount of energy stored during the down stroke of said exercise apparatus.

12) The exercise apparatus according to claim 8 further comprising a pair of cushions, each said cushion encasing a respective said elongated linear platform and positioned to be in contact with said lower portion of said user.

13) The exercise apparatus according to claim 8 further comprising a pair of handles, said handles attached to said free standing framework.

14) The exercise apparatus according to claim 13 wherein said handles are positioned upon said free standing framework to facilitate said assisted dip exercise.

15) An exercise apparatus configured for assisted push-up and dip exercise comprising;

- a free standing framework, said free standing framework configured to be positioned upon a supporting surface;
- a pair of guide tracks, each said guide track attached to said free standing framework;
- a pair of guides, each said guide operably associated with a respective said guide track;
- a pair of elongated linear platforms, said pair of elongated linear platforms being positioned traverse to a user and having a left sidebar and a right sidebar, each configured for a respective said guide positioned intermediate the ends of said sidebar and connecting the ends of said pair of elongated linear platforms;

said pair of elongated linear platforms, said pair of guides and said pair of guide tracks being configured to support the chest of said user in a prone position while the hands and feet of said user contact said supporting surface during said push-up exercise and configured to support the lower portion of said user during said dip exercise;

a pair of adjustable energy storage devices, each adjustable energy storage device operably associated with a respective sidebar and said free standing framework;

a pair of handles, said handles attached to said free standing framework;

said pair of elongated linear platforms configured to provide support for said chest of said user during said push-up exercise or the lower portion of said user during said dip exercise whereby the energy absorbed in said adjustable energy storage devices during the down stroke of said user may be varied to be returned during the upstroke to assist said user.

16) The exercise apparatus according to claim 15 wherein said adjustable energy storage devices are springs, said springs being variably attached to either said sidebar and said free standing framework.

17) The exercise apparatus according to claim 15 wherein said adjustable energy storage devices are elastic members, said elastic members being variably attached to either said sidebar and said free standing framework.

18) The exercise apparatus according to claim 15 further comprising a pair of cushions, each said cushion encasing a respective said elongated linear platform and positioned to be in contact with said chest or said lower body of said user.

19) The exercise apparatus according to claim 15 wherein said pair of handles are positioned upon said free standing framework to promote said dip exercise.

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