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(54) **METHOD AND APPARATUS FOR LATERAL EXERCISE**

(76) Inventor: **Mihai Ilioi**, Glendale, AZ (US)

Correspondence Address:
SNELL & WILMER L.L.P. (Main)
400 EAST VAN BUREN
ONE ARIZONA CENTER
PHOENIX, AZ 85004-2202 (US)

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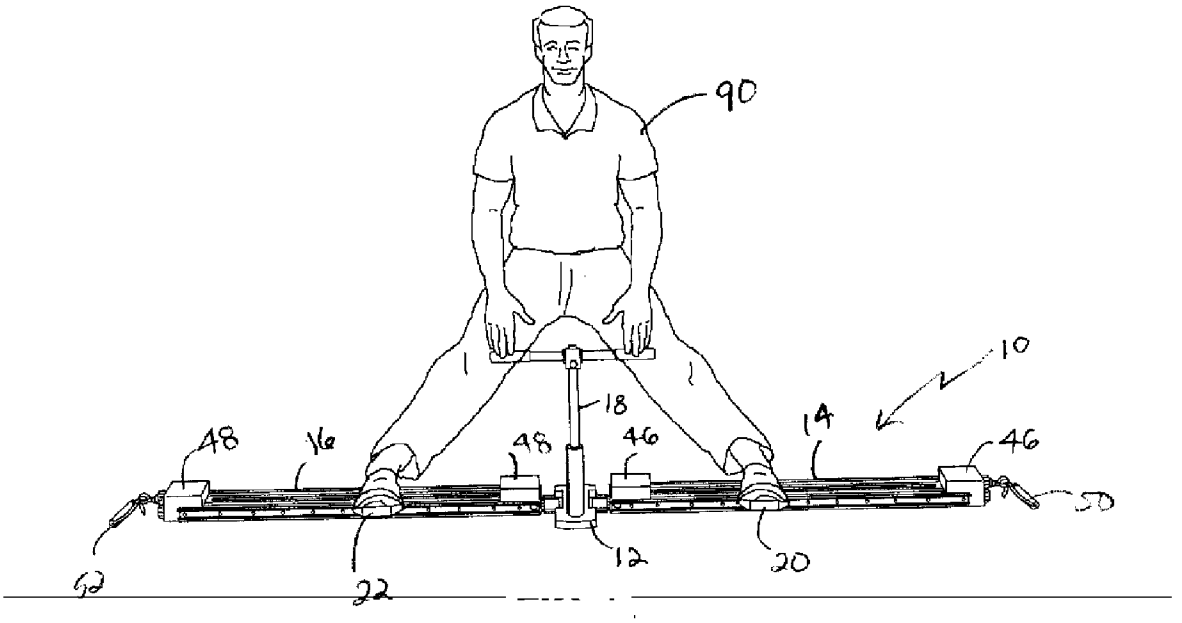
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(57) **ABSTRACT**

A lateral exercise device capable of exercising both the upper body and lower body includes a base plate, two track members pivotally connected to opposite sides of the base plate, and a handle attached to an upper surface of the base plate. A foot support may be slidably engaged with each track member for lateral exercise of the lower body and a pulley system with handles may run along the length of each track member for lateral exercise of the upper body.



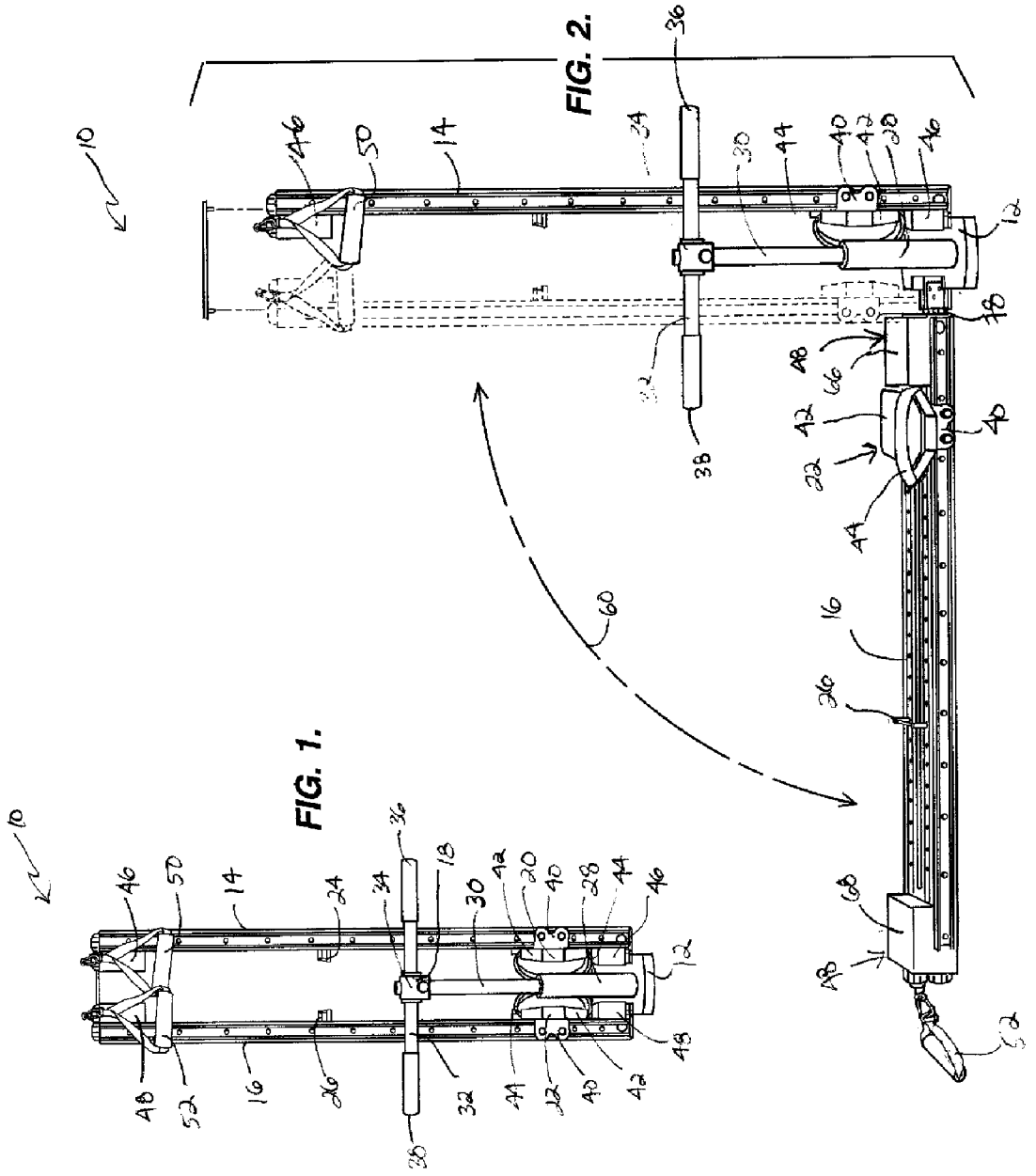


FIG. 1.

FIG. 2.

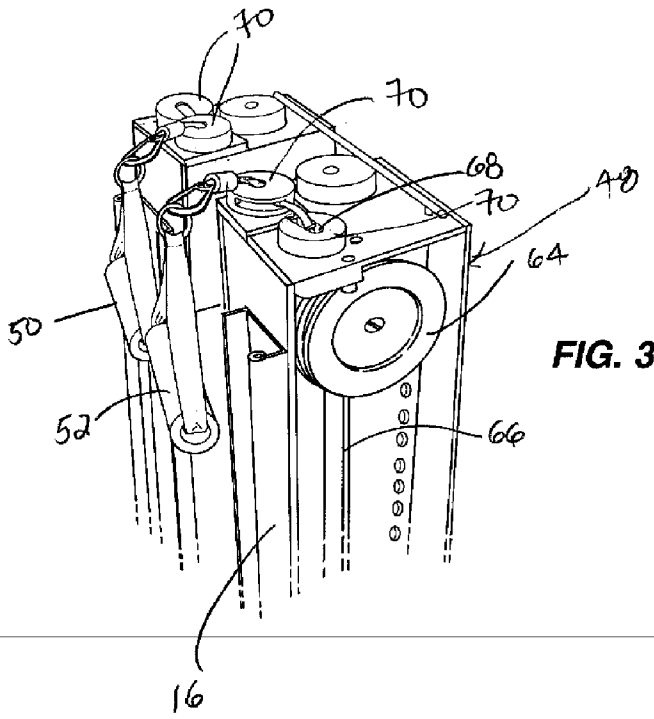

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FIG. 3.

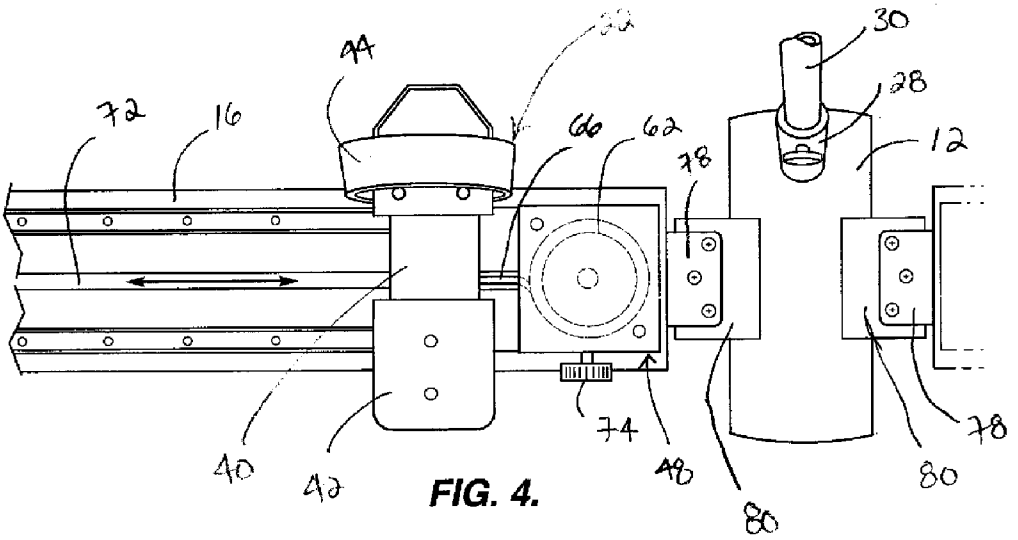

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80

FIG. 4.

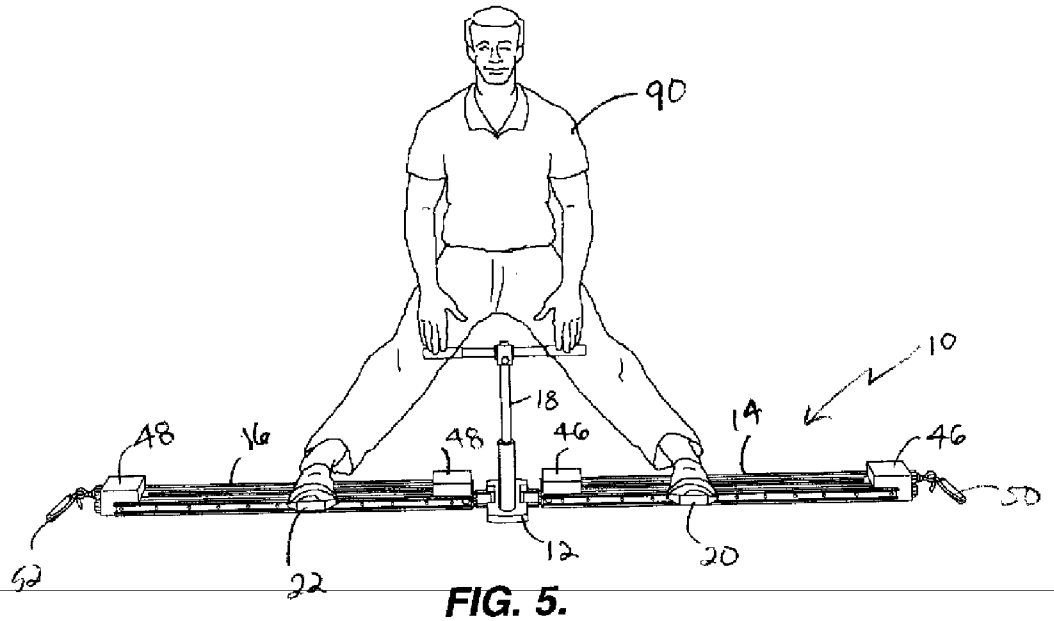

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FIG. 5.

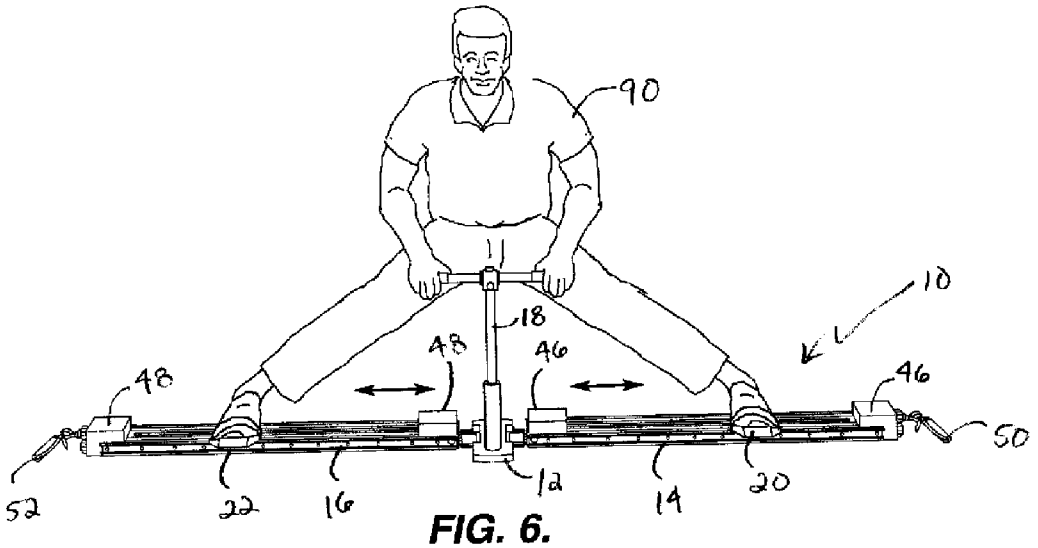

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FIG. 6.

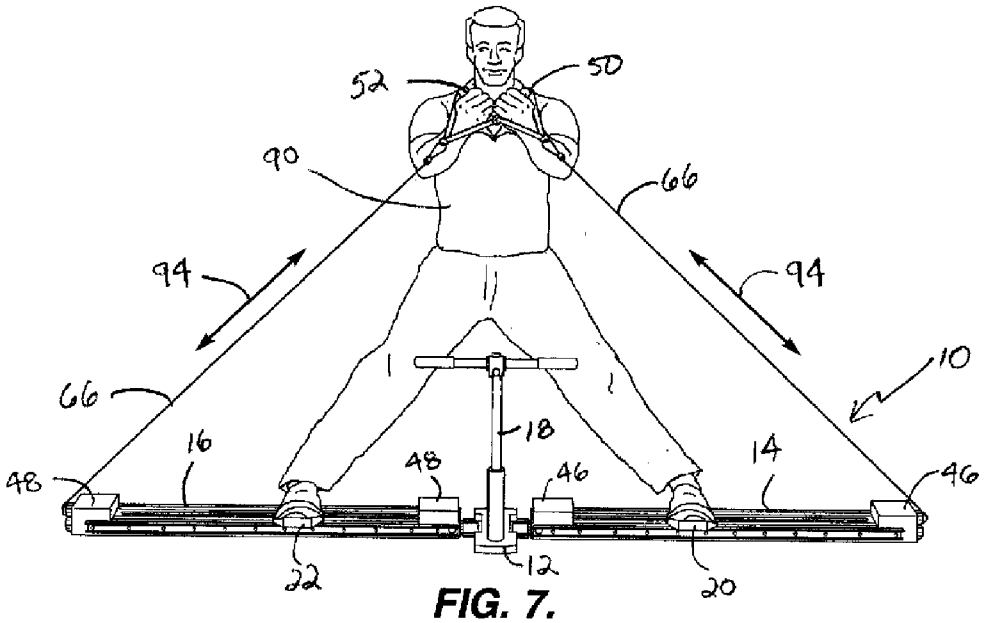

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FIG. 7.

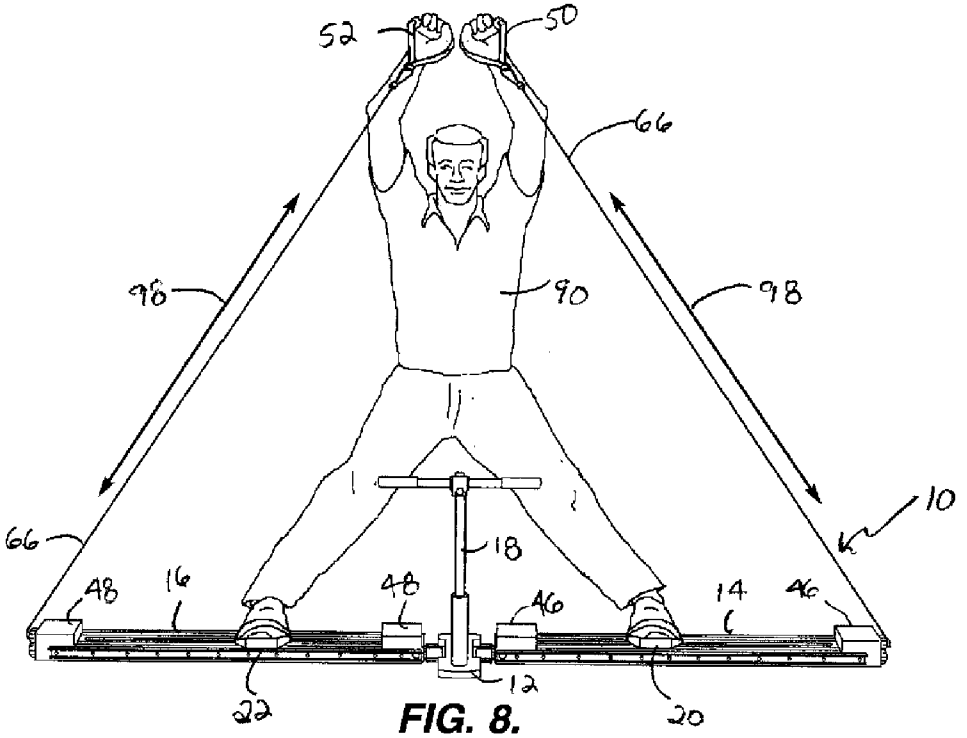

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FIG. 8.

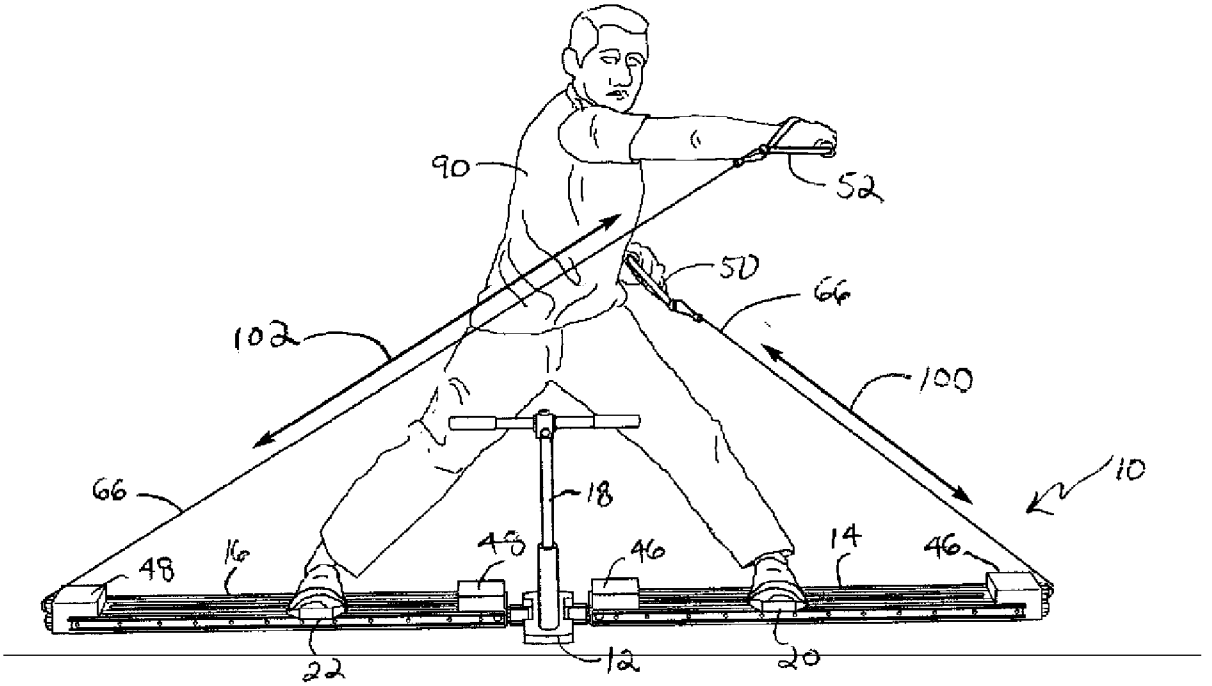


FIG. 9.

METHOD AND APPARATUS FOR LATERAL EXERCISE

FIELD OF INVENTION

[0001] The present invention generally relates to a lateral exercise method and apparatus and, more particularly, to a method and apparatus for lateral exercise that includes two track members pivotally connected to opposite sides of a base plate. The track members each have a foot support that is slidably engaged along a length of the track member and separate pulley systems that run along a length of each track member.

BACKGROUND OF INVENTION

[0002] Lateral exercise is exercise that relates to extending parts of the body toward the right or left sides of the body away from the median axis of the body. Lateral exercise also includes exercise that involves movement of some or all of the body from side to side. The prior art includes many types of lateral exercise devices.

[0003] One popular lateral exercise device includes a planar sliding surface having stops at its opposite ends. The user puts on booties, such as nylon booties, over their feet or shoes. The booties work with the slide surface to achieve smooth sliding across the planar sliding surface. The user then uses his or her body to slide their feet back and forth across the planar sliding surface.

[0004] Another popular lateral exercise device is directed to stepping devices for exercising the thighs. These types of devices include oppositely positioned footplates or foot pedals that function as bi-directional steppers. The foot pedals move up and down to sculpt the buttocks, quadriceps muscles, and hamstrings, and side to side to firm the inner and outer thighs.

[0005] There are also a multitude of other exercise devices that are designed to resist lateral movements of the body and/or its appendages such as the back and forth or side to side movement of the arms or legs. However, although compact and portable, most lateral exercise devices focus on exercising only the upper body or the lower body. Further, those few simple lateral exercise devices that are capable of exercising both the upper body and the lower body, such as a stretch band having handles at its opposite ends, for example, are incapable of tension adjustment. Accordingly, there is a need for a lateral exercise apparatus that is capable of exercising both the upper body and the lower body that is compact, portable, easy to store, and tension adjustable.

SUMMARY OF INVENTION

[0006] The invention is generally directed to a method and apparatus for lateral exercise which includes first and second track members pivotally connected to a base plate which lies planar with a ground surface, and a handle member extending from a top surface of the base plate. The first and second track members each include a foot support that is slidably engaged along a length of the track member and an adjustable blocking member capable of limiting the movement of the foot support along a length of its respective track member. The blocking members may be completely removable from the track members. The method and apparatus also include first and second pulley systems running along a length of each of the track members for exercising a user's arms and upper torso.

[0007] The first and second pulley systems may each include one or more wheel members and a band, belt, cord, rope, chain, or the like for engaging the one or more wheel members. In one embodiment, a first wheel is located near the pivotal end of each track member and a second wheel is located near the opposite end of each track member. A band, belt, cord, rope, chain, or the like is connected to one wheel member, positioned around both wheel members, and a handle is attached to the unattached end of the band. Tension may be applied to the first and second pulley systems by a tension knob located near each pivotal end of the track members such that the tension knobs engage the first wheel members thereby making it harder for the wheel members to rotate.

[0008] In order to use the lateral exercise apparatus, a user positions the first and second track members so that they are in the same horizontal plane as the base plate. The user then grasps the handle member with his or her hands and places his or her feet on the foot supports. The user then moves his or her body so that the user's feet slide back and forth, in other words inward and outward from the axis of the user's body, along a length of the first and second track members. The blocking members may be positioned and locked into place before a user grasps the handle member so that the movement of the user's feet will be limited along a length of the track members.

[0009] In order to exercise the upper body with the lateral exercise device, the user engages the handles of the first and second pulley systems by grabbing the handles of the first and second pulley systems with his or her hands. Next, the user places his or her feet in the foot supports and moves the foot supports outward from the user's body until they are pressed against the blocking members that are locked into place in the track members. The user may then perform a number of different upper body exercises by pulling the handles of the first and second pulley systems toward and/or away from the user's body and then slowly releasing the handles thereby allowing them to retract from the pulled position.

[0010] The lateral exercise apparatus may be easily stored by pivoting the first and second track members such that they are perpendicular to the base plate. This compact positioning of the exercise apparatus can then be easily stored in a corner or closet without the need for much space.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The present invention is hereafter described in conjunction with the following drawing figures, wherein like numerals denote like elements, and:

[0012] FIG. **1** is a front perspective view of the lateral exercise apparatus shown in the stored position;

[0013] FIG. **2** is a perspective view of the lateral exercise apparatus shown with one track member in the stored position and the opposite track member moved from a stored position, shown in phantom, to a position for use;

[0014] FIG. **3** is a partial perspective view of the top of the lateral exercise apparatus in the storage position showing the handle members of the first and second pulley systems located near the non-pivotal ends of the track members;

[0015] FIG. **4** is a partial top perspective view showing the pivotal ends of the track members attached to the base plate and a foot support attached to one of the track members;

[0016] FIG. **5** is a perspective view showing a user in a "start" position for carrying out lateral exercise of the lower body using the lateral exercise apparatus;

[0017] FIG. **6** is a perspective view showing a user in the "extended" position for carrying out lateral exercise of the lower body using the lateral exercise apparatus;

[0018] FIG. **7** is a perspective view showing a user performing a first upper body exercise with the lateral exercise apparatus;

[0019] FIG. **8** is a perspective view showing a user performing a second upper body exercise with the lateral exercise apparatus; and

[0020] FIG. **9** is a perspective view showing a user performing a third upper body exercise with the lateral exercise apparatus.

DETAILED DESCRIPTION

[0021] The following description is of exemplary embodiments of the invention only, and is not intended to limit the scope, applicability or configuration of the invention in any way. Rather, the following description is intended to provide a convenient illustration for implementing various embodiments of the invention. As will become apparent, various changes may be made in the function and arrangement of the elements described in these embodiments without departing from the scope of the invention set forth in the appended claims. For example, in the context of the present invention, the method and apparatus hereof may include only those elements necessary for lateral exercise of the upper body, only those elements necessary for lateral exercise of the lower body, or all of those elements necessary for lateral exercise of the upper body and lateral exercise of the lower body.

[0022] In general, the present invention provides a method and apparatus for lateral exercise. Turning now to the figures, FIG. **1** illustrates a front perspective view of the lateral exercise apparatus **10** shown in the stored position. Apparatus **10** includes a base plate **12**, first and second track members **14** and **16** pivotally connected to base plate **12**, and a handle member **18** connected to a top surface of base plate **12**. Apparatus **10** may also include first and second foot supports **20** and **22** slidably engaged with first and second track members **14** and **16**, respectively. In addition, apparatus **10** may include first and second adjustable blocking members **24** and **26**, such as locking pin members, that are capable of being locked into place on first and second track members **14** and **16**, respectively, to limit the movement of the first and second foot supports **20** and **22** along the length of the first and second track members **14** and **16**.

[0023] Base plate **12** is preferably comprised of a metal such as steel, steel alloys, stainless steels, aluminum, and aluminum alloys that will maintain its rigidity and stability. Like base plate **12**, track members **14** and **16** are also preferably comprised of a metal such as steel, steel alloys, stainless steels, aluminum, and aluminum alloys to ensure durability and stability despite the wear and tear experienced by use of the apparatus over time. Handle member **18** may also be made of a material the same as, or similar to, the material used for base plate **12** and first and second track members **14** and **16**.

[0024] In order to further make the apparatus **10** portable and compact, handle member **18** may comprise several pieces including a first hollow tubular member **28** secured to a top surface of base plate **12**, a second tubular member **30** removably positioned within first hollow tubular member **28**, and a third tubular member **32** positioned perpendicular to second tubular member **30** and connected to second tubular member **30** with clamp **34**. Second and third tubular members **30** and **32** may be disassembled and stored separately from the apparatus **10** to further facilitate storage of the apparatus **10**. First and second handle covers **36** and **38** may also be positioned over opposite ends of third tubular member **32** for more secure and comfortable use of the apparatus **10**. Handle covers **36** and **38** are preferably made of a foam or plastic material to enhance gripping. However, handle covers **36** and **38** may comprise any material that can be securely fitted over opposite ends of third tubular member **32** without slipping.

[0025] First and second foot supports **20** and **22** may each comprise a sliding member **40**, a base support **42** positioned over sliding member **40**, and a strap **44** attached to base support **42** for retaining a user's foot during use of the apparatus **10**. The sliding members **40** of each foot support **20** and **22** are engaged with first and second track members **14** and **16**, respectively such that they are capable of sliding along a length of first and second track members **14** and **16**. Sliding members **40** are preferably comprised of the same durable metal as first and second track members **14** and **16**. However, it will be understood by those skilled in the art that base plate **12**, first and second track members **14** and **16**, handle member **18**, and sliding members **40** may be comprised of any type of durable material capable of withstanding wear and tear from repeated use of apparatus **10**. These materials include, but are not limited to, plastics, polymers, polymer mixes, and fiberglass. Base supports **42** may also be comprised of any material that is used to make base plate **12**, first and second track members **14** and **16**, handle member **18**, and sliding members **40** including all of those listed above. Straps **44** are comprised of any type of material that is capable of retaining a user's foot on top of base supports **42**. These materials are preferably slightly flexible and may include, but are not limited to, webbing, rubber, cloth, plastic, polymers and polymer mixes.

[0026] Apparatus **10** may also include first and second pulley systems **46** and **48** running along a length of first and second track members **14** and **16**, respectively. First and second pulley systems **46** and **48** may include handles **50** and **52** so that a user can easily engage apparatus **10** for lateral exercise of the upper body. First and second pulley systems **46** and **48** are explained in more detail with reference to FIGS. **2-4**. It will be understood by those skilled in the art that apparatus **10** may only include first and second pulley systems **46** and **48** running along a length of first and second track members **14** and **16** without first and second foot supports **20** and **22**. This configuration of apparatus **10** would comprise an embodiment that is directed primarily to lateral exercise of the upper body. The configuration of apparatus **10** with only slidably engaged foot supports **20** and **22**, and without first and second pulley systems **46** and **48**, would comprise and embodiment that is directed primarily to lateral exercise of the lower body. Including both first and second pulley systems **46** and **48** along a length of first and second track members **14** and **16** and slidably engaging first and second foot supports **20** and **22** with first and second

track members **14** and **16** would result in an embodiment of apparatus **10** that supports lateral exercise of both the upper body and the lower body.

[**0027**] FIG. **2** is a perspective view of the lateral exercise apparatus **10** shown with first track member **14** in the stored position and the second track member **16** moved from a stored position, shown in phantom, to a position for use. First and second track members **14** and **16** pivot from a vertical position to a horizontal position as shown by arrow **60**. First and second pulley systems **46** and **48** are each comprised of a first wheel and second wheel **62** and **64** (See FIGS. **3** and **4**) that may be covered by first and second housing members **66** and **68**.

[**0028**] A partial perspective view of the top of the lateral exercise apparatus **10** in the storage position showing the handle members **50** and **52** of the first and second pulley systems **46** and **48** located near the non-pivotal ends of track members **14** and **16** is shown in FIG. **3**. FIG. **4** shows a partial top perspective view of the pivotal ends of track members **14** and **16** attached to base plate **12**, and second foot support **22** attached to second track member **16**. Second pulley system **48** is shown in FIGS. **3** and **4** and includes first wheel **62**, second wheel **64**, and a band, belt, cord, chain, or rope member **66** that has one end engaged with second wheel **64**, wound around first wheel **62** and then back around second wheel **64** through opening **68** contained at an end of second track member **16**. Rope member **66** may be further threaded through one or more load bearing spring wheels **70** which function to adjust the tension of rope member **66** and ensure that it does not rub across a portion of the apparatus and become worn. Rope member **66** may be enclosed within an elongated housing **72**, such as a tubular shaped housing member, for example along the length of each track member **14** and **16**. A tension knob **74** may also engage first wheel **62** to further adjust the tension of rope member **66**.

[**0029**] As shown in FIG. **4**, first and second track member **14** and **16** may be connected to base plate **12** with hinge members **78** that may be bolted to another support member **80** that is permanently secured to base plate **12**. Arrow **82** shows the direction of movement for second foot support **22** along the length of second track member **16**.

[**0030**] FIGS. **5** and **6** are perspective views showing a user using the lateral exercise apparatus **10** to perform lateral exercise of the lower body. The user **90** first secures adjustable blocking members **24** and **26** in place at a position along the length of first and second track members **14** and **16**, respectively. User **90** then engages first and second foot supports **20** and **22** by placing his feet on base supports **42** underneath straps **44**. User **90** then grasps handle member **18** with both hands and lowers his body so that first and second foot supports **20** and **22** slide away from handle **18** along the length of first and second track members **14** and **16** and his feet that are retained in first and second foot supports **20** and **22** move outward and away from a central axis of his body. User **90** then uses his feet and leg muscles to slide first and second foot supports **20** and **22** back toward handle member **18**. This back and forth exercise is then repeated.

[**0031**] Turning now to FIGS. **7-9**, three different lateral exercises are shown for the upper body. In FIG. **7**, user **90** first secures adjustable blocking members **24** and **26** in place at a position along the length of first and second track members **14** and **16**, respectively. User **90** then grasps handles **50** and **52** and pulls them upward and inward toward the user's chest. User **90** may engage first and second foot supports **20** and **22** either before or after first grasping handles **50** and **52**. However, the exercise is intended to be carried out with user **90** having his feet positioned in first and second foot supports **20** and **22**. To perform this exercise, user **90** alternates the pulling and release of handles **50** and **52** toward the user's chest as shown by arrows **94**. The tension of rope members **66** may be increased or decreased as previously described with reference to FIGS. **3** and **4**.

[**0032**] A second lateral exercise for the upper body using the lateral exercise apparatus **10** is shown in FIG. **8**. User **90** first secures adjustable blocking members **24** and **26** in place at a position along the length of first and second track members **14** and **16**, respectively. Next, user **90** grasps handles **50** and **52** and pulls them toward his body. User **90** may do this either before or after engaging first and second foot supports **20** and **22** with his feet. However, the exercise is intended to be carried out with the user's feet placed in the foot supports. To perform the exercise, user **90** pulls handles **50** and **52** toward him and above his head and then allows rope member **66** to retract by slowly releasing the force applied to handles **50** and **52** as shown by arrows **98**. This exercise is then repeated.

[**0033**] Another lateral exercise for the upper body using the lateral exercise apparatus **10** is shown in FIG. **9**. As with the exercises shown in FIGS. **7** and **8**, user **90** first secures adjustable blocking members **24** and **26** in place at a position along the length of first and second track members **14** and **16**, respectively. User **90** then grasps handle members **50** and **52** and engages his feet with first and second foot supports **20** and **22** either before or after grasping handle members **50** and **52**. If he engages his feet beforehand, he then grasps handles **50** and **52** after his feet have been placed within foot supports **20** and **22**. To perform this exercise, user **90** simultaneously pulls one handle **50** toward his waist (as shown by arrow **100**) while pulling the other handle **52** upward and across his upper torso at shoulder level. User **90** turns his waste while pulling handle **52** up to his shoulder level and then across his upper torso as shown by arrow **102**. User **90** then alternates these pulling movements with the opposite handles and continues to alternately repeat the movements shown by arrows **100** and **102** with handles **50** and **52**.

[**0034**] Many modifications and other embodiments of the invention set firth herein will come to mind to one skilled in the art to which this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

What is claimed is:

1. An exercise apparatus comprising:

a base plate;

first and second track members pivotally connected to opposite sides of the base plate; and

a handle member connected to a top surface of the base plate.

2. The exercise apparatus of claim 1 further comprising first and second foot supports slidably engaged with the first and second track members, respectively.

3. The exercise apparatus of claim 2 further comprising first and second adjustable blocking members capable of limiting the movement of the first and second foot supports along a length of the first and second track members, respectively.

4. The exercise apparatus of claim 1 further comprising first and second pulley systems running along a length of the first and second track members, respectively.

5. The exercise apparatus of claim 4 wherein the pulley systems include at least one wheel member and at least one of a band, belt, cord, rope, and chain that engages said at least one wheel member.

6. The exercise apparatus of claim 4 further comprising first and second handles connected to the first and second pulley systems, respectively.

7. The exercise apparatus of claim 4 further comprising means for applying tension to the first and second pulley systems thereby increasing the amount of force needed to activate the pulley systems.

8. The exercise apparatus of claim 7 wherein the means for comprising tension comprises a separate means for applying tension to the first pulley system and a second means for applying tension to the second pulley system.

9. The apparatus of claim 1 wherein the first and second track members are horizontally planar to the base plate when the exercise apparatus is in a position for use.

10. The apparatus of claim 1 wherein the first and second track members are perpendicular to the base plate when the exercise apparatus is in a position for storage.

11. A method for performing lateral exercise comprising the steps of:

providing an exercise device having a base plate, first and second track members pivotally connected to opposite sides of the base plate where the first and second track members each include a foot support that is slidably engaged along a length of each track member, and a handle member connected to a top surface of the base plate;

positioning the first and second track members so that they are in the same horizontal plane as the base plate;

grasping the handle member with a user's hands;

engaging the user's feet with the foot supports; and

moving the user's body such that the user's feet slide back and forth along a length of the first and second track members.

12. The method of claim 11 wherein the step of providing an exercise device includes providing a blocking member for each foot support to limit the movement of the first and second foot supports along a length of the track members, and further including the step of locking the blocking members in place on the track members before the step of engaging the handle member.

13. The method of claim 12 wherein the step of providing an exercise device includes providing first and second pulley systems running along a length of the first and second track systems and first and second handles connected to the first and second pulley systems, respectively.

14. The method of claim 13 wherein the step of moving the user's body comprises the step of moving the user's feet until the foot supports are pressed against the blocking members.

15. The method of claim 14 further comprising the step of engaging the handles of the pulley systems with the user's hands and alternating applying and releasing force applied to the pulley systems by moving the user's hands and arms.

16. A lateral exercise apparatus comprising:

a base plate adjacent to, and in planar alignment with, a ground surface;

first and second track members pivotally connected to opposite sides of the base plate;

first and second foot supports slidably engaged with the first and second track members, respectively;

first and second pulley systems running along a length of the first and second track members, respectively; and

a handle member connected to a top surface of the base plate.

17. The lateral exercise apparatus of claim 16 further comprising first and second adjustable blocking members capable of limiting the movement of the first and second foot supports along a length of the first and second track members, respectively.

18. The lateral exercise apparatus of claim 16 further comprising handles connected to the first and second pulley systems, respectively.

19. The lateral exercise apparatus of claim 16 further comprising means for applying tension to the first and second pulley systems thereby increasing the amount of force needed to activate the pulley systems.

20. The lateral exercise apparatus of claim 19 wherein the means for comprising tension comprises a separate means for applying tension to the first pulley system and a second means for applying tension to the second pulley system.

21. The apparatus of claim 16 wherein the first and second track members are horizontally planar to the base plate when the exercise apparatus is in a position for use.

22. The apparatus of claim 16 wherein the first and second track members are perpendicular to the base plate when the exercise apparatus is in a position for storage.

* * * * *