US 20150024907A1

(19) **United States**

(12) **Patent Application Publication**

Ross

(10) **Pub. No.: US 2015/0024907 A1**

(43) **Pub. Date: Jan. 22, 2015**

(54) **PULL-UP BAR**

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(21) Appl. No.: **14/337,975**

(22) Filed: **Jul. 22, 2014**

Related U.S. Application Data

(63) Continuation of application No. 13/291,351, filed on Nov. 8, 2011.

(60) Provisional application No. 61/411,344, filed on Nov. 8, 2010.

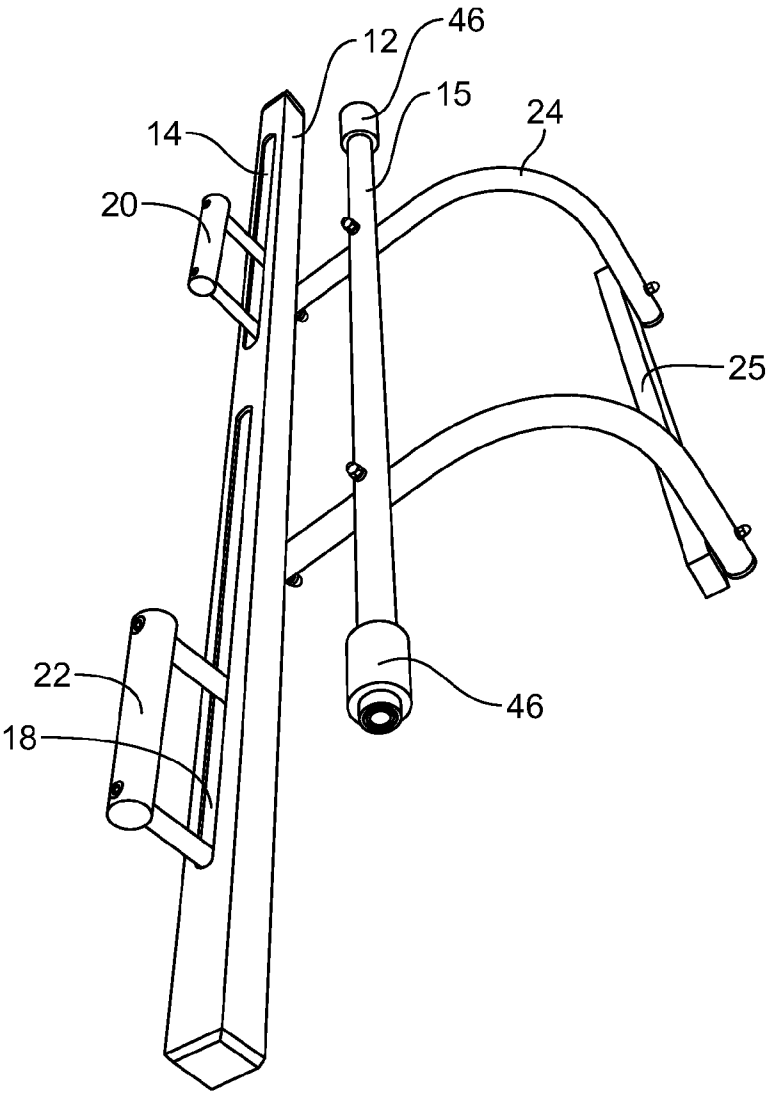
Publication Classification

(51) **Int. Cl.**
A63B 1/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A63B 1/00*** (2013.01)
USPC **482/39**

(57) **ABSTRACT**

An apparatus for exercising the upper body, including a frame and handles. The frame is formed with a bar and a connection assembly. Two handles slide in their respective half of the bar using rollers, or bearings. The handles may also swing, or swivel for a greater range of motion. This apparatus can be mounted over a door or on a wall for pull-ups, on a floor mount for push-ups, or on an exercise apparatus with a pulley system for shoulder presses. The exercise apparatus is designed to more effectively work out the large muscle groups of the back and arms.



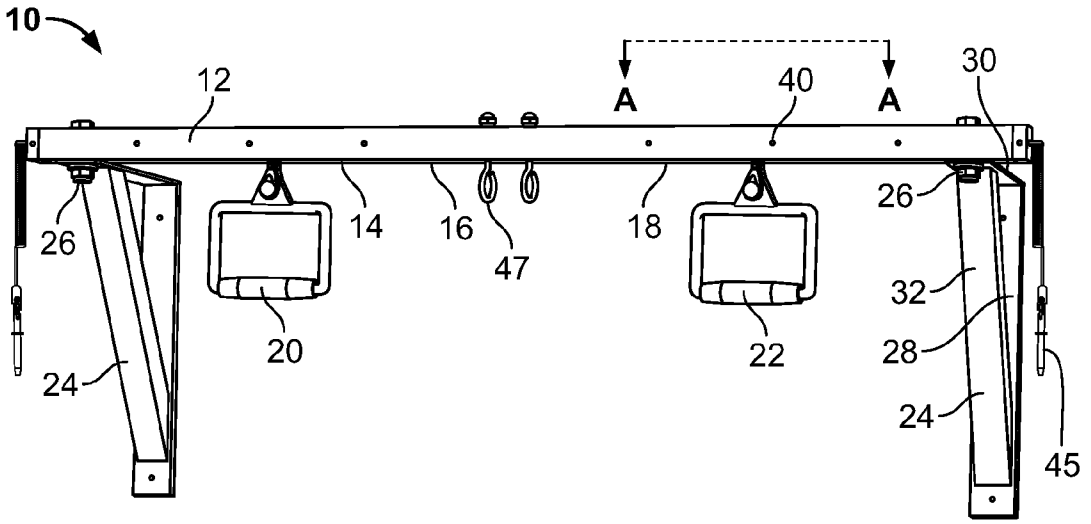

10
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A
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FIG. 1

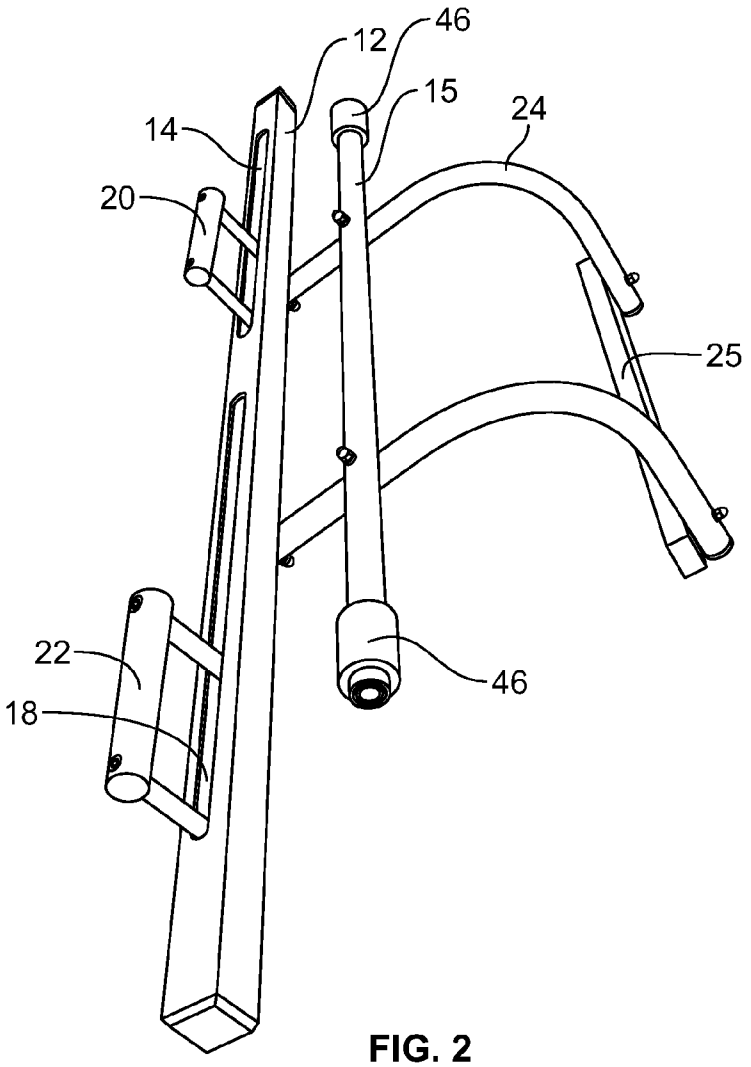

46
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FIG. 2

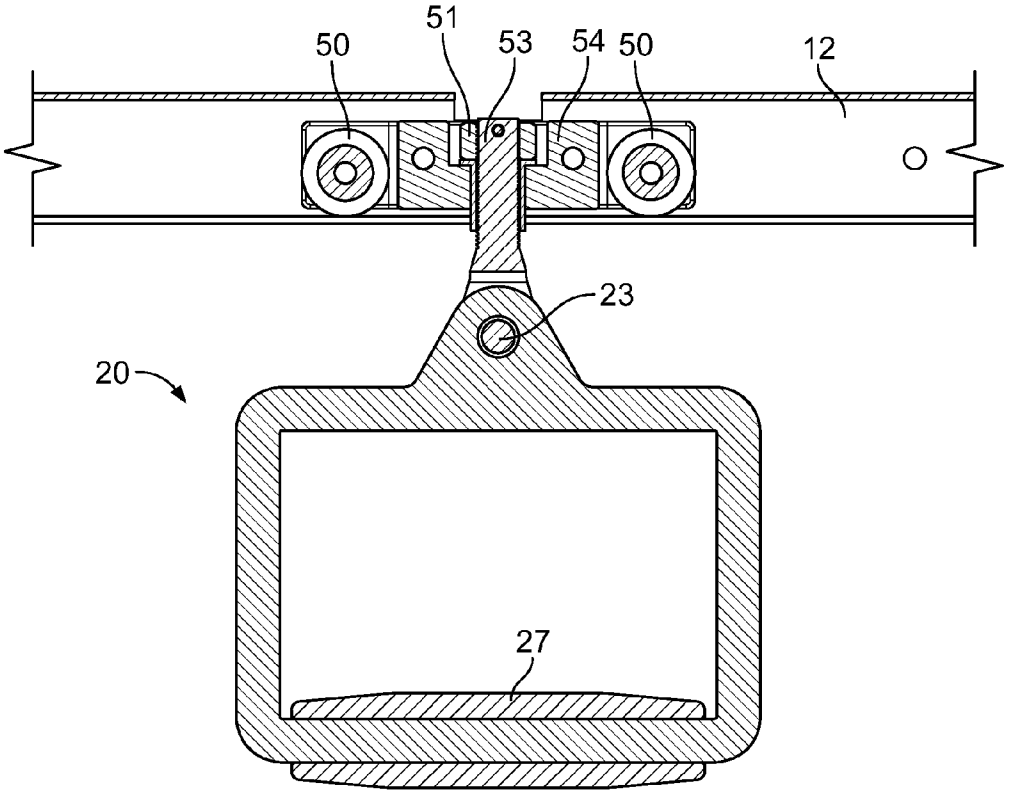


FIG. 3

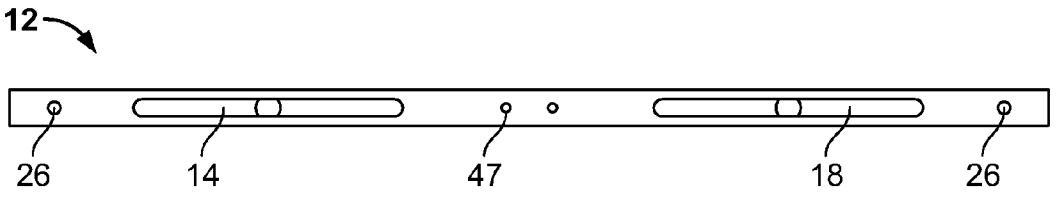


FIG. 4

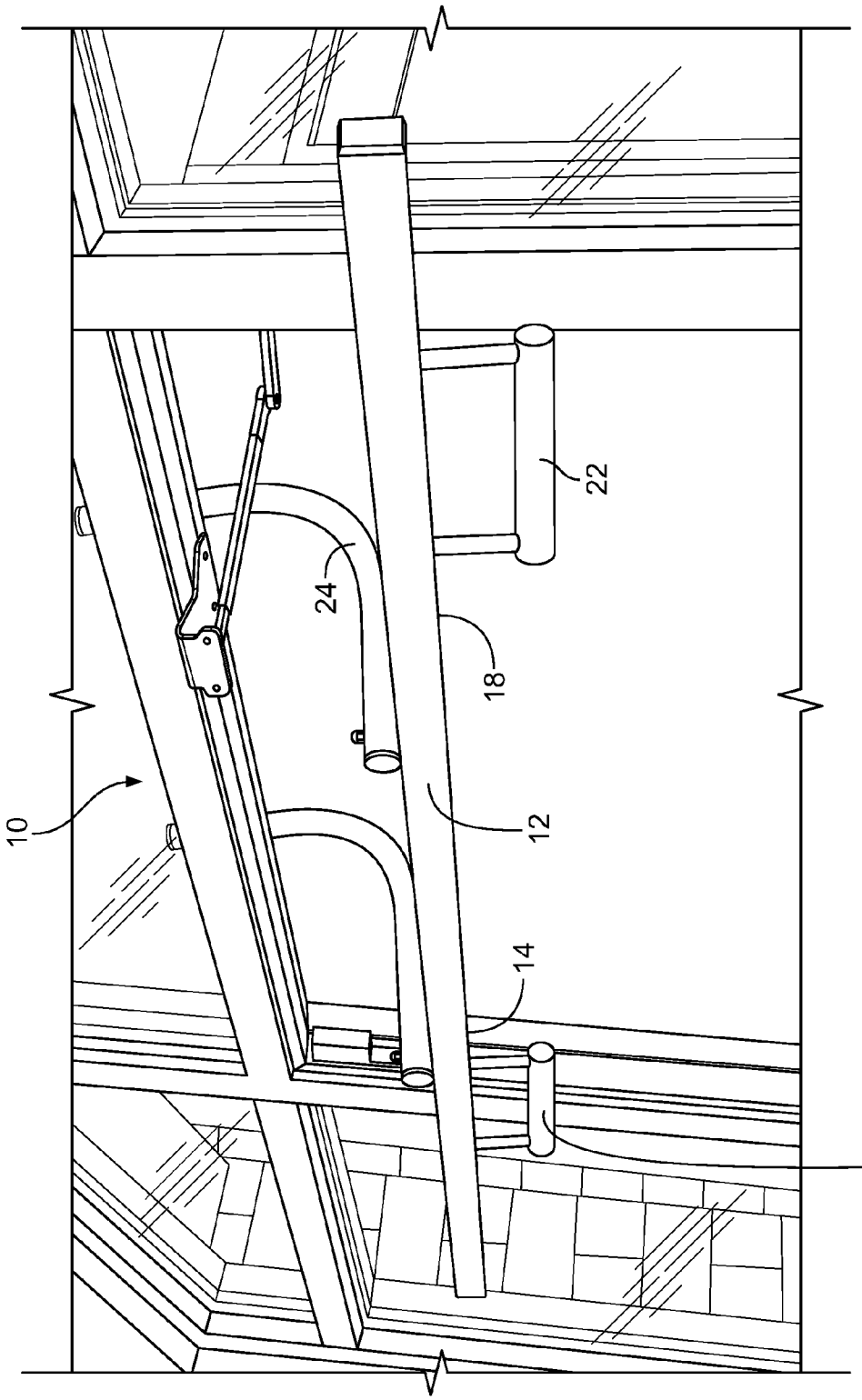


FIG. 5

PULL-UP BAR

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 61/411,344, filed Nov. 8, 2010, which is hereby incorporated by reference.

BACKGROUND

[0002] The present disclosure generally relates to exercise devices, and more particularly, to upper body exercise apparatus. Some examples of upper body exercise apparatuses according to the present disclosure may be pull-up bars, push-up bars, shoulder presses.

SUMMARY

[0003] Pull-up bars with adjustable grips and/or mounts are generally disclosed. Some example embodiments may include methods, apparatus, and/or systems associated with such pull-up bars.

[0004] In some embodiments, the exercise device is a longitudinal bar, each half of the bar having a slot cut along a portion of its length. The slots are generally situated along one longitudinal side of the bar. One handle protrudes from each slot, and the handle is able to travel along the length of the slot. Rollers engage the handles onto the bar, and enable the handles to slide within the slot.

[0005] Each slot section may include one or more pin-receiving holes extending laterally through the bar for blocking some movement of the handle within the slot. When a selector pin is inserted through the hole, it prevents the handle from moving to a section beyond the selector pin. By blocking the movement of the handle within the slot, the handle is restricted to a portion of the slot to travel within. The selector pins may be retained to the apparatus by elastic cords attached to each of the distal ends of the track bar.

[0006] The exercise device may include one or more laterally extending connection bars attached laterally to one or more points along the bar for mounting to a stationary object, such as a wall, or modified to be placed over a door frame for pull-ups, or mounted on a floor, for push-ups. The connection bar(s) may also be coupled to a pulley system on an exercise apparatus to exercise alternate muscle groups, such as the deltoids in a shoulder press routine.

[0007] In some embodiments, the handles stay fixed within the same plane. In another embodiment, the first and second handle can rotate, or swivel, so the two handles may also lie in different planes. In a swiveling embodiment, a user may change his grip on the bar from overhand grip to hammer grip without taking his hands off the handles.

[0008] In some embodiments, the bar is generally rectangular. The bar may also be cylindrical, triangular, or another cross-sectional shape. In some embodiments, the bar is hollow. The bar may also be a solid bar with a track for the wheeled handle grips on the outside of the bar.

[0009] In some embodiments, the track bar contains slots. The track bar may be devoid of slots, and the handles may slide run on a track for example, in which case, a stopper such as a pin may be inserted laterally through the bar at the midpoint so each handle stays on its designated side of the track bar.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The foregoing and other features of the present disclosure will become more fully apparent from the following description and appended claims, taken in conjunction with the accompanying drawings. Understanding that these drawings depict only several embodiments in accordance with the disclosure and are, therefore, not to be considered limiting of its scope. The disclosure will be described with additional specificity and detail through use of the accompanying drawings.

[0011] In the drawings:

[0012] FIG. **1** shows the front view of an exemplary exercise apparatus;

[0013] FIG. **2** shows the bottom view of an alternate exemplary embodiment of the exercise apparatus;

[0014] FIG. **3** shows the detail of a handle assembly;

[0015] FIG. **4** shows the slots of the bar;

[0016] FIG. **5** shows the alternate exemplary embodiment of the exercise apparatus as a pull-up apparatus, mounted over a door frame.

DETAILED DESCRIPTION

[0017] The present disclosure contemplates that some conventional pull-up bars do not allow the hands to move apart from or toward each other, or turn in any direction when performing a pull-up. When the hands grab a static bar during a pull-up exercise, a strictly vertical exercise must be performed, restricting motion and preventing the arm and back muscles from undergoing a full range of motion. The main focus of the latissimus dorsi, the largest muscle of the back, is to pull arms over the head and to the sides, or in front of the body. By performing pull-ups on a static bar, the latissimus dorsi cannot be fully exercised. By using the apparatus of the present disclosure, a wide range of motion is performed, and large muscle groups, including the latissimus dorsi, can be effectively exercised.

[0018] FIG. **1** shows the front view of exercise apparatus **10** in an exemplary embodiment, as it is attached to a wall. A longitudinal bar **12** has a first elongated slot **14** and a second elongated slot **18** on the one underside side **16** of the bar **12**. Two handles **20** and **22** are engaged on the bar protruding from each slot **14** and **18**, respectively, and are able to travel along a respective portion of the length of the bar **12** within slot **14** and **18**. Bar **12** is bolted to laterally extending connection bars **24** with bolts **26** and mounted to a wall with vertical bracket arm **28** and horizontal bracket arm **30**, the bracket arm **28** flush to the wall. One or more pin-receiving holes **40** extend laterally through the bar **12**. Selector pins **45** are inserted into the desired pin-receiving holes to limit travel of handles **20** and **22**. Optionally, hooks **47** may be installed in bar **12**, or in an alternate embodiment, prevent the movement of the handle past the midpoint of the bar.

[0019] FIG. **2** shows a second embodiment of exercise apparatus **10** which is adapted to attach over a door frame. Longitudinal bar **12** contains elongated slots **14** and **18** along the underside **16**. Handles **20** and **22** protrude from slot **14** and **18** and are slidably engaged to the bar **12**. Two laterally extending connection bars **24** attached to bar **12** connect to abutment bar **15** which is parallel to bar **12**, and which abuts across a door frame to stabilize apparatus **10**. Connection bars **24** are bent at an angle to attach to the door frame, and further connect to a mount piece **25** to secure bar **12** above the door

frame. In this embodiment, handles **20** and **22** slide in the slots **14** and **16**, but do not swing or swivel.

[0020] FIG. **3** shows a detailed view of an exemplary handle assembly **20** and **22**. Handles **20** and **22** include a pair of rollers **50** to enable sliding of handles **20** and **22** along bar **12**. The handles **20** and **22** attach to a clevis rod end **53** with a swiveled bolt **23** which allows the handle to swing. The clevis rod end **53** is then attached to a bearing **51** which allows the handle to swivel in a 360 direction on the wheel carriage **54**. The bearing attaches the handles **20** and **22** to the wheel carriage **54** which holds the rollers **50**. Handles **20** and **22** may have a padded grip **27**.

[0021] FIG. **4** shows the longitudinal bar **12** of the pull-up apparatus **10**. Slots **14** and **16** are shown cut in their respective segments on bar **12**, located on the underside **16** of bar **12**. Bolts **26** are located toward each distal end where the bar is attached to the connection bar. Two pins **47** divide the bar into segments, or in an alternate embodiment, contain each handle **20** and **22** in its respective side of the bar **12**.

[0022] FIG. **5** shows an embodiment of the pull-up apparatus as it would be mounted over a door frame. Attachment points to the curved connection bars **24** are located towards the center of the bar so bar **12** can extend beyond the width of the door frame while connecting to abutment bar **15** and mount **25** located on the other side of the door frame with respect to bar **12**. Abutment bar **15** contains two padded sleeves **46** on either end to press abutment bar **15** against the door frame without damaging the door frame. Mount **25** hooks over the door frame to support a portion of the load, the load made up from the exercise apparatus itself and the weight of the person using the exercise apparatus. The load is further distributed on the abutment bar **15** against the door with abutment bar **15** acting as a fulcrum. Mount **25** stays securely on the door frame because the weight of the exercise apparatus on the other side of the door frame pushes it into the wall while abutment bar **15** prevents the apparatus **10** from swinging through the door. Using this load distribution, exercise apparatus **10** is installed to a typical door frame, without tools, quickly, and without permanent damage to the door frame.

[0023] The frame of the apparatus including bar **12** is made of a rigid material, such as a metal or metal alloy. The rollers **50** may alternately be ball bearings. The handles **20** and **22** may be made from a rigid, semi-rigid, or flexible material. The connection bars **24** may be made from a rigid material for some embodiments, or a flexible material such as rope, for mounting apparatus **10** to a ceiling.

[0024] To use this apparatus to engage in pull-up exercises, a user holds one handle in each fist, keeping both arms straight. The two handles should be relatively close together. As the user performs a pull-up by bending both arms at the elbow at the same rate, the distance between the handles should increase. Once the user reaches a maximum bent arm position, the user begins to straighten both arms at the same rate, at the same time decreasing the distance between the handles until the arms are straight and hands are in the starting position. This completes one cycle of a pull-up performed on the apparatus.

[0025] As a push-up or shoulder press apparatus, the initial position is bent arms and in a maximum separation distance between the handles. The user pushes up straightening the arms, at the same time decreasing the distance between the handles, until both arms are generally straight. From a straight arm position, the user bends the arms at the same rate and increases the distance between the handles, returning to the initial bent arm position. This completes one push up, or shoulder press cycle.

1-18. (canceled)

19. An exercise apparatus for performing pull-ups comprising:

a linear hollow bar adapted to be mounted so as to be elevated above a floor, the linear bar having elongated slots therein, the slots facing and being positioned so as to be parallel to a floor along an entire length thereof;

at least one wheel carriage shaped to be received in the hollow bar having at least one roller mounted thereon to allow movement of the carriage in the hollow bar;

at least one handle mounted to the wheel carriage.

20. The exercise apparatus for performing pull-ups of claim **19** further comprising at least one pin-receiving hole extending laterally through the bar for receiving a pin therein for blocking movement of the carriage within the bar.

21. The exercise apparatus for performing pull-ups of claim **20** wherein the carriage includes at least one pin-receiving hole extending laterally therethrough for receiving a pin through the pin-receiving hole on the bar thereby locking the carriage from lateral movement within the bar.

22. The exercise apparatus for performing pull-ups of claim **19** further comprising at least one pin tethered to the bar.

23. The exercise apparatus for performing pull-ups of claim **19** wherein the handle is mounted to the carriage to allow swiveling movement thereof

24. The exercise apparatus for performing pull-ups of claim **23** wherein the carriage includes a bearing therein for mounting the handle thereto.

25. The exercise apparatus for performing pull-ups of claim **19** wherein the bar is rectangular in cross-section.

26. The exercise apparatus for performing pull-ups of claim **19** further comprising a connection assembly attached to the bar, the connection assembly adapted to be mounted to one of a wall or over a door frame.

27. A method for exercising, comprising:

providing a linear bar having a first handle and a second handle, the handles being slidably movable along the bar;

holding the first and second handles close to a midpoint on the bar,

pulling the handles, and simultaneously sliding the first and second handle away from each other; and

pushing the handles, and simultaneously sliding the first and second handles toward each other.

28. An apparatus for performing pull-ups comprising:

a linear hollow bar adapted to be mounted so as to be elevated above a floor, the bar having at least one slot positioned to face a floor when the bar is mounted there above and at least one pin-receiving hole extending laterally through the bar for receiving a pin therein for blocking movement of the carriage within the bar;

at least one wheel carriage shaped to be received in the hollow bar having at least one roller mounted thereon to allow movement of the carriage in the hollow bar and at least one pin-receiving hole extending laterally therethrough for simultaneously receiving a pin therethrough and the pin-receiving hole on the bar thereby locking the carriage from lateral movement within the bar;

at least one handle mounted to the wheel carriage.

29. The exercise apparatus for performing pull-ups of claim **28** further comprising at least one pin tethered to the bar.

30. The exercise apparatus for performing pull-ups of claim **28** wherein the handle is mounted to the carriage to allow swiveling movement thereof

31. The exercise apparatus for performing pull-ups of claim **30** wherein the carriage includes a bearing therein for mounting the handle thereto.

32. The exercise apparatus for performing pull-ups of claim **28** wherein the bar is rectangular in cross-section.

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