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(54) **PORTABLE EXERCISE D EVICE**

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(57) **ABSTRACT**

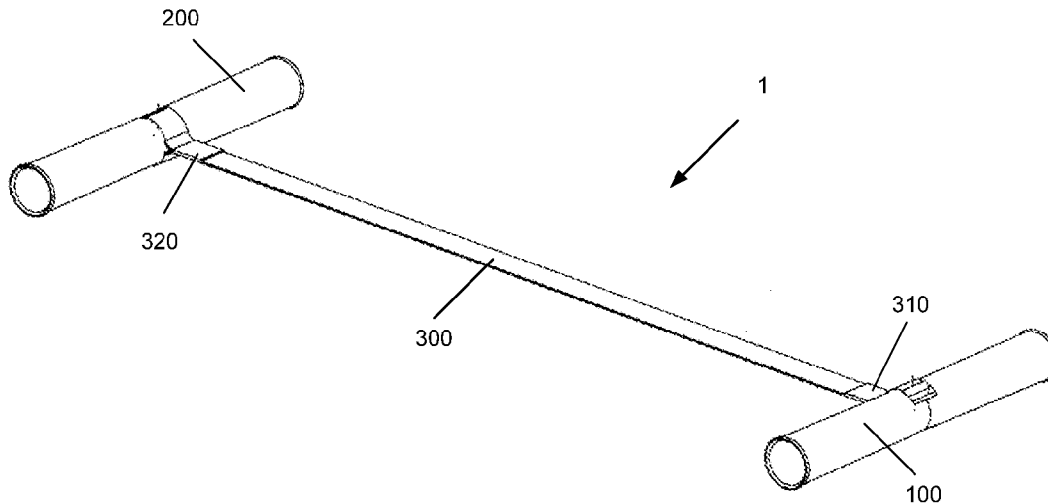
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Related U.S. Application Data

(60) Provisional application No. 60/743,662, filed on Mar. 22, 2006.

A portable exerciser device for conducting two-person sit-ups is disclosed. The portable exerciser device has a hand-pulling assembly comprised of two hand holds joined by a connector. When combined into a kit, the additional elements may include a storage bag, shoe sole adhesive, shoe sole adhesive remover, one or more exerciser pads, and device information.



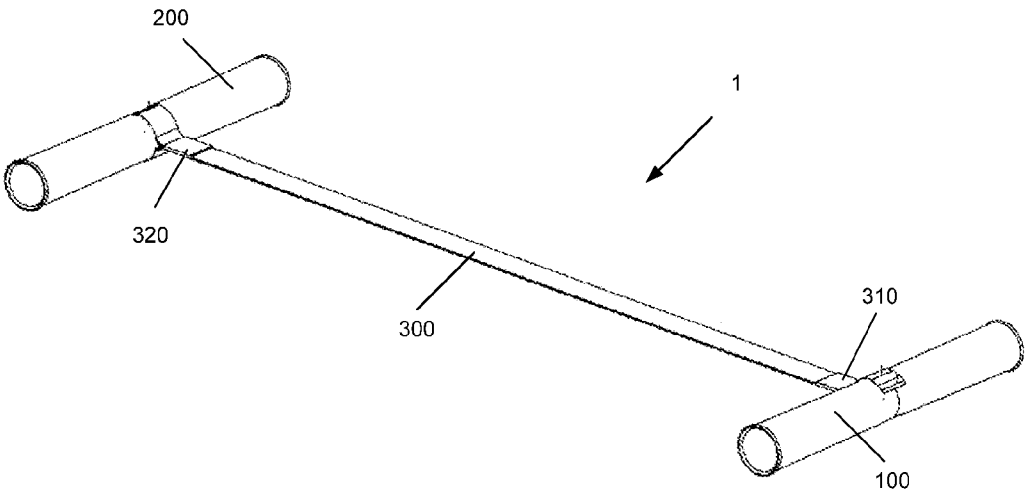


FIG. 1

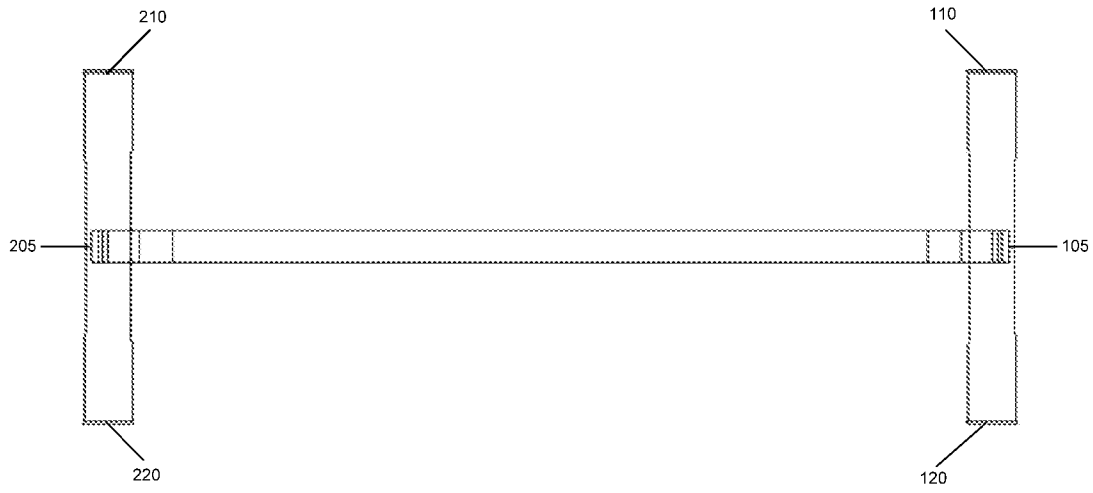


FIG. 2

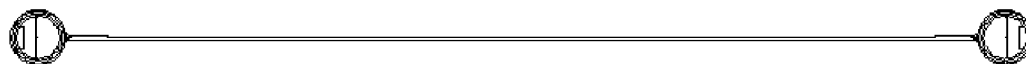


FIG. 3

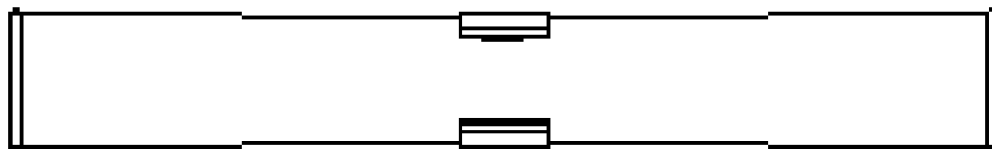


FIG. 4

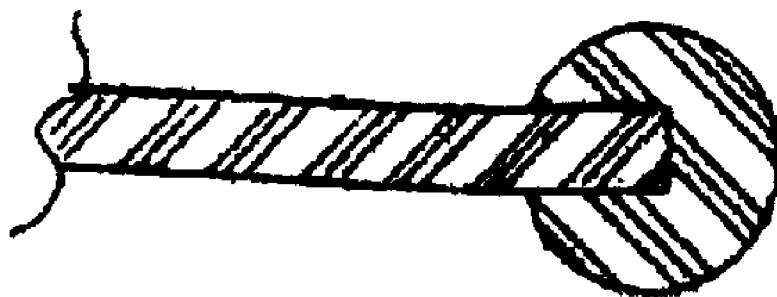


FIG. 5

PORTABLE EXERCISE DEVICE

[0001] This application claims priority to provisional application 60/743,662, dated Mar. 22, 2006, which is incorporated herein in its entirety.

FIELD OF THE INVENTION

[0002] The present invention generally relates to the field of portable exercise devices. In particular, the present invention relates to a two-person portable exercise device for performing sit-up exercises.

BACKGROUND OF THE INVENTION

[0003] A sit-up is a well known exercise for strengthening and building abdominal muscles. It is particularly used for military training and sports, e.g. soccer. A sit-up is an exercise that can be performed conveniently without equipment, and with a minimal space requirement. However, for many people, it is very difficult to do sit-ups alone either due to weak abdominal muscles, of a general lack of an exercise regimen. Someone who is unfit finds it difficult to do sit-ups and exercise important core muscles. Additionally, there is the likelihood of strain and injury.

[0004] Over the past several years, numerous types of exercise equipment targeting the abdominal muscles have been developed. Some of these are quite bulky; others are portable. These types of exercise equipment are generally designed to be used by one person. It well known that exercising with a companion or teammate may lead to a more enjoyable exercise session. This potential increase in the social or team aspect of exercising may encourage a higher level of commitment to continuing the exercise regimen.

[0005] Related art includes the following patents.

[0006] U.S. Pat. No. 695,538, issued to Clairmont on Mar. 28, 1902, discloses a one-person exercise machine for exercising the abdominal muscles having a hinged footboard with holders to engage the feet.

[0007] U.S. Pat. No. 2,050,652, issued to Fleming on Aug. 11, 1936, discloses a one-person sit-up device for inserting under a door.

[0008] U.S. Pat. No. 3,664,666, issued to Lloyd on May 23, 1972, discloses a one-person folding portable case which folds out into a three-section exercise board.

[0009] U.S. Pat. No. 3,947,023, issued to Martin on Mar. 30, 1976, discloses a one-person torso-centric exercise board consisting of a padded rectangular board with a padded headrest and a removable crossbar in two pieces, extending beyond the borders of the board, which crossbar is assembled by inserting one piece into a metal casing which encloses the other piece and bolting the assembled crossbar into a recessed cut in the board. In the extremities of the crossbar on each side is a series of orifices, symmetrical and equidistant, for the adjustment of a pair of handgrips which consist of a post on a platen base, which base, when the posts or handgrips are adjusted in the orifices, supports the crossbar above the floor. The board is provided with a handle for carrying and straps on the back for storage of the crossbars and the handgrips. The whole is of such mechanical simplicity as to avoid the problems of malfunction common in more complex mechanical devices and to make for greater

economy of manufacture, without sacrificing any features necessary to its purpose which is to provide the gymnast with a necessary means of support while performing exercises which reduce the abdomen, waist and hips, strengthen the muscles of the back and abdomen and improve the circulation of blood and lymph through the body.

[0010] U.S. Pat. No. 4,582,319, issued to Luna on Apr. 15, 1986, discloses a one-person sit-up exercise bench comprising a horizontal platform connected to a slant-adjustable back rest, a harness adapted to be engaged by an exerciser's shoulder, said harness operably connected to a restraining spring attached to said horizontal frame whereby an exerciser, reclining upon the bench, may perform sit-up exercises from the waist, sitting up against the resistance provided by the tension springs. In an alternate embodiment, a pivotable arcuate-shaped bar attached to tension springs for engagement by the exerciser's legs provide restraining force to movement of the exerciser's legs in two positions.

[0011] U.S. Pat. No. 4,602,782, issued to Carlson on Jul. 29, 1986, discloses a one-person exercise device that operates with a swinging door to assist one in doing sit-ups and related exercises. The device has a pair of wedge stops and strap means are secured to the stops and extended therebetween. Adjustment connection means are formed in the strap means to allow the separation of the strap means into two separate pieces each secured to one of the stops, and further to allow for adjustment of the overall length of the strap means. The strap means is formed of an inelastic but flexible material possibly 20 to 40 inches long and 1 to 3 inches wide. Each stop has a base surface and a wedge surface angled from one another between 25 and 50 degrees, being between 1.5 and 2.5 inches high at the end surface. The stops fit on one side of the door, with the base surface on the floor and the wedge surface against the bottom of the door and with the strap means passing under the door. The strap means are then looped over the foot or ankle area of the exerciser, who is located on the opposite side of the door from the stops, for holding the exerciser's feet snugged against the floor and the door.

[0012] U.S. Pat. No. 4,609,188, issued to Lind on Sep. 2, 1986, discloses a one-person portable device adapted to be secured to a generally horizontal board, vis a bench in a locker room or the like, operable to assist an exerciser in doing sit-ups and related exercises. The device has a single flexible board strap and a pair of flexible leg straps secured to the board strap. The board strap is of sufficient length to be wrapped around the board, extending transverse to the length thereof, and means are provided to secure the ends of the board strap together to hold the board strap firmly wrapped in place relative to the board. Each leg strap is formed of two pieces having adjacent end portions that are disposed on opposite faces of the board strap, and that are overlapped and secured together as by stitches adjacent the opposite side edges of the board strap. This secures each leg strap relative to the board strap at an orientation extended transverse to the board strap, and laterally holds the leg strap relative to the board strap, while allows each leg strap to be shifted axially along the length of the board strap into alignment on the upper side of the board with a respective leg of the exerciser. The leg straps are of sufficient length, after being twisted one-quarter of a turn, to be wrapped over an ankle or foot of the leg of the exerciser and overlapped, and means are provided to secure the overlapped ends of the

leg straps together, operable to hold the foot or ankle firmly in place relative to the board.

[0013] U.S. Pat. No. 5,009,417, issued to Sarkozi on Apr. 23, 1991, discloses a one-person portable exercise device for strengthening abdominal muscles which can be operated by an individual exercising on a mattress and box spring, or the like combination, without requiring additional assistance during the exercise routine. The device may be easily unfolded for use, and following use, it may be refolded and conveniently stored. The device at one end is folded for securement between the mattress and the box spring, and unfolds and overlays the upper portion of the mattress for use by the individual. The device is adapted to fold and conform with the user's bent ankles, knees and hips, and these folds correspond to the fold lines for folding and unfolding the device. Foot securement means are employed to stabilize the user's feet, and this eliminates the need for assistance during the exercise program. The device at the opposite end lies on the mattress and includes a sheet material upon which the user rests and the weight of the user on the sheet anchors the device on the mattress and prevents it from slipping or becoming displaced during use.

[0014] U.S. Pat. No. 5,328,435, issued to Ricks on Jul. 12, 1994, discloses a one-person apparatus to assist in building stomach muscles by a user performing sit-ups with the apparatus, the apparatus comprising first and second anchoring devices disposed on a horizontal surface, devices to position the first and second anchoring devices spaced apart a selected distance, and attaching devices to releasably attach first and second feet of a user to surfaces of the first and second anchoring devices, respectively, to hold the first and second feet of the user relatively immobile so as to assist the user in performing sit-ups.

[0015] U.S. Pat. No. 6,123,653, issued to Huang on Sep. 26, 2000, discloses a one-person multifunctional sit-up exerciser including a reverse T-shaped inclined main frame which is adjustable in length and a front and a rear beam pivotally connected with a middle upper section of the main frame by a pivot device to form a substantially L-shaped pattern. An upper end and a middle section of the main frame are respectively connected with two transverse soft stopper arms projecting leftward and rightward. A front rest pad is fixed on top face of the front beam. A locating device is disposed at rear end of bottom face of the front beam. A relative small diameter fitting bar formed with several locating holes extends forward from the interior of the rear beam. The fitting bar is fitted in the rear section of the front beam and located by the locating device which is inserted into the locating hole. A shorter rear rest pad and three movably rotatable massage rods are pivotally disposed on top face of the rear beam. Two arch rocking arms which are adjustable in angle are pivotally disposed on bottom face of the rear beam. The rocking arms are rotatably fixed to the rest pad, whereby during exercising, a massaging effect is produced the exercising manners are variable.

[0016] U.S. Pat. No. 6,447,434, issued to Waters on Sep. 10, 2002, discloses a two-person portable exercise apparatus comprising a footrest and an adjustable, elongate bar. The footrest includes a substantially flat top face, a pair of longitudinally disposed sidewalls projecting downwards and outward from opposite longitudinally disposed edges of the top face and a pair of opposing endwalls. The bar is

comprised of an inner and outer tubular members arranged telescopically. Adjustment holes are provided along the length of the inner and outer tubular members and are structured to receive a pair of tubular-shaped handles to retain the inner and outer members at their desired respective positions and to provide a means for gripping the bar. When not in use, the bar may be secured to the footrest by removing one of the handles from the bar, inserting the end of the bar without the handle through holes in the endwalls and then replacing the handle on the bar. In use, each person is seated on opposite sides of the footrest, facing each other, with their feet up against the inclined sidewalls. With the bar adjusted in length to approximate the distance between the extended arms of the two people when one is lying prone on his back and the other is sitting upright, each person grips the handle on their respective end of the bar and the person sitting up reclines backward towards the prone position while pulling the other person upward to an upright sitting position. At the same time, the person who was initially reclining backwards utilizes his abdominal muscles to sit up. This process is repeated back and forth until the desired number of repetitions are completed.

[0017] U.S. Pat. No. 7,004,893, issued to Waters on Feb. 28, 2006, discloses a portable exercise apparatus assisting one person to do sit-up exercise, which includes a footrest, a harness, a resilient retraction means connected between the footrest and harness, and an anchoring means for anchoring the footrest to a stationary support. In use, a person wears the harness connected with the resilient retraction means which connects to the footrest, and seats on the floor with his feet against the footrest. With the assistance of the apparatus, the exerciser alternates between backward prone and sitting upright positions to do sit-up exercise. Another portable exercise apparatus assisting two persons to do sit-up exercise is also provided, which includes a footrest and a hand-pulling device. In use, each person is seated on opposite sides of the footrest, with their feet against the footrest. Each person grips one handle of the hand-pulling device and alternates between sitting upright and backward prone positions.

[0018] While these and previous exercise devices have attempted to solve the problems that they addressed, none have utilized or disclosed a portable assembly for doing two person sit-ups without bulky equipment, as does embodiments of the present invention.

[0019] Accordingly, there is a need for a portable exercise device which can assist two people in performing sit-up exercises by leveraging the body weight of the other person. It is desirable to have such equipment be lightweight, compact, inexpensive, easy to operate and transport. The present invention is particularly suited to address these needs in a manner not previously contemplated.

[0020] Therefore, a need exists for a portable exercise device with these attributes and functionalities. The portable exercise device according to embodiments of the invention substantially departs from the conventional concepts and designs of the prior art. It can be appreciated that there exists a continuing need for a new and improved system and method which can be used commercially for doing two-person sit-ups. In this regard, the present invention substantially fulfills these objectives.

[0021] The foregoing information reflect the state of the art of which the inventor is aware and is tendered with a

view toward discharging the inventor's acknowledged duty of candor in disclosing information that may be pertinent to the patentability of the present invention. It is respectfully stipulated, however, that the foregoing information do not teach or render obvious, singly or when considered in combination, the inventor's claimed invention.

BRIEF SUMMARY OF THE INVENTION

[0022] The general purpose of the present invention, which will be described subsequently in greater detail, is to provide a portable exercise device. In particular, the present invention relates to a portable exercise device that facilitates two-person sit-ups.

[0023] In one embodiment, the present invention provides a portable exercise device for assisting two persons to do sit-up exercises together. The portable exercise device is comprised of a hand-pulling assembly. The hand-pulling assembly is comprised of a pair of hand holds that are joined by a connector. In use the pair of hand holds is in a substantially perpendicular relation to the longitudinal axis of the connector; however the hand holds have the freedom to pivot and rotate if desired.

[0024] To aid in describing the assembly, one hand hold is designated as a first hand hold and the other hand hold is designated as a second hand hold; the connector has a first hand hold end and a second hand hold end where the connector is connected to the first hand hold by a joining of the first hand hold end to the first hand hold and by a joining of the second hand hold end to the second hand hold. When only one connector is used the connector ends connect at roughly the longitudinal center of each hand hold. When two connectors are used, they connect at points roughly equidistant from the longitudinal center of each hand hold. When three connectors are used, one connects at a point roughly at the longitudinal center of each hand hold and the other two connectors connect at points roughly equidistant from the longitudinal center of each hand hold. This pattern of arrangements of connectors may continue when more than three connectors are used.

[0025] Each hand hold may be formed to have finger grips. These finger grips may have a coating or other method of improving the ability of a user to grip the hand hold. Each hand hold may be formed to have a slippage arrestor, e.g., a curved protrusion that keeps a user's hand from slipping off an end of the hand hold.

[0026] The connector may be a rope, a cord, a rubber piece, a plastic strip, a chain or combinations thereof. The joining of a connector to a hand hold may be by stapling, adhesive, fusing, knotting, or other methods known in the art.

[0027] The present invention may include a container for portable storage. This container may be a draw-string bag. The present invention may further include a container of shoe sole adhesive for coating the soles of the users' shoes to reduce slippage during the two-person sit-ups. This adhesive makes the soles "tacky" but does not permanently bond the soles of one user's shoes to the other user's shoes. The present invention may also include an adhesive remover. The present invention may also include one or more exerciser pads. These exerciser pads may be roll-up pads secured by hook and loop fasteners. The present invention may include information pertaining to the use and care of the present invention.

[0028] The present invention is designed for two people. While several positions are possible it is preferable that each person is seated on the floor facing the other with the soles of the first person's feet touching the soles of the second person's feet. Each person's knees may be bent or may be in the locked position. The portable exercise device is positioned such that one person grips the first handle, preferably with two hands, and the other person grips the second handle in like fashion. The two people then alternate between a leaning forward position and a pulling backward position.

[0029] Each handle may be of a cylindrical design, or may be formed in other shapes, such as a multi-sided design, e.g. with a triangular cross section, octagonal cross section. There may be finger-grip type of indentions formed in or on the handle to aid in gripping. There may also be coatings or materials adhered to the handle to minimize hand slippage during the exercise. Portions of the handles, e.g. the ends, may be curved to improve each person's grip.

[0030] The connector may be permanently affixed to the two handles, or may be releasable. Each handle may have at least one cavity or at least one hole to facilitate assembly with the connector. In some embodiments there is a plurality of connectors.

[0031] One aspect of the present invention is that it facilitates two-person sit-ups.

[0032] Another aspect of the present invention is that it is easy to use.

[0033] Another aspect of the present invention is that it can be made inexpensively.

[0034] Another aspect of the present invention is that it can be made of readily available materials.

[0035] Another aspect of the present invention is that it can be easily stored and transported.

[0036] These and other features and advantages of the present invention will be presented in more detail in the following specification of the invention and the accompanying figures, which illustrate by way of example the principles of the invention.

[0037] There are additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto. In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

[0038] As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent

constructions insofar as they do not depart from the spirit and scope of the present invention.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0039] The invention, together with further advantages thereof, may best be understood by reference to the following description taken in conjunction with the accompanying drawings in which:

[0040] FIG. 1 illustrates a perspective view of a hand hold assembly according to one embodiment of the present invention.

[0041] FIG. 2 illustrates a top plan view of a hand hold assembly according to one embodiment of the present invention.

[0042] FIG. 3 illustrates a side plan view of a hand hold assembly according to one embodiment of the present invention.

[0043] FIG. 4 illustrates a front plan view of a hand hold assembly according to one embodiment of the present invention.

[0044] FIG. 5 illustrates a sectional view of a connector end affixed to hand hold connection point according to one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0045] The present invention will now be described in detail with reference to a few preferred embodiments thereof as illustrated in the accompanying drawings. In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, to one skilled in the art, that the present invention may be practiced without some or all of these specific details. In other instances, well known operations have not been described in detail so not to unnecessarily obscure the present invention.

[0046] Referring now to FIG. 1 through FIG. 5, a hand pulling assembly 1 is comprised of a first hand hold 100, a second hand hold 200, and a connector 300.

[0047] First hand hold 100 has a first hand hold connection point 105, a first hand hold first end 110 and a first hand hold second end 120. Second hand hold 200 has a second hand hold connection point 205, a second hand hold first end 210 and a second hand hold second end 220.

[0048] Connector 300 has a connector first end 310 and a connector second end 320. The connector first end 310 is connected to the first hand hold connection point 105. The connector second end 320 is connected to the second hand hold connection point 205. This joining is preferably permanent, but may be releasable in some embodiments.

[0049] First hand hold 100 and second hand hold 200 are preferably made from wood, but other materials such as plastic, metal, or other suitable materials, or combinations of wood, plastic, metal, or other suitable material, may also be used. First hand hold 100 and second hand hold 200 are preferably each 12 inches in length and have preferably have finger grooves. First hand hold 100 and second hand hold 200 are preferably coated with a neoprene non-slip finish to

reduce hand slippage during the exercise. Straps equipped with hook-and-loop fasteners may be used to restrain a user's hands from slipping off of the handle during execution of a two-person sit-up regimen, either as a separate part or affixed as a part of the portable exercise device.

[0050] First hand hold 100 and second hand hold 200 may be further comprised of at least one handle logo/personalization area. This area may identify a company, a team, a person, or the like.

[0051] Connector 300 may be a rope, a wire, an elastic tube, a belt, linked loops, a chain, a bar, or combinations of these materials. Connector 300 is preferably a metal chain that is 27 inches in length as measured from handle to handle. Connector 300 is preferably securely connected at the center of each handle. In embodiments having a plurality of connector 300, the connectors will be positioned so as to not interfere with the gripping process. Connector 300 may be further comprised of at least one connector logo/personalization area. This connector logo/personalization area may identify a company, a team, a person, or the like.

[0052] In some embodiments the present invention may be further comprised of means for securing one person's feet to the other person's feet to facilitate the sit-up exercise, e.g. tacky adhesive, elastic bands, strips of material with hook-and-loop fasteners.

[0053] In some embodiments the present invention may be further comprised of a carrying case or bag designed for transport of the hand pulling assembly and other exercise accessories. The present invention may be further comprised of an exercise mat that rolls up and fits inside the carrying case or bag.

[0054] In an exemplary embodiment the present invention is comprised of a first hand hold, a second hand hold and a connector that joins the first hand hold to the second hand hold at a first connection point. The present invention may be further comprised of finger holds formed on the first hand hold and the second hand hold. Each hand hold

[0055] In one embodiment the portable exercise device kit for conducting two-person sit-ups is comprised of a first hand hold, a second hand hold and at least one of a connector. The connector is comprised of a connector first end and a connector second end. Also included in the kit is a container of tacky shoe adhesive, an exerciser pad capable of being rolled up, a storage bag that holds some or all of the other aforementioned items. The first hand hold has one or more of a first hand hold connection point. The second hand hold has one or more of a second hand hold connection point. The connector first end is fastened to the first hand hold connection and the connector second end is fastened to the second hand hold connection. If only one connector is used, the connection points in the center of each hand hold are used. If two connectors are used, the connection points are selected in a balanced fashion. When multiple connectors are used they generally are positioned to be substantially parallel to each other, but in some arrangements some of the connectors will be connected so as to be non-parallel. The first hand hold has a first hand hold finger grips, a first hand hold slippage arrestor, a first hand hold restraining strap and a first hand hold logo/personalization area. The second hand hold has a second hand hold finger grips, a second hand hold slippage arrestor, a second hand hold restraining strap and a second hand hold logo/personalization area.

[0056] From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. For example, many of the features and components described above in the context of a particular portable exercise device configuration can be incorporated into other configurations in accordance with other embodiments of the invention. Accordingly, the invention is not limited except by the appended claims.

What is claimed is:

1. A portable exercise device kit for conducting two-person sit-ups comprising:

a hand pulling assembly comprised of a first hand hold, a second hand hold and at least one of a connector having a connector first end and a connector second end;

a container of tacky shoe adhesive;

an exerciser pad capable of being rolled up; and

and a storage bag capable for holding the contents of the portable exercise device kit;

wherein the first hand hold has at least one of a first hand hold connection point, the second hand hold has at least one of a second hand hold connection point, the connector first end is fastened to the first hand hold connection and the connector second end is fastened to the second hand hold connection,

wherein the first hand hold has a first hand hold finger grips, a first hand hold slippage arrestor, a first hand hold restraining strap and a first hand hold logo/personalization area,

wherein the second hand hold has a second hand hold finger grips, a second hand hold slippage arrestor, a second hand hold restraining strap and a second hand hold logo/personalization area.

2. The portable exercise device kit of claim 1, wherein each first hand hold connection point and each second hand hold connection point are positioned at substantially corresponding positions with each other.

3. The portable exercise device kit of claim 2, wherein each connector is substantially perpendicular to the first hand hold and the second hand hold.

4. The portable exercise device kit of claim 4, wherein the first hand hold and the second hand hold are coated with a non-slip finish.

5. The portable exercise device kit of claim 5, wherein the non-slip finish is a neoprene non-slip finish.

6. The portable exercise device kit of claim 6, wherein the connector is a rope, an elastic tube, a belt, linked loops, a chain or a bar.

7. A portable exercise device comprising a first handle having a first hand shape and a first handle midpoint, a second handle having a second handle shape and a second handle midpoint and a connector having a first end and a second end wherein the first end is affixed at the first handle midpoint and the second end is affixed at the second handle midpoint.

8. The portable exercise device of claim 7, wherein the first handle shape is cylindrical and the second handle shape is cylindrical.

9. The portable exercise device of claim 7, wherein the first handle shape is non-cylindrical and the second handle shape is non-cylindrical.

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