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Ross

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[54] **INCLINED PORTABLE EXERCISE FRAME**

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[52] **U.S. Cl.** ..... **272/57 R;** 182/108; 272/63; 403/234; 182/228

[51] **Int. Cl.²** **A63B 17/00**

[58] **Field of Search** ..... 272/57 R, 60 R, 63; 182/106, 108, 150, 206, 220, 228; 248/247, 248

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[57] **ABSTRACT**

An exercise frame adapted to be stood on a floor and leaned against a wall and be supported thereby, which frame includes laterally offset side rails adapted to be gripped by a person exercising on the frame. A foot support board near a lower end of the frame is secured to the side rails to provide a surface upon which the person exercising with the frame may stand, and a crossbrace is connected to the side rails near the upper end of the frame to add strength and rigidity thereto. The space circumscribed by the side rails, foot support board and cross brace is free of obstructions to permit freedom of movement of one exercising on the frame.

4 Claims, 8 Drawing Figures

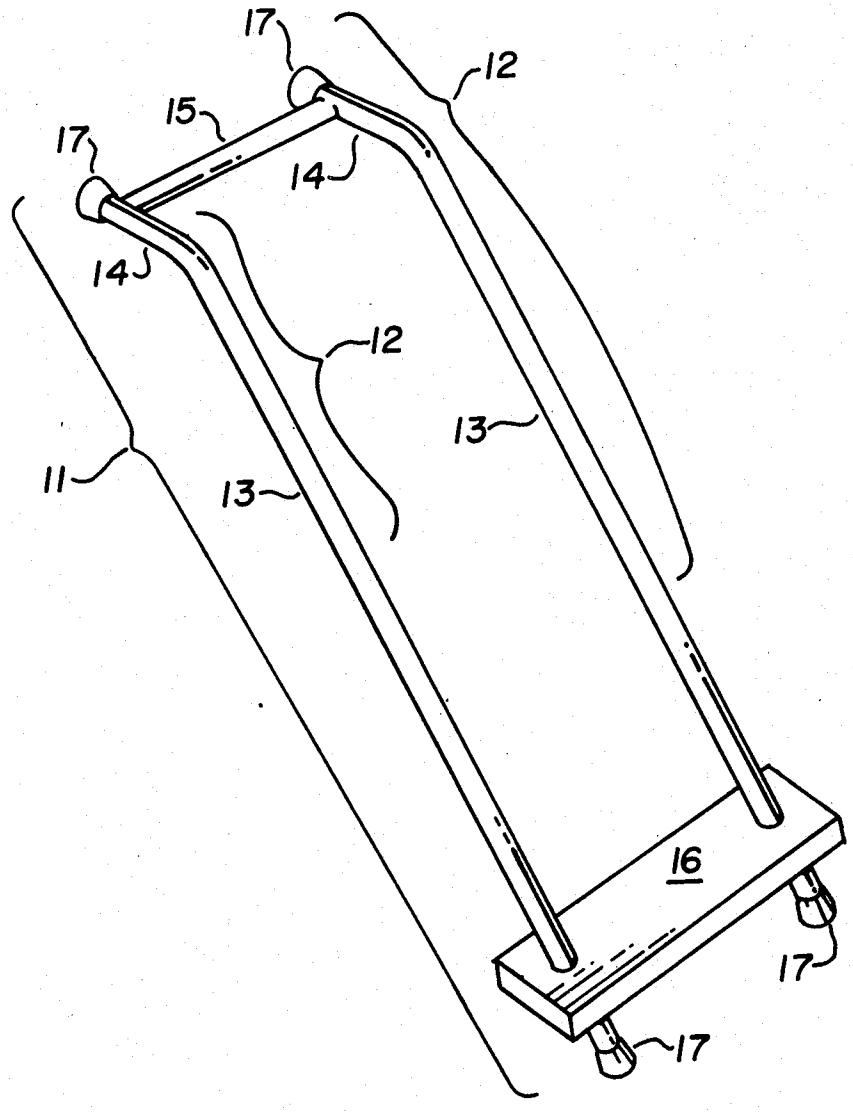


FIG. 1

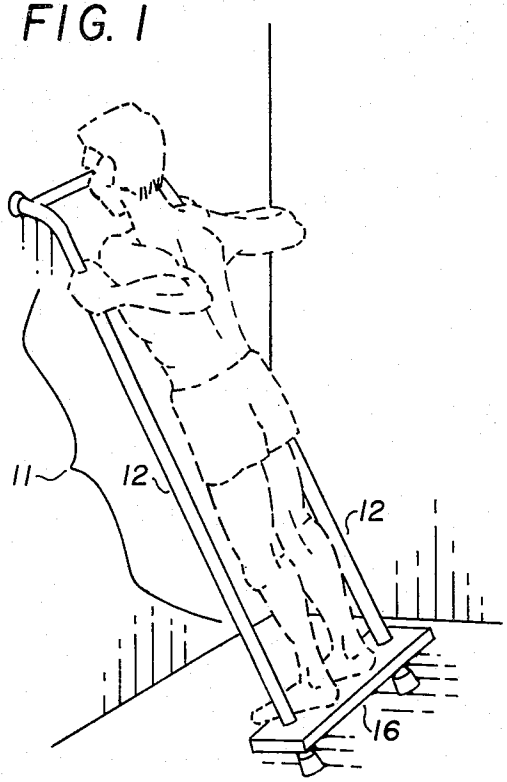


FIG. 2

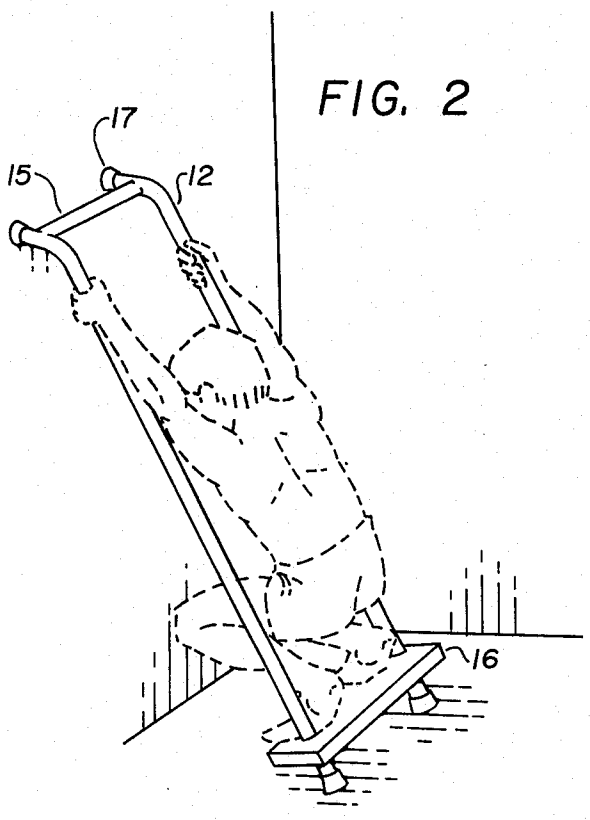


FIG. 3

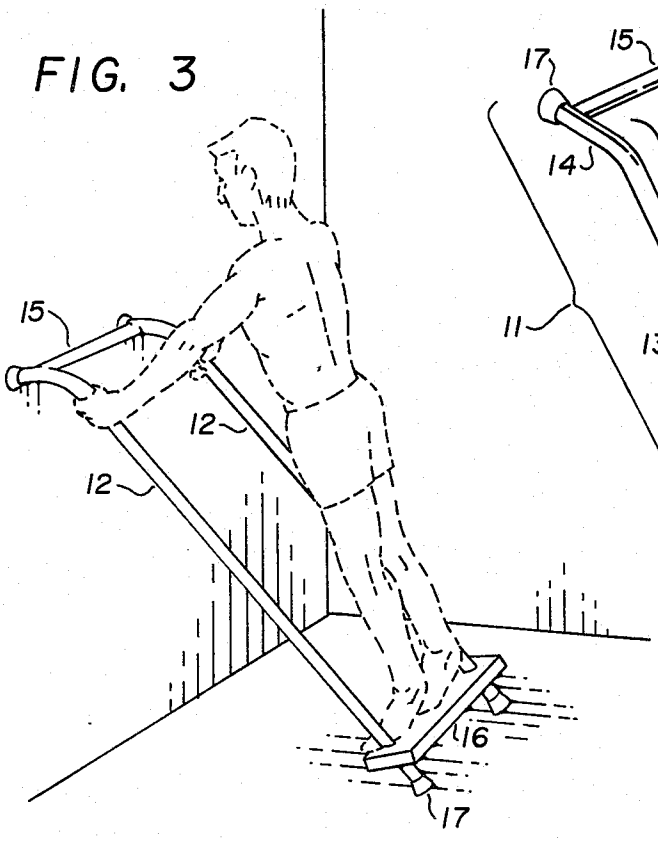
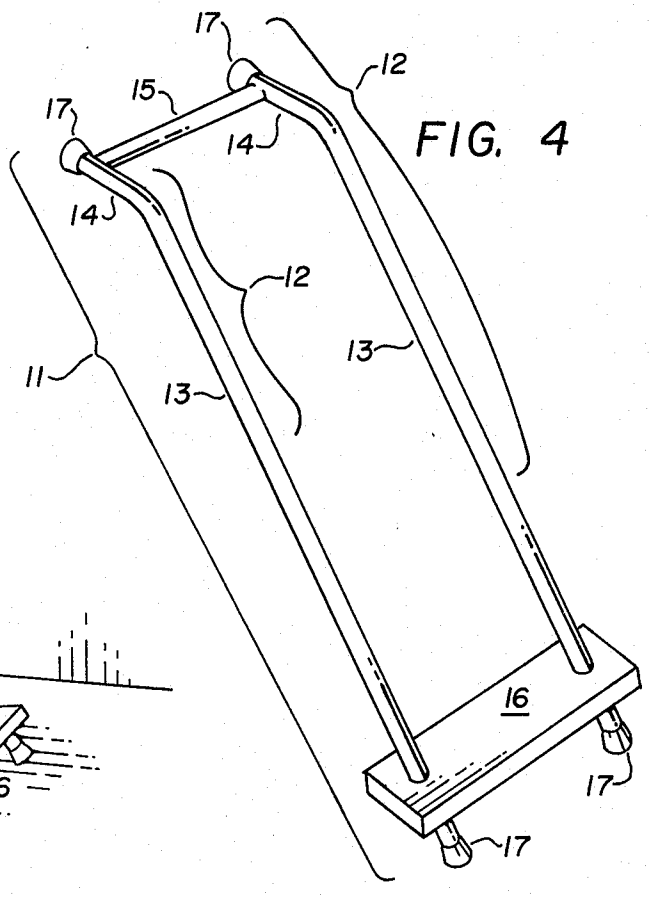


FIG. 4



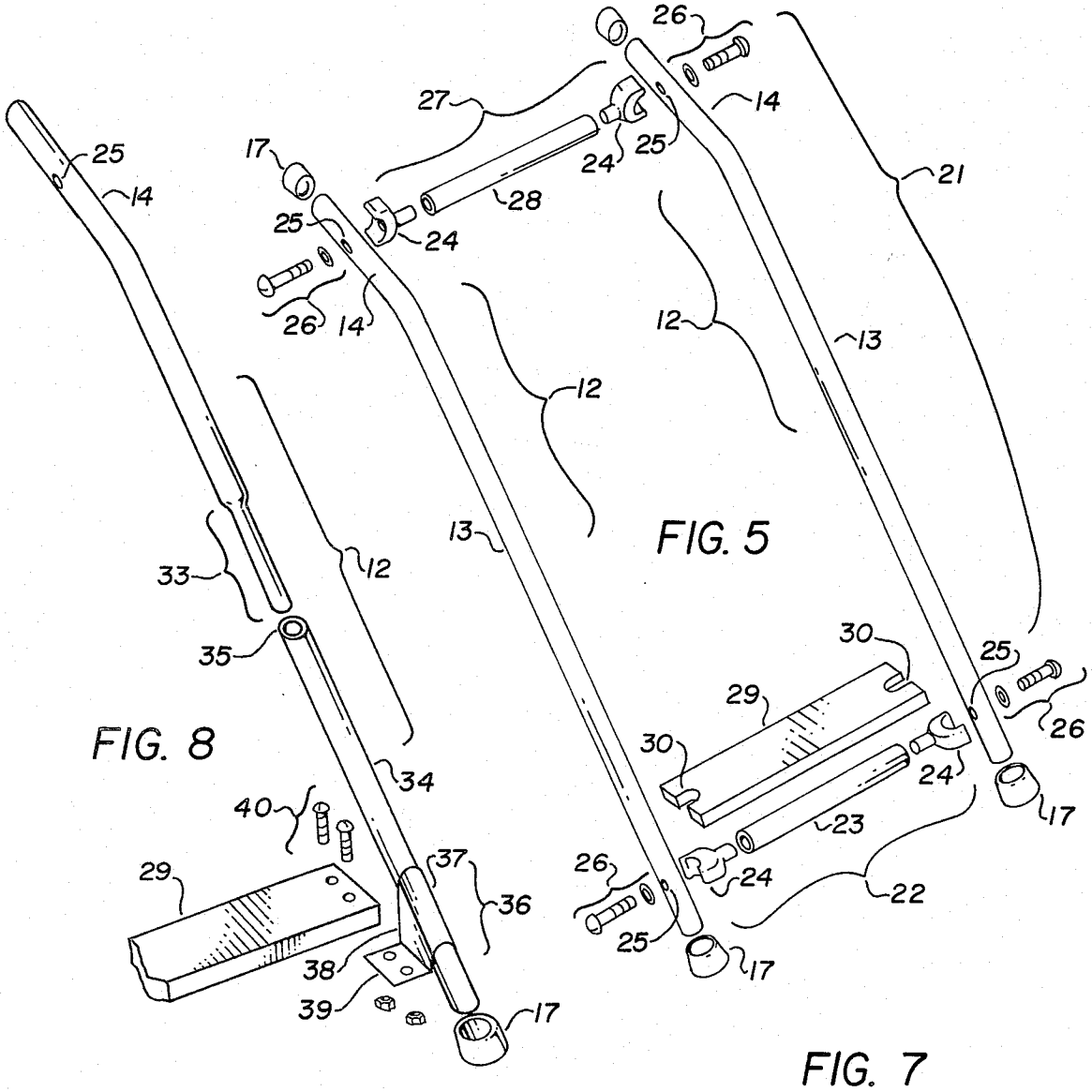


FIG. 5

FIG. 8

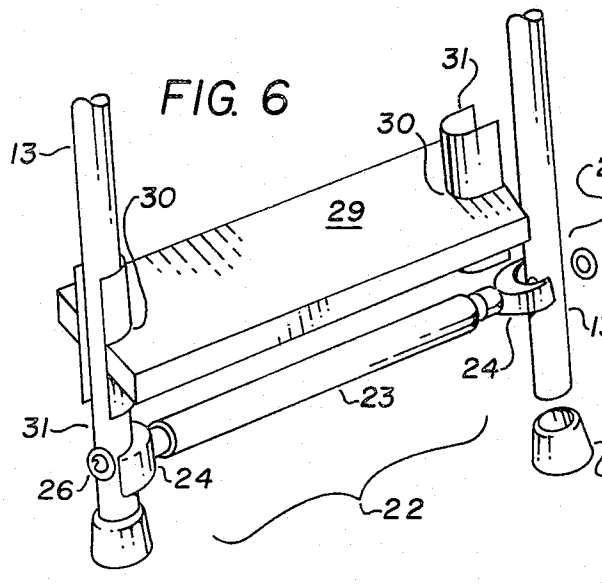


FIG. 6

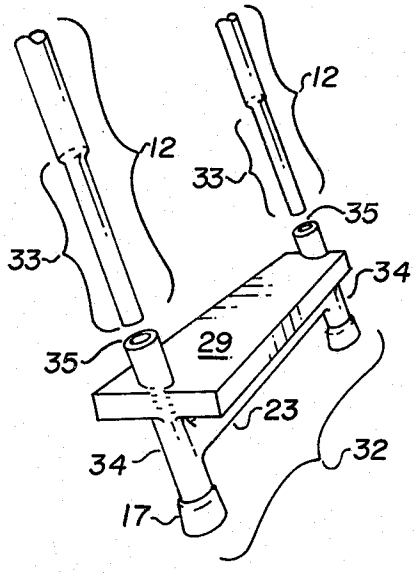


FIG. 7

INCLINED PORTABLE EXERCISE FRAME

SUBJECT MATTER OF THE INVENTION

This invention relates generally to physical exercise frames and relates more particularly to simple portable exercise frames that can be easily set up in an inclined position against any available wall for the performance of multiple exercises.

BACKGROUND OF THE INVENTION

Over a considerable period of time military calisthenic type exercises in which the free standing body was exercised by moving parts of the body from one position to another have constituted the predominate form of exercises employed in physical culture programs. These have required minimum equipment and space and have been very satisfactory forms of physical culture exercise for young people and military personnel who were already in good physical condition and needed little more than a physical maintenance program. With the recent concern over increase in hypertensions, heart attacks and chronic illnesses associated with obesity and neglect of body conditioning there has been an upsurge in public concern and interest in bicycling, running and exercise programs as a means of restoring some measure of physical fitness among mature adults.

This alerted awareness and concern with physical health programs has spawned an abundance of sophisticated exercise machines and gymnastic apparatus for those with access to a gymnasium or a physical culture salon and for those who have the financial resources and abundant space to provide their homes with a plurality of such exercise machines. Most of the alerted adults will, however, not have the time, space or financial resources to secure the ownership or use of such professional physical development equipment in their homes or in a professional health establishment. These people usually resort to some self-prescribed program combining running or bicycling with a few calisthenic exercises remembered from their experience with military calisthenics or physical education from their high school or college days. These activities are constructive but they need to be supplemented by the conventional basic military forms of exercise. As a person becomes older and more obese these exercises involving increased strain on the knees and shoulders can produce physical injury rather than help. It is therefore desirable that obese and older persons should perform military calisthenic type exercises on some kind of exercise frame that enables the user to divide the strain of lifting excessive body weight between the arms and legs as the person performing the exercise raises and lowers his body with the aid of the exercise frame.

OBJECTS OF THE INVENTION

A major object of this invention is to provide an exercise frame which may be used for a variety of active exercises involving many muscles at one time but which does not impose excessive weight strain on the shoulders or the knees.

A material object of the invention is to provide an exercise frame that allows the participant to perform a greater plurality of exercises involving coordination of more muscles with less danger of excessive strain or risk than can be achieved by the unaided efforts of a free standing exerciser.

Another object is to provide an exercise frame device that can be conveniently and readily used anywhere around a building without requiring special adaptation to the existing surroundings for its full use.

Another object is to provide an exercise rail frame that has no moving parts and that is so simple in construction as to cause minimum trouble during set up and usage of the device.

A further object of the invention is to provide an exercise frame device that occupies minimum space, that is easily portable and storable because of its simplicity, light weight, and shape.

Still another object of the invention is to provide an exercise device the use of which can be mastered quickly by persons of all ages.

Another object of the exercise frame is that it is readily adaptable to fabrication in knock-down kit form of sufficient simplicity for the average person to be able to assemble the exercise frame for use in a matter of a few minutes.

These and other objects and advantages of this invention will become apparent through consideration of the following description and appended claims in conjunction with the attached drawings.

DESCRIPTION OF THE SEVERAL VIEWS IN THE DRAWINGS

FIG. **1** is a perspective pictorial view of the inclined portable exercise frame being used in a wall-leaning work-out position by an exerciser.

FIG. **2** is a perspective pictorial view of an exerciser in a knee-bend half-squat position on the inclined portable exercise frame in a wall-leaning position.

FIG. **3** is a perspective pictorial view of the inclined portable exercise frame in a wall-leaning work-out position at a more acute angle with respect to the floor surface than shown in FIGS. **1** and **2**, along with an exerciser using the exercise frame to do a push-up tip-toe exercise.

FIG. **4** is a perspective view of the inclined portable exercise frame showing an unobstructed view of the foot support board.

FIG. **5** is a perspective exploded view of the inclined portable exercise frame as it might be fabricated from a plurality of detachable-attachable interfitting parts that could be assembled or disassembled quickly and simply.

FIG. **6** is a perspective partially assembled detail view of the exercise frame showing variation of the means of mounting the foot support board utilizing a half-sleeve anti-twist brace at each end of the foot support board to prevent the transversely positioned foot support board from twisting when a user rhythmically exercises on the frame.

FIG. **7** is a perspective exploded detail view of another variation of the inclined portable exercise frame in which the ends of the left and right spaced apart side rails fit into the left and right side rail sleeves of a fixed unitary foot-base support assembly.

FIG. **8** is a partial perspective exploded detail view of another variation of the inclined portable exercise frame where each of the tubular side rails consist of two insertable-removable sections and the foot support board is held in place by means of a pair of hanger support brackets.

In describing one selected form or preferred embodiment of this invention as shown in the drawings and described in this specification, specific terms and compo-

nents are used for clarity. However, it is not intended to limit the claimed invention to the specific form, components or construction shown as it is to be understood that the specific terms used in this illustration of the invention are intended to include all technical equivalents which operate in a similar manner to accomplish a similar purpose.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT OF INVENTION

Referring to the specific embodiment of the invention selected for illustration in the accompanying drawings, the number **11** refers to the overall inclined portable exercise frame disclosed and claimed herein as shown from a perspective viewpoint in FIG. **4.** The exercise frame **11** is principally composed of a pair of inclined spaced apart tubular side grip rails **12—12** which are held in a parallel spaced apart relationship by an upper cross-brace **15** transversely positioned between the side rails **12—12** at an intermediate point equally near the upper ends of said side grip rails **12—12,** and by a flat, oblong foot support board **16** transversely positioned and located near the lower ends of said side grip rails **12—12.** The side grip rails **12—12** and the upper cross-brace **15** and foot support board **16** forms a unitary rectangular configuration that roughly "frames" the body of a person who uses the exercise frame **11** by leaning the exercise frame against a wall and standing on foot support board **16** while holding onto said side grip rails **12—12** as shown in FIG. **1** and FIG. **2** of the drawings. FIGS. **1, 2** and **3** show how the portable exercise frame **11** forms the hypotenuse of a right triangle where the floor and wall surfaces make up the other two perpendicular sides of the triangle.

The side grip rails **12—12** are composed of straight lower side rail sections **13—13** which form the major longer section parts of the side grip rails **12—12,** and shorter stand-off strut supports **14—14** which are about one-fifth to one-tenth as long as the lower side rail sections **13—13** and which bend forward at an obtuse angle from the top ends of said lower side rail sections **13—13** away from the user to support the exercise frame **11** at a distance from the wall that said exercise frame is leaning against.

The raw ends of the spaced apart tubular side rails **12—12** are fitted with non-marring friction capping ends **17—17** so that the side rails **12—12** will not mar, scratch or slip on the engaged wall and floor surfaces, even though the inclined exercise frame **11** is placed at a variety of different angles corresponding to exercises of different kinds and difficulties shown in FIGS. **1, 2** and **3.**

The plane of the flat foot support board **16** is at an angle to the said side grip rails **12—12** so that when exercise frame **11** is leaned against the wall to be used for exercising, the plane of the top surface of the flat foot support board **16** is generally horizontal and parallel to the floor on which the exercise frame is resting. The foot support board **16** would be in a generally horizontal position when the exercise frame is leaning against a wall and is at about a 60° angle to the floor surface as shown in FIGS. **1** and **2.** This position of the exercise frame **11** is less strenuous on the muscles of the user than a position where the exercise frame **11** is at a more acute angle to the floor nearer the horizontal such as at 45° as shown in FIG. **3.** A more acute position of the exercise frame forces the body to work more against gravity as well as changes the angle of the flat foot support board **16** to force the muscles of the feet to work harder than they would otherwise with the feet support board **16** in a near horizontal position demonstrated in FIGS. **1** and **2.**

An alternate specific embodiment of the invention utilizes a straight tubular rigid lower transverse cross brace **23** connected between the tubular side rails **12—12** at intermediate points equally from the lower ends of the side rails **12—12** directly beneath the flat oblong foot support board **16** as shown in FIGS. **5** and **6** to aid in bracing and supporting said foot support board to better enable it to carry the weight of an exerciser-user. The lower transverse cross brace **23** also further assists in securing together and holding side grip rails **12—12** in a parallel spaced apart relationship and to relieve the foot support board **16** from the function of holding the lower end of the exercise frame strongly and rigidly together.

Another alternate form of the invention reduces the stress and twisting imparted to the flat oblong foot support board **16** by the exerciser-user by modifying said foot support board **16** with a semi-circular cut-out notch **30** in each end of the foot support board **16,** shown in FIGS. **5** and **6.** Each semi-circular notch **30** may be fitted with a metal half-tubular anti-twist brace **31** that fits around and firmly cradles and fastens to the lower ends of the left and right side rails to further brace the foot support board **16** and to prevent it from twisting and rotating with respect to the side grip rails **12—12** since the extra length of the half-tubular anti-twist braces **31—31** firmly joins with more of the surface area of the side grip rails **12—12** than the joining surface area provided by the transverse foot support board only. Since active rhythmic exercises are to be performed on the inclined exercise frame which are certain to produce quick motions of the feet in shifting the weight of the exerciser rapidly over the oblong foot support board **16,** the extra stability provided by half-tubular anti-twist braces **31—31** to keep the foot support board from twisting back and forth may be necessary to prevent the threat of possible foot injury due to improper wobbling of foot support board **16.**

Another alternate means of preventing flat oblong foot support board **16** from twisting back and forth is by use of hanger support brackets **36—36** as illustrated in FIG. **8** of the drawings. One of the hanger support brackets **36—36** is used to support one end of the oblong foot support board **16** in a fixed relationship between the lower ends of the spaced apart tubular side rails **12—12.** Each of the hanger support brackets **36—36** has a half tubular sleeve-clamp **37** which firmly fits and attaches to the inclined tubular side grip rails **12—12** at an intermediate point near the lower end of said side rails **12—12.** Depending from one side of the half tubular sleeve clamp is a generally triangularly shaped spacer plate **38** which sets the angle of the foot support board **16** with respect to the inclined side rails so that the foot support board would result in being generally horizontal and parallel to the floor surface when the exercise frame **11** is leaned against a wall for an exercising session. Out from the bottom edge of said triangular spacer plate **38** opposite the side of the half tubular sleeve-clamp **37** extends a horizontal foot board mounting and supporting flange **39** which is at a right angle to the triangular depending spacer plate **38.** Said horizontal foot board supporting flange **39** provides a surface ledge upon which an end of the flat oblong foot support board **16** may be fixedly mounted

by means of suitable fastening means **40,** which, as suggested by the representations in the drawings, could be a pair of conventional bolts. The use of the hanger support brackets **36—36** to hold the foot support board **16** in a firm perpendicular relationship with the side grip rails **12—12** and parallel relationship to the engaged floor surface, would eliminate the tendency of the foot support board **16** to twist and turn back and forth as the exerciser went through a work-out on the exercise frame. The use of the hanger support brackets **36—36** would also greatly reduce side-to-side collapsing and folding tendencies of the bottom section of exercise frame **11** if the side rails **12—12** and oblong foot support board **16** are subjected to uneven stress due to imbalanced exercising on the exercise frame.

The inclined portable exercise frame is of such simple design and construction that an alternate specific embodiment of the invention may be a portable exercise frame assembly **21** that can be readily put together and taken apart from a plurality of detachable-attachable interfitting parts as shown in exploded FIG. **5,** to enable the user to disassemble the inclined portable exercise frame assembly and pack it in a smaller volume for greater portability than can be had when the portable exercise frame is in its fully assembled state. The basic parts of the first embodiment of the invention shown in FIG. **4** are present in the alternate exercise frame assembly **21** with changes designed to provide detachability yet retain the rigidity and strength required for a durable exercise frame. As shown in FIG. **5,** the exercise frame assembly **21** has two parallel inclined spaced apart side rails **12—12** that have straight lower side rail sections **13—13** to engage the floor surface with their lower ends and straight stand-off strut supports **14—14** to engage a wall surface with their upper ends. The raw ends of said tubular side rails **12—12** are covered and protected from marring and slipping on the floor and wall surfaces by non-marring friction side rail capping ends **17—17.** The lower ends of the side grip rails **12—12** are held in a rigid spaced apart relationship by a lower removable-attachable spacer-bar cross-brace assembly **22.** The lower removable-attachable spacer-bar cross-brace assembly **22** is composed of a straight tubular rigid lower transverse cross-brace **23** and two rigid yoke side rail and transverse spacer-bar cross-brace joining brackets **24—24** which are force fitted into each open end of the hollow tubular lower transverse cross-brace **23.** The yoke side rail and cross brace joining brackets **24—24** have side rail meeting and gripping surfaces that engage and hold the tubular side grip rails **12—12** in a perpendicular relationship with the tubular lower transverse cross-brace **23** by utilizing suitable fastening means **26—26** through transverse cross-brace fastening holes **25—25** near the lower ends of the side grip rails **12—12** to rigidly secure the lower transverse cross-brace **23,** the side grip rails **12—12** and the yoke joining brackets **24—24** in a temporary and releasable fixed relationship which may be taken apart and disassembled when the exercise frame assembly **21** is to be transported after use.

Above and resting upon the lower spacer-bar cross-brace assembly **22** is positioned a flat oblong attachable-removable foot support board **29** to support the feet of the exerciser-user while he is exercising. The attachable-removable foot support board **29** is held in position between said side grip rails **12—12** by means of inclined semi-circular side rail cut-out slots **30—30** which engage the tubular side rails **12—12** at an incline such as to hold the top surface of the attachable-removable foot support board **29** in a substantially horizontal and parallel relationship with respect to the floor surface on which the exercise frame **21** is to be used. Although inclined cut-out slots **30—30** firmly fit over the sides of the side hand grip rails **12—12,** the side grip rails are principally held into place in the inclined cut-out slots **30—30** by the connecting and holding force of the lower removable-attachable cross-brace assembly **22** which also supports most of the body weight of the exerciser-user on the attachable-removable foot support board **29** since it is attached more firmly through the side rails **12—12** by means of transverse cross-brace fastening holes **25—25.**

The upper ends of the side grip rails **12—12** are held in a rigid parallel spaced apart relationship by an upper rigid strength transverse spacer-bar cross-brace assembly **27** which utilizes a straight tubular rigid upper transverse cross-brace **28** fitted with a yoke side rail and transverse space-bar cross-brace joining bracket **24** in either end. The joining brackets **24—24** hold the tubular side grip rails **12—12** in a perpendicular relationship using fastening means **26—26** identical to the construction of the lower spacer-bar cross-brace assembly **22** with the exception that the transverse cross-brace fastening holes **25—25** are located equally near the upper ends of the inclined spaced apart tubular side rails **12—12.**

The inclined portable exercise frame assembly **21** constructed from a plurality of attachable-detachable interfitting parts may also have an oblong attachable-removable foot support board **29** provided with a metal half-sleeve anti-twist brace **31** rigidly fixed mounted in each semi-circular cut-out notch **30** as shown in FIG. **6.** Each of the half-sleeve anti-twist braces **31—31** are of a sufficient size to fit closely around a short length of one of the side grip rails **12—12.** The anti-twist braces **31—31** are securely and rigidly connected to the left and right side grip rails **12—12** by an attachable-releasable means which will further brace and prevent the transversely positioned foot board **29** from twisting and rotating with respect to the side grip rails when uneven weight and stress are applied to said foot support board **29.**

Still another means of giving rigid strength to the lower end of the exercise frame assembly **21** is to construct the lower end of the exercise frame **21** as one unitary structural part designated as a fixed foot-base support assembly **32** in FIG. **7** of the drawings. In this variation of the invention the lower ends of left and right side rails **12—12** do not engage the floor surface but rather terminate at their lower ends in shaped insert nipples **33—33** that fit into the sleeve openings **35—35** of left and right spaced apart tubular side rail foot extensions **34—34.** The side rail foot extensions **34—34** engage the floor with their lower ends and are protected from marring and slipping on the floor by two non-marring friction capping ends **17—17.** The side rail foot entensions **34—34** are held together in a permanent, parallel spaced apart relationship by being welded perpendicularly on either end of a lower tubular spacer-bar cross-brace **23.** A flat oblong foot support board **29** is permanently and securely welded between the left and right side rail foot extensions **34—34** on top of the welded lower transverse cross-brace **23** so that the entire fixed foot base assembly **32** constitutes a rigid unitary structure of appropriate size and compactness to be stored and transported by a traveler-user in

a suitcase to enable him to carry, assemble and disassemble the plurality of parts into an exercise frame assembly **21** whenever desired.

Each of the side grip rails **12—12** may be divided into two parts, one part terminating in a shaped insert nipple **33** and the other beginning in a sleeve opening **34** that insert nipple **33** may fit into. This division may occur further up on the side rails **12—12** as shown in FIG. **8** rather than near the lower ends of the side rails **12—12** illustrated in FIG. **7** so that the longest parts of the exercise frame assembly **21** may be shortened to a more compact length.

The inclined portable exercise frame assembly **21** as shown in FIG. **8** may also make utility of the hanger support bracket method of supporting the attachable-removable foot support board **29.** The hanger support brackets **36—36** may be placed by the exerciser-user on the lower ends of side rails **12—12** by means of half tubular sleeve clamps **37—37** at equal distances from the lower terminations. The user may then quickly and easily attach the ends of attachable-removable foot support board **29** to the horizontal foot board mounting and support brackets **39—39** by suitable fastening **40—40** to hold the flat oblong foot support board **29** in a secure elevated position substantially horizontal and parallel to the floor surface supporting the lower ends of left and right spaced apart tubular side rail foot extensions **34—34.**

The variations of the inclined portable exercise frame illustrated in FIGS. **5** through **8** of the drawings and described herein show that the portable exercise frame assembly **21** may be constructed so as to permit the exercise frame to be disassembled, packed into a compact shape and easily transported to and quickly assembled at another appropriate exercise site, which need only consist of a flat floor and wall positioned at right angles to each other.

OPERATION

In operation, the inclined portable wall leaning exercise frame is leaned against any sturdy wall surface that is substantially at a right angle to the adjoining floor surface so that the stand-off strut supports **14—14** of the exercise frame rest against the wall surface. The general range of lean for the exercise frame runs from about a 45° to 60° angle between the exercise frame and the floor surface, although the frame could be at angle more obtuse than 60° to the floor; however, if the frame was at angle more acute than 45°, it would have a tendency to collapse and fall since the major portion of the weight of the exerciser-user would no longer be carried by the wall surface.

The exerciser-user begins the usual work-out on the exercise frame by stepping on the flat oblong foot support board **16** with his feet parallel and slightly apart while holding onto the side grip rails **12—12** up near the point where the side rails bend at the elbow joint of lower side rail sections **13—13** and stand-off strut supports **14—14.** The exerciser-user should by this time have his body in a leaning position parallel to the exercise frame **11** as shown in FIG. **1.**

FIG. **2** shows an exerciser-user doing a squat deep-knee bend exercise on the exercise frame illustrating how the exerciser may use his hands and arms to pull up his body weight, a task which is normally performed only with the legs and knees. In this way can the frame be used to assist people with knee and leg deficiencies who cannot do a conventional deep-knee bend to use their arms in assisting in limited exercise of the weak muscles either with the goal of making them stronger or maintaining the present muscle tone.

The push-up type of exercise shown in FIG. **3** is a kind of "vertical push-up" or "push-out" which is easier for weak arm muscles to do than the conventional "horizontal push-up." The exerciser shown in FIG. **3** is also using the foot support board **16** to do a tip-toe exercise which can be done by the exerciser-user when the exerciser-user places his toes just short of the far edge of the foot support board **16.** Both of the exercises shown in FIG. **3** may be made easier by adjusting the angle of the exercise frame to the floor surface to be more obtuse—that is move like the 60° angle shown in FIGS. **1** and **2.** Many more exercises than illustrated may be performed on the exercise frame and the exerciser-user may very likely be able to devise some of his own while certainly being able to adjust the difficulty of the exercises merely by adjusting the angle of the exercise frame to the floor. After exercising, the frame need only be picked up and carried to its storage place.

The inclined portable exercise frame assembly **21** composed of a plurality of interfitting parts shown in FIGS. **5** through **8** need only be taken apart in a few places before it is ready for transport. The lower and upper spacer-bar cross-brace assemblies **22** and **27,** as well as attachable-removable foot support board, need only be detached from tubular side grip rails **12—12** before the portable exercise frame assembly **21** is ready for packing and transport.

In the variations of the exercise frame assembly **21** shown in FIGS. **7** and **8** there is the additional step of removing the upper sections of the side grip rails **12—12** terminating in the shaped insert nipples **33—33** from the sleeve openings **35—35** of left and right spaced apart tubular side rail foot extensions **34—34.** Though the various drawing Figures show variations in construction, all of the versions are simple and quick to put together and disassemble into a more compact, more transportable package than the original assembled inclined exercise frame.

ADVANTAGES OF THE INVENTION

A major advantage of this invention is that is provides an exercise frame which may be used for a variety of active exercises involving many muscles at one time but which permits control and limitation of the stress applied to the muscles exercised without imposing excessive weight strain on the shoulders or the knees of the person exercising.

A material advantage of the invention is that it provides an exercise frame that allows the participant to perform a greater plurality of exercises involving coordination of more muscles with less danger of excessive strain or risk than can be achieved by the unaided efforts of a free standing exerciser-user.

A significant advantage of the invention resides in the described combination with provision for quick and easy adjustment of the angle of inclination of the exercise frame with respect to the wall such as to permit simple adjustment of the rigorousness of the exercises merely by altering the angle of incline between the exercise frame and the wall against which the frame leans.

Another advantage of the invention is that it provides an exercise frame device that can be conveniently and readily used anywhere around a home or building without requiring special adaptation to the existing surroundings for its full use.

Another advantage of the invention is that it provides an exercise rail frame that has no moving parts and that is so simple in construction as to require minimum trouble during set up and usage of the device.

A further advantage of the invention is that it provides an exercise frame device that occupies minimum space, that is easily portable and storable because of its simplicity, light weight and shape.

Still another advantage of the invention is that it provides an exercise device the use of which can be mastered quickly by persons of all ages.

Another advantage of the exercise frame is that it can be constructed with a plurality of parts of limited size such that the component parts for the exercise frame can be readily fitted into a suitcase for easy portability by a traveler and still be readily adaptable to fabrication in knock-down kit form of sufficient simplicity for the average person to be able to assembly the exercise frame for use in a hotel room in a matter of a few minutes.

Although this specification describes only a few embodiments of the invention with certain applications thereof, it should be understood that structural or material rearrangements of adequate or equivalent parts, substitutions of equivalent functional elements and other modification in structure can be made and other applications devised without departing from the spirit and scope of my invention. I therefore desire that the description and drawings herein be regarded as only an illustration of my invention and that the invention be regarded as limited only as set forth in the following claims, or as required by the prior art.

Having thus described my invention, I claim:

1. An inclined portable exercise frame designed to engage and be supported by a floor surface with the upper end of said exercise frame to be leaned against and braced by a wall such that said exercise frame forms the hypotenuse of a right triangle with said floor and wall forming the right-angled sides, said portable exercise frame comprising:

A. a pair of inclined spaced apart tubular side grip rails with each of said side rails having

1. a straight lower side rail section with its bottom end adapted to engage and be supported by a floor surface, and

2. a stand-off strut support at the upper terminal end of each said side rail formed by bending forward at an obtuse angle a portion of each of said side rails equal to approximately one-tenth to one-fifth of the length of said side rails with the upper terminal end of each of said stand-off strut extensions of the side rails being provided with friction means of engaging a wall for support without marring the wall;

B. a single flat oblong foot support board transversely mounted between said spaced apart side rails at an intermediate point near the lower end of said side rails, and so positioned with respect to the inclined side rails when the exercise frame is leaned in operative position against a support wall, that the top surface of said foot support board is in substantially a horizontal parallel position with respect to the floor on which the exercise frame is standing;

C. an upper transverse cross-brace connected between the spaced-apart side rails at an intermediate point from the upper end of each of said spaced apart side rails at a point near the obtuse bend that forms the stand-off strut supports in each of said side rails to impart strength and rigidness to said exercise frame; and

D. said foot support, said cross-brace, and said tubular side grip rails enclosing a space which is free of obstructions whereby a user, when standing on said foot support and gripping said rails, may exercise freely and unconstrained, within said space.

2. The inclined portable exercise frame described in claim **1** with a lower transverse cross-brace connected between the spaced-apart side rails of said exercise frame at an intermediate point from the lower end of each of said spaced-apart side rails just underneath the oblong foot support board in such position and manner as to brace the foot support board and also to increase the strength and rigidness of the lower part of said exercise frame.

3. The inclined portable exercise frame described in claim **1** in which the oblong foot support board is provided with semi-circular cut-out notches and a metal half-tubular anti-twist brace at each end of the foot support board where said foot support board connects to the left and right side rails to further brace and prevent said foot support board from twisting with respect to said left and right side rails when weight and stress are applied to the foot support board.

4. The portable inclined exercise frame described in claim **1** except that the horizontal foot support board is transversely mounted between the spaced apart side rails by means of a pair of hanger support brackets, with each of said hanger support brackets having:

A. a half tubular sleeve-clamp adapted to fit over and be attached to said inclined tubular side grip rails at an intermediate point near the lower end of each of said side rails;

B. a generally triangular shaped depending spacer plate extending downward from one side of said half tubular sleeve clamp;

C. a horizontal foot board mounting and supporting flange on the inwardly facing side of said triangular shaped depending spacer plate; and

D. suitable fastening means for securing said flat oblong foot support board to said horizontal foot board mounting and supporting flange in a fixed relationship to said uniformly spaced apart inclined tubular side rails and to hold said flat oblong foot support board in a secure elevated position substantially horizontal and parallel to the floor surface that supports the lower ends of said inclined tubular side rails.

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