Jan. 14, 1964 R. A. DRESBACH ETAL 3,117,760

SUPPORT FOR A PORTABLE AND COLLAPSIBLE EXERCISING DEVICE

Filed March 31, 1960 3 Sheets-Sheet 1

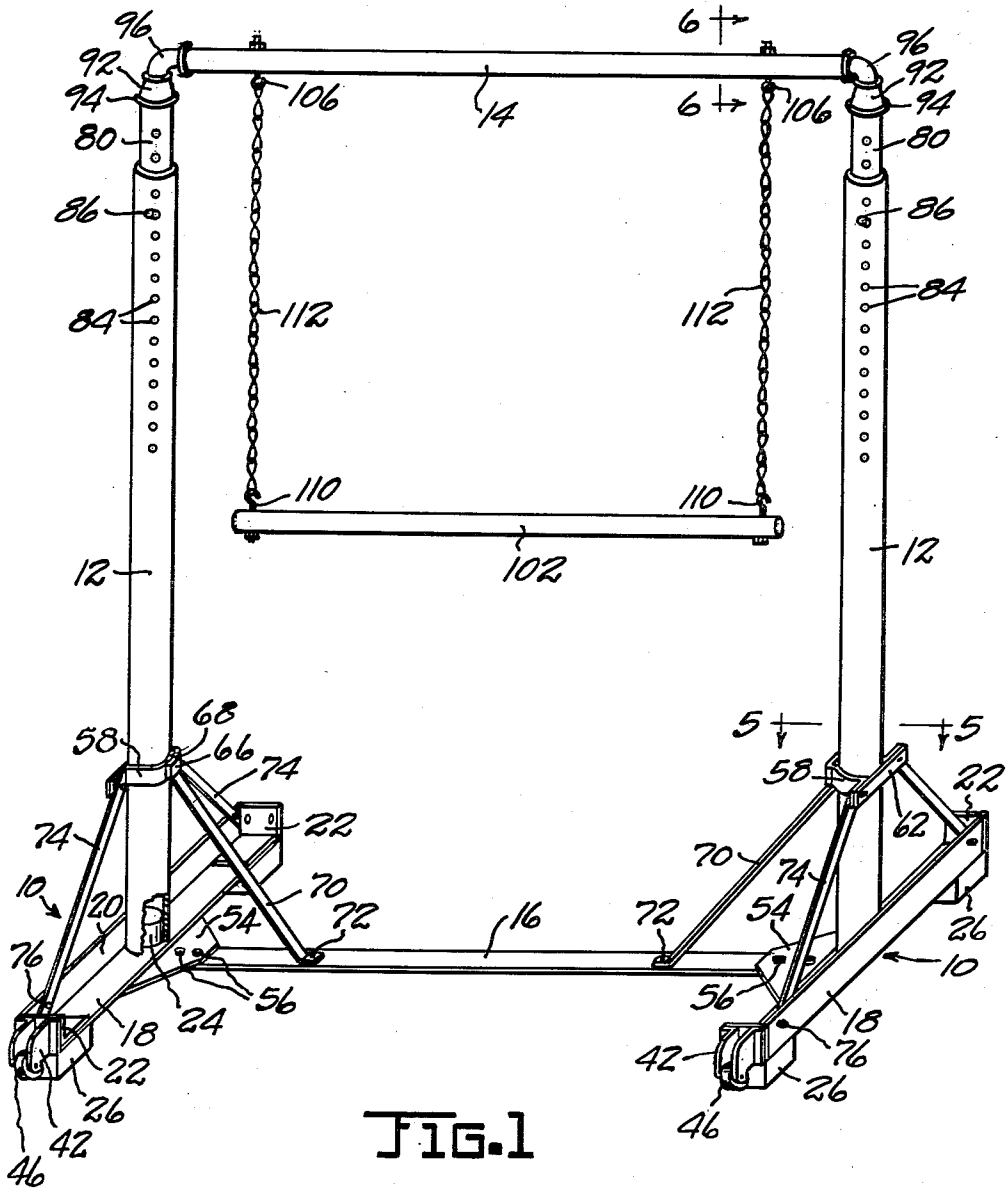


FIG. 1

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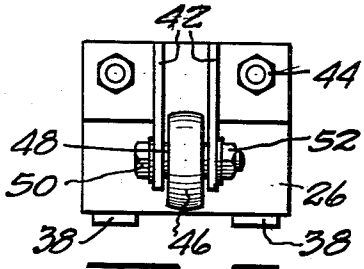


FIG. 2

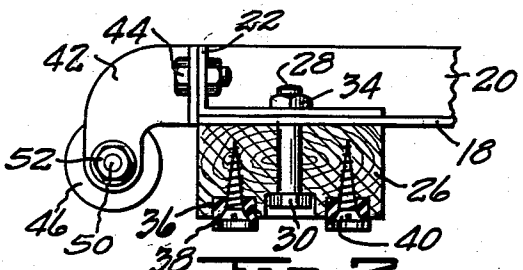


FIG. 3

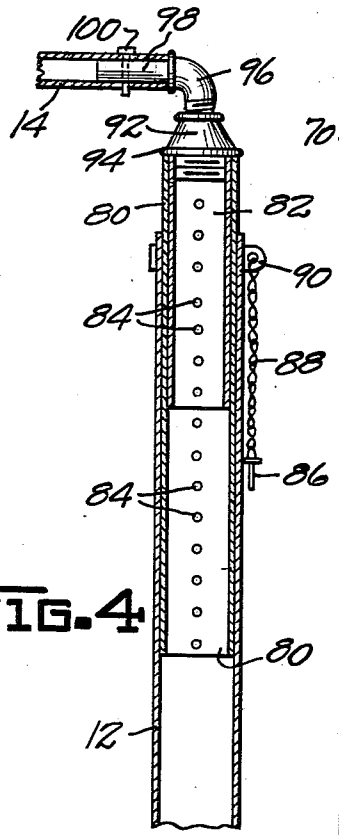


FIG. 4

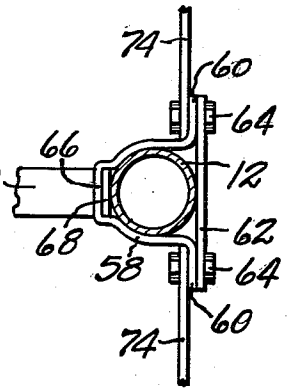


FIG. 5

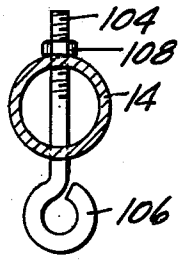


FIG. 6

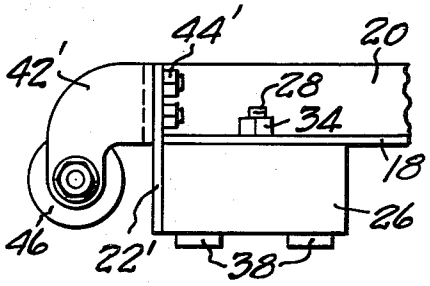


FIG. 8

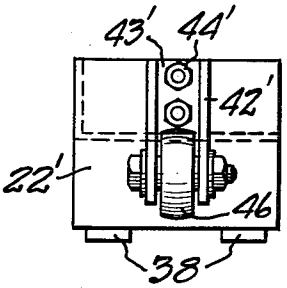


FIG. 7

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SUPPORT FOR A PORTABLE AND COLLAPSIBLE EXERCISING DEVICE

Filed March 31, 1960 3 Sheets-Sheet 3

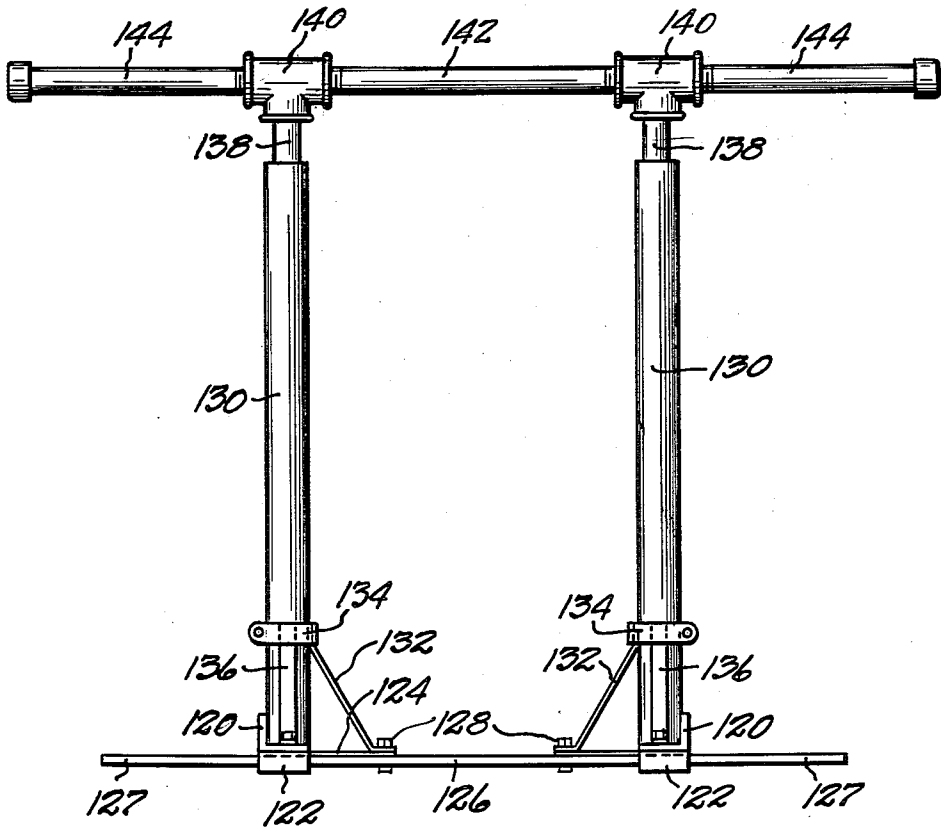


FIG. 9

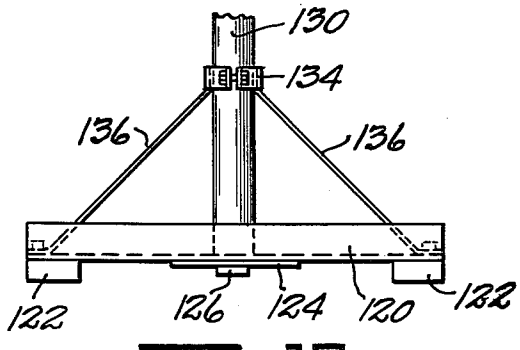


FIG. 10

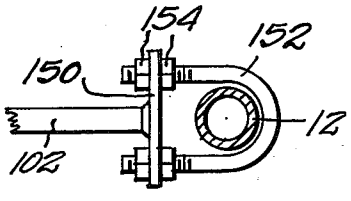


FIG. 11

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SUPPORT FOR A PORTABLE AND COLLAPSIBLE EXERCISING DEVICE

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1 Claim. (Cl. 248—370)

This invention relates to a portable and collapsible exercising device, and more particularly to an exercising device usable by children in schools and gymnasiums. More particularly, the invention relates to a chinning bar adapted to evaluate a child's capabilities in performing certain gymnastic tests.

The primary object of this invention is to provide a device of this character which is strong, readily adjustable in size, which is stable in use, which can be assembled and disassembled readily so as to facilitate its storage in a small space, and which is firmly reinforced by a simple bracing structure.

A further object is to provide a device of this character which is normally supported by base members which resist sliding or displacement thereof upon a floor or other support and with which are associated wheeled members normally clear of the floor but operative upon tilting of the unit to facilitate ready movement thereof from place to place.

A further object is to provide a device of this character which is readily portable and collapsible and which accommodates simultaneous use thereof by a group of children at the same time without risk of unbalancing the same.

Other objects will be apparent from the following specification.

In the drawings:

FIG. 1 is a perspective view of one embodiment of the device, with parts broken away;

FIG. 2 is an enlarged detail view of the end of the base of the device;

FIG. 3 is an enlarged detail side view of the base with parts broken away and shown in section;

FIG. 4 is an enlarged axial sectional view of an upright portion of the device;

FIG. 5 is an enlarged fragmentary sectional view taken on line 5—5 of FIG. 1;

FIG. 6 is a sectional detail view taken on line 6—6 of FIG. 1;

FIG. 7 is a detail view showing the end of a base of modified construction;

FIG. 8 is a detail side view of the construction illustrated in FIG. 7;

FIG. 9 is a view in side elevation of a modified construction of the device, adapted to support a plurality of suspension members;

FIG. 10 is a fragmentary end view of the base portion of the construction illustrated in FIG. 9; and

FIG. 11 is a fragmentary detail view of a modification, with parts shown in section.

Referring to the drawings, and particularly to FIGS. 1 to 6, inclusive, which illustrate one embodiment of the invention, the numeral 10 designates the base of the device which supports vertical members 12 whose upper ends are spanned by transverse member 14, said bases being interconnected by a cross-member 16.

Each base preferably comprises an elongated rigid structural member, such as an angle iron 18 having an upright longitudinal flange portion 20 and preferably having upright end flanges 22. At its center each base member preferably has an upwardly projecting positioning member 24 fixedly secured thereto. Each end of the base member 18 preferably has connected to the bottom

face thereof a wood block 26, as by means of a bolt 28. The block preferably has a recess therein, receiving in countersunk relation the head 30 of the bolt. A nut 34 threaded on the bolt anchors the block detachably for ready replacement. Each block preferably has one or more recesses 36 in its bottom face, within each of which is seated a block of rubber or other resilient material 38 having a countersunk central opening therein adapted to receive the head of a screw 40 threaded into the block 26 and anchoring the resilient block 38 to the block 26 in a position to bear upon the floor or other supporting surface in a manner to hold the block 26 slightly elevated. The resilient blocks 38 provide means to position the device firmly upon the floor and to prevent sliding thereof incident to use.

At one end of the base is mounted a bracket 42 secured to the flange 22 by securing means 44, and being of gooseneck construction. The bracket constitutes a yoke or fork receiving a roller 46 suitably journaled for rotation as upon a bearing sleeve 48 held in place between the opposite sides of the bracket 44 by means of bolt 50 having a nut 52 threaded thereon. The roller 46 is so positioned that the lowermost portion thereof will preferably be slightly above the level of the bottom surface of the block 26 and projects longitudinally therefrom, as illustrated in FIG. 3, during normal operative positioning of the parts. However, upon tilting of the device, it may rest upon the rollers 46 to accommodate transport thereof from place to place.

The elongated base members 18 preferably have plates 54 secured thereto at their central bottom portion and projecting therefrom and providing means for the connection of the bottom transverse member 16, as by means of bolts or other detachable securing means 56. The plates 54 are secured to the bottom surface of the members 18 and the cross-members 16 are preferably secured to the bottom of the plates 54 so that the members 16 will be positioned adjacent to but slightly above the level of the surface of the floor and will provide minimum risk of tripping thereon while at the same time holding the same clear of the floor to prevent marring of the surface of the floor thereby.

The upright 12 preferably includes an elongated rigid tubular member open at its ends and adapted to be positioned upright upon the central portion of the elongated base members 18. Thus the lower ends of the tube 12 preferably fit around the parts 24 to hold the member 12 centered relative to the length of the base portions 18. Brace means interconnect the base member 18 and the upright member 12. Such bracing means are preferably secured to the upright member 12 by the bracket illustrated in FIG. 5 which essentially consists of U-shaped member 58 straddling the member 12 at any selected elevation and having outturned end portions 60 to which are secured the ends of a cross-plate 62 by bolts and nuts or other suitable detachable securing members 64. The parts are preferably so proportioned that a firm grip of the bracket upon the member 12 is provided, for which purpose the outer faces of the bracket ends 60 will preferably lie in a plane inset slightly from a tangent of the member 12. At its central portion the bracket 58 is preferably offset at 66. This offset receives the upturned end portion 68 of an inclined brace 70 whose lower end has a foot portion detachably secured to a cross-member 16 at 72 by any suitable securing means. The upper end 68 will preferably have a snug fit in the socket 66 so that securing means between those parts are not required. Diagonal brace members 74 are preferably secured by securing members 64 to the parts 60 of the bracket 58 and are detachably secured by bolts or other suitable securing means 76 to the ends of the longitudinal flange 20 of the base member 18. The diagonal braces

70 and 74 support the uprights 12 securely in vertical position, and the brackets 58, 62 accommodate ready dismantling and reassembly of the parts with minimum effort and in a manner requiring only simple tools.

Each upright is extensible and is preferably formed of telescopically interfitting parts. Thus, as illustrated in FIG. 4, an elongated tube 80 may fit snugly and telescopically in the upper end of each upright 12, and an inner tube 82 may fit within each intermediate tube 80. Each of the tubes 12, 80 and 82 has a plurality of longitudinally aligned equally spaced apertures 84 formed therein and adapted to register to receive a pin or like member 86 to hold the telescoped tubes in selected longitudinal adjustments or positions. Thus one pin 86 may serve as a means to hold intermediate tube 80 in a selected adjustment in tube 12, and a second pin may serve to hold inner tube 82 in a selected adjustment relative to intermediate tube 80. For convenience the pins may be mounted upon chains or cables 88 anchored at ears 90 mounted on the upper end of the tubes 12.

The upper end of each tube 82 preferably mounts a fitting 92, such as an adapter, having an annular enlarged shoulder portion 94 adapted to bear against the end of intermediate tube 80 in one adjustment of the parts, and having a reduced opposite or upper internally screw-threaded portion adapted to receive and mount one end of an L 96 whose opposite end is internally screw-threated to receive the end of a short stud 98. The cross-member 14 is preferably a tube having an inner diameter adapted to fit snugly upon the members 98 and to be anchored detachably thereon by any suitable means, such as a pin 100 extending through registering openings in parts 14 and 98, as seen in FIG. 4, to facilitate interconnection and disassembly of the member 14 relative to the uprights 12.

The device is particularly useful to mount a chinning bar 102 in suspended horizontal position at selected elevation. For this purpose the cross-bar 14 may be provided with spaced apertures, in each of which is mounted the screw-threaded shank portion 104 of a hook or eyelet member 106. A nut 108 threaded on the shank 104 anchors the shank 104 to the cross-bar 14. A similar construction for mounting a hook member 110 upon each of the ends of the bar 102 is also provided. Chains 112 may be suspended at one end from the member 106 and may be detachably interconnected with the hook 110 at a selected link thereof to support the chinning bar 102.

It will be apparent that the device provides a wide range of adjustment with respect to the elevation of the bar 102 while retaining the benefits of a flexible suspension thereof. Thus the adjustment may be effected by regulating the length of the part of the chain 112 between the points of anchorage thereof to the hook members 110 on the bar 102 and 106 on the cross-bar 14. Further adjustment is possible through variation of the points of connection of the telescoping tubes 80 and 82 with the uprights 12. The device is strong and sturdy in all adjustments, being supported in a stable position upon the base members by the braces 70 supported against tipping by virtue of the length of the base members 18 and the provision of the diagonal brace members 74. Spreading or separation of the uprights is prevented by their interconnection with the cross-members 16 secured at the bases thereof. Slipping or undesired movement of the device during its use is prevented by the frictional blocks 38, but movement from place to place when desired is accomplished easily by tilting the structure until it comes to rest upon the wheels 46, whereupon it can be rolled to any desired new location. Disassembly of the device into small components requiring only a small amount of storage space can be effected by reason of the detachable connection of the parts and the use of simple securing means, such as pins or bolts and nuts to interconnect all of the parts.

A slightly modified construction of the base is illustrated in FIGS. 7 and 8 wherein the upright member 22' at the end of each base member 18 constitutes a plate which may be welded or otherwise suitably secured thereto and which preferably projects downwardly therefrom so as to bear against the adjacent edge of block 26. The bracket 42' may be secured by securing members 44' to the plate 22' at a web 43' between said bracket members. The bracket 42' serves to journal a roller 46 in the same manner described above and in the same elevated position relative to the bottom surface of the block 26 and the resilient pad or foot portions 40.

In the embodiment of the invention illustrated in FIGS. 9 and 10, elongated base members 120, such as angle-irons, are supported in elevated position by foot or block portions 122 at the ends thereof and have plates 124 projecting therefrom at their central portions, preferably in the direction of each other. These plates are interconnected by elongated bar 126 detachably secured thereto as by bolts and nuts or other suitable securing means 128. The elongated member 126 is of a length greater than the spacing between the base members 120 and extends perpendicularly thereto, projecting laterally outwardly from each of said base members 120 at 127. The member 126 is rigid and preferably is carried by the plate 124 at a level only slightly above the level of the bottom faces of the blocks or foot members 122 which support the base members 120.

Tubular uprights 130 are supported at their lower ends by the base members 120 substantially centrally of the base members and are supported in elevated position by a plurality of inclined brace members including members 132 secured at their lower ends to plates 124 and to the member 126 by the securing means 128 and anchored at their upper ends by brackets 134, detachably mounted upon the uprights 130 in elevated position. Other diagonal braces 136 are anchored at their upper ends by the bracket 134 and are suitably secured at their lower ends at the opposite end portions of the base members 120.

The upright tubular members 130 may constitute parts of a multi-section telescoping unit as previously described, having inner adjustable telescoped tubes 138 therein adapted to be positioned at any selected elevation by suitable means, such as described previously, and as illustrated in FIG. 4. The upper ends of the upper extensible parts 138 preferably mount T-fittings 140 in which may be screw-threaded or otherwise suitably detachably anchored the ends of an intermediate elevated tubular portion 142 and the inner ends of outwardly projecting rigid tubular members 144. Each of the members 142 and 144 will preferably mount hooks or eyelets for suspending therefrom a chinning bar in the manner described above.

Thus the construction illustrated in FIG. 9 makes possible the mounting of three or more chinning bars upon a single device in separated relation accommodating conjoint use thereof by different children or users so as to provide maximum utility for a single device. The extension of the end portions 127 of the base member 126 beyond the base portions 120 provides means for stabilizing the device in the event one of the chinning bar units (not shown) at one end of the device, that is, which is suspended from one of the members 144, is used and no similar device used. In other words, tilting of the device endwise incident to lack of balance in stresses applied to the device lengthwise thereof is minimized so that overturning of the device cannot occur during use. Stability to prevent tilting in the other direction is provided by the elongated character of the base members 120. This embodiment of the invention also possesses the same advantages of portability, collapsibility, easy assembly, and the like, and collapse for storage in a small space, which have been mentioned above.

Another modification of the construction is illustrated in FIG. 11 and entails the use of guides on the ends of the chinning bar 102 slidably embracing the uprights 12 so as to prevent swinging of said bar while retaining ad-

justed suspension thereof from chains 112. In the construction shown, the guides are supported by cross plates 150 welded or otherwise fixedly mounted on the ends of the chinning bar 102. A U-bolt 152 has end portions passing through apertures in each plate 150 and mounting nuts 154 anchoring it to plate 150. The U-bolt embraces the adjacent upright 12 with clearance.

While the preferred embodiments of the invention have been illustrated and described, it will be understood that changes in the construction may be made within the scope of the appended claim without departing from the spirit of the invention.

We claim:

A support for a collapsible portable exercising device having spaced uprights and a crossbar, said support comprising spaced parallel horizontal elongated rigid angle irons each having an upright longitudinal flange and an upright end flange, wood blocks supporting the end portions of said angle irons, resilient members projecting from the bottom faces of said blocks, a flat bottom bar detachably connected to the bottoms of said angle irons between said blocks and above the bottom surfaces of said blocks, a positioning member carried by the top of each angle iron intermediate its ends and spaced from said upright longitudinal flange, a pair of upwardly converging inclined braces carried by the longitudinal flange of each angle iron, a clamping bracket carried by said braces, an inclined brace carried by said bracket and detachably connected to said bottom bar, an upright supporting tubular member fitting around each positioning member and detachably applied by a clamping bracket, and a bracket secured to each upright end flange and journaling a roller at a position adjacent to and elevated slightly above the plane of said resilient members.

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