

[54] **EXERCISE DEVICE ADAPTABLE TO PERMIT THE PERFORMANCE OF A PLURALITY OF DIFFERENT EXERCISES**

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[51] Int. Cl. A63b 21/00

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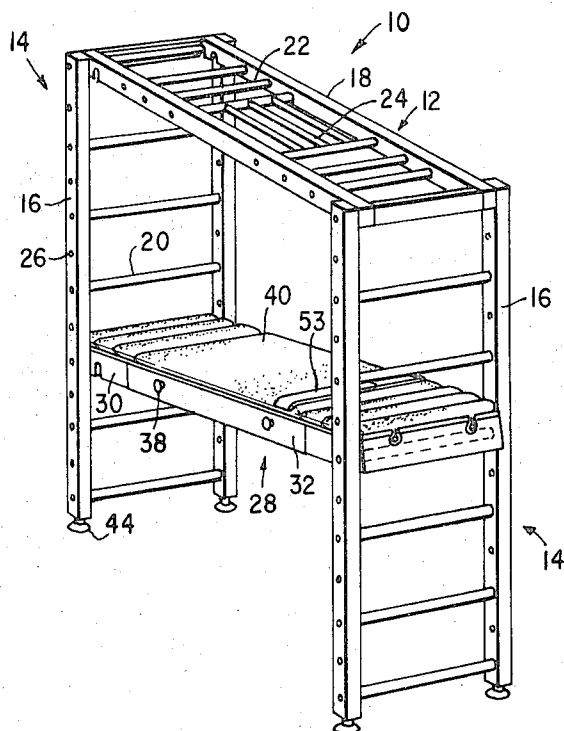
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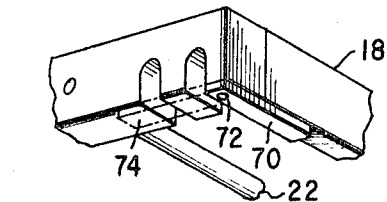
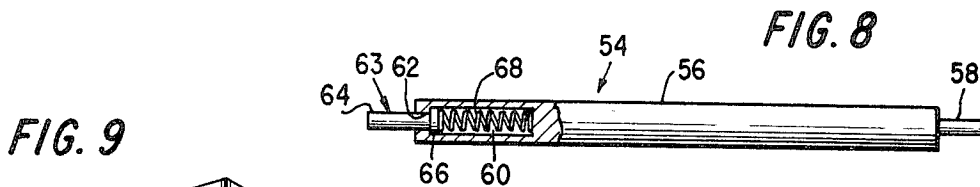
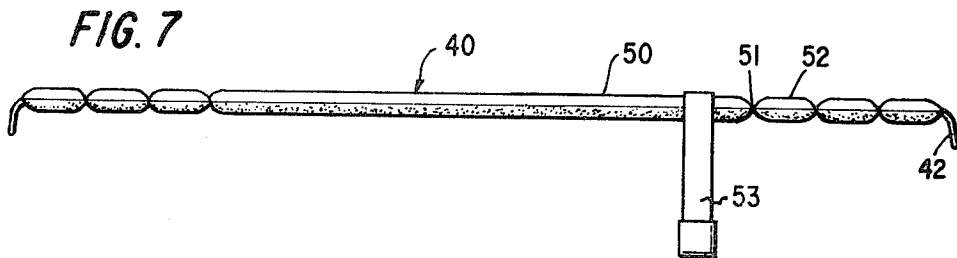
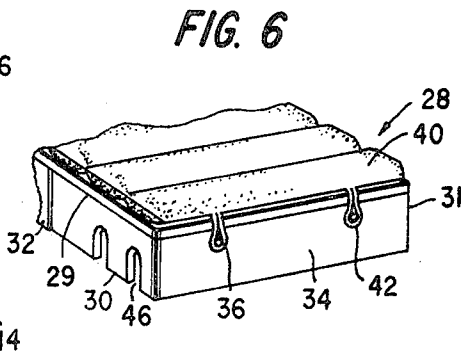
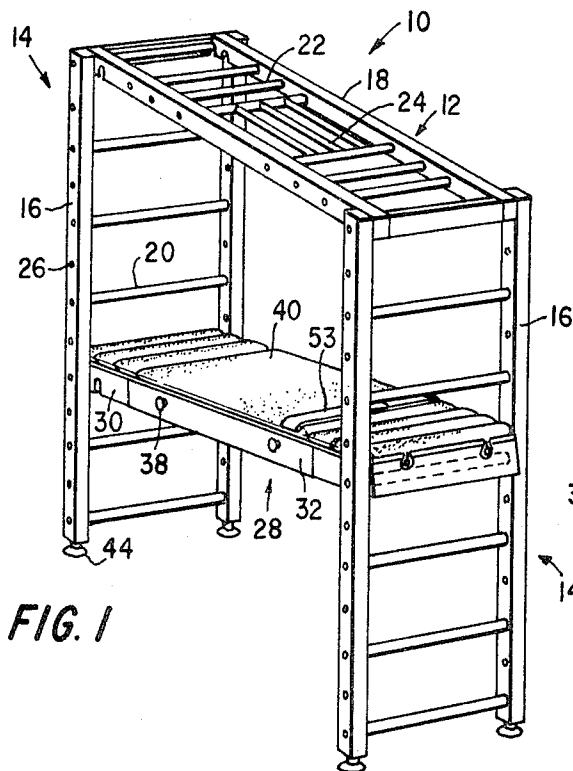
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[57] ABSTRACT

There is disclosed an exercise device which is adaptable to permit the user to perform a number of different and varying exercises which includes two ladder assemblies provided with a number of horizontal cross bars, a bed-shelf assembly, and a grip-bar assembly positioned above the bed-shelf assembly, the bed-shelf assembly and the grip-bar assembly being supported between and by the ladder assemblies and positioned at any desired inclination with respect thereto and with each other.

4 Claims, 9 Drawing Figures





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FIG. 3

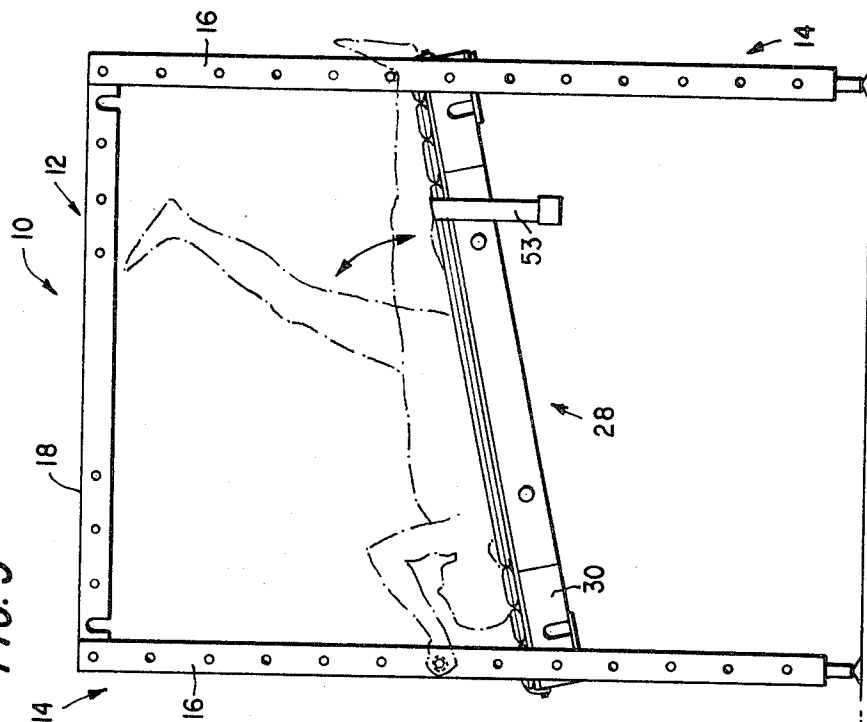
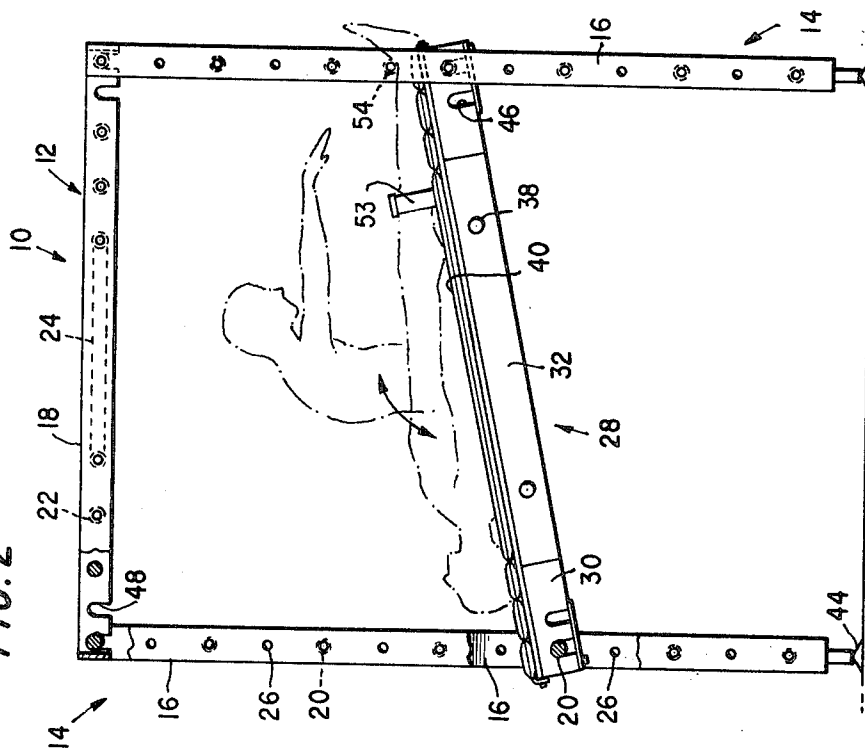


FIG. 2



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FIG. 5

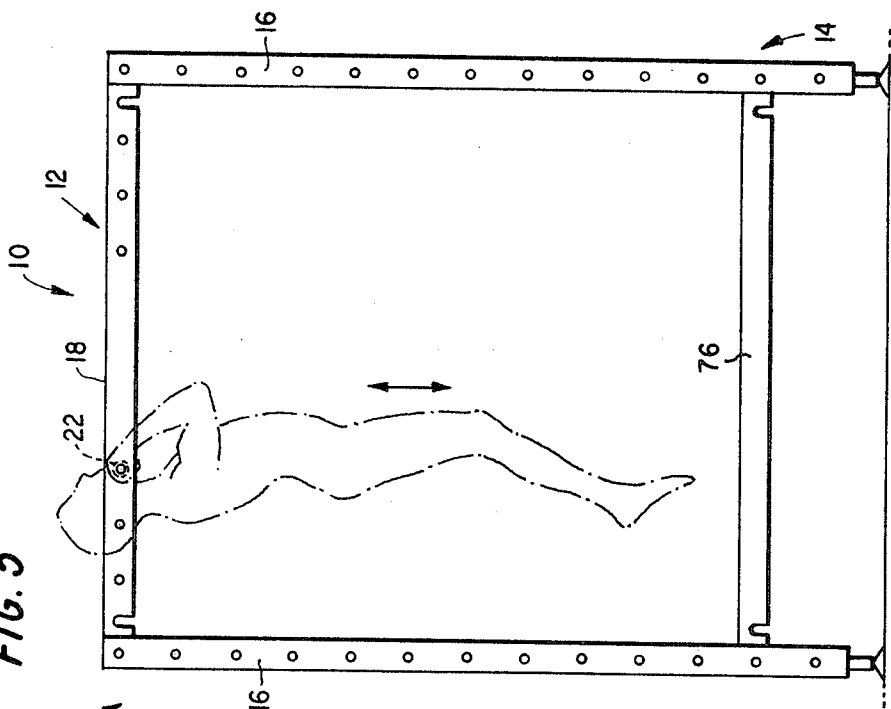
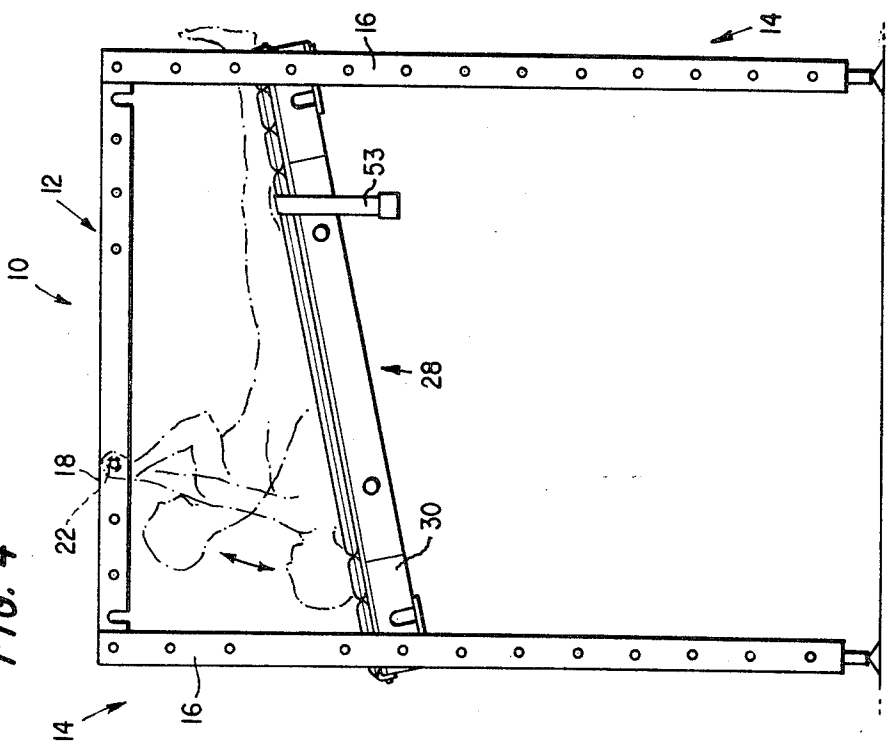


FIG. 4



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EXERCISE DEVICE ADAPTABLE TO PERMIT THE PERFORMANCE OF A PLURALITY OF DIFFERENT EXERCISES

BACKGROUND OF THE INVENTION

Today physical fitness is no longer considered the exclusive concern of athletes. It is now considered to be a rather vital element in the everyday life of most people. In response to the growing desire to become and remain physically fit, many manufacturers have expanded their product lines or have created new product lines resulting in placing on the market aids to exercising which are varied and numerous. Many of these devices are expensive and possessing only limited usage, thereby necessitating purchasing a number of these devices in order to satisfy one's needs. In addition, storage becomes a problem as these devices are accumulated, resulting many times in discouraging individuals from maintaining their fitness programs because of the inevitable inconvenience created.

SUMMARY OF THE INVENTION

This invention relates to an exercise device and more particularly to such device which is adapted to provide a capability of performing a variety of different exercises.

The exercise device of the present invention is constructed in the form of a bed in which a bed-shelf assembly is supported by two ladder assemblies with a grip-bar assembly positioned above the bed shelf and between the ladder assemblies. Both the bed-shelf assembly and the grip-bar assembly are adapted to be supported in a plurality of positions with respect to each other. As a result, the device can be used so that any number of different exercises can be accomplished.

It is, therefore, a primary object of this invention to provide a device which will enable its user to perform a variety of different exercises easily and effectively.

It is another object of this invention to provide a device which is simple in construction, easy to assemble, and readily adjustable.

For a further and more detailed understanding of the present invention and the various objects and advantages accomplished thereby, reference is made to the following description and the accompanying drawings, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view in perspective of the exercise device, wherein the bed-shelf assembly and the grip-bar assembly are shown in one horizontal position.

FIG. 2 is a side view of the exercise device, wherein the bed-shelf assembly is shown in an inclined position relative to the ladder assemblies and with the user preparing to do sit-ups.

FIG. 3 is a side view also showing the bed-shelf assembly in an inclined position, but with the user preparing to do leg raises.

FIG. 4 is a side view which shows the bed-shelf assembly and the grip-bar assembly being utilized by the user to do upper body raises. FIG. 5 is a side view which shows the bed-shelf assembly removed and the user preparing to do chin-ups.

FIG. 6 is a perspective view of the bed-shelf assembly and how the pad of said assembly is fastened for use.

FIG. 7 is a view showing the pad used with the bed-shelf assembly. The pad is provided at both ends with

a plurality of fold segments which are folded so that the pad can be easily stored, and with a tie-down belt.

FIG. 8 is a view of the movable horizontal cross-bar assembly utilized with the device of the present invention and which is portable and positionable with respect to the ladder assemblies.

FIG. 9 is a perspective view showing a locking feature of the grip-bar assembly.

PREFERRED EMBODIMENT

In its preferred embodiment, the invention will be described by reference to only an exemplary number of possible exercise positions.

Referring to the drawings, wherein like parts are indicated by like numerals throughout, there is shown in FIG. 1 in perspective view the exercise device assembly 10. The device 10 includes a pair of ladder assemblies 14, between which a bed-shelf assembly 28 and a grip-bar assembly 12 are positioned and supported.

The ladder assemblies consist of a pair of vertical rails 16 between which any number of fixed horizontal cross bars 20 are attached. Each vertical rail 16 has located at a point between any two consecutive fixed horizontal cross bars a receptor hole 26 for receiving therein the pins 58 of a movable horizontal cross-bar assembly 54. At the bottom of each vertical rail 16 there extends a suction cup 44 which serves to maintain the device in a fixed location, thereby preventing slipping during use. These ladder assemblies can be of any desired height and can have any number of fixed horizontal cross bars. In addition, they can be constructed of any desired material such as aluminum, wood, steel, or any combination of these.

The bed-shelf assembly 28 consists of a base 29 on which is laid a pad 40. The base is of an elongated box-type construction having an elongated continuous side wall 31 paralleled by a segmented side wall 30. Both ends of these side walls are provided with a transverse wall 34 from which a plurality of holding pins 36 extend. Positioned between the segmented walls 30 and extending transversely of the base in a direction parallel to transverse walls 34 is a storage drawer 32 provided with a pair of knobs 38 for opening and closing said drawer. The drawer serves as a storage area primarily for the mat assembly 40; however, it is of sufficient size to accommodate any accessory items which the user desires to use while exercising. A plurality of slots 46 are formed in the segmented walls 30 and the continuous wall 31 extending inward from the transverse walls 34. Slots in segmented wall 30 and continuous wall 31 are in transverse alignment so that the bed-shelf assembly 28 will fit properly on fixed horizontal cross bars 20. The bed-shelf assembly is accordingly supported by the ladder assemblies by causing any aligned pair of slots at the ends of said assembly to hook onto any desired fixed horizontal cross bar, as shown for example in FIG. 2.

The mat assembly 40 which forms part of the bed-shelf assembly 28 can be a standard exercise-type mat. It consists of a main body portion 50 with a plurality of fold segments 52 connected to both ends thereof, each fold segment being separated from each other and the main body portion by a seam 51. The reason for having such fold segments is to facilitate folding of the mat when not in use and thereby rendering same capable of being stored within storage drawer 32 of the bed-shelf assembly 28. Attached on both ends of the outermost

fold segment are at least two straps 42 which engage pins 36 on transverse walls 34 so that the mat can be secured in place during use. A tie-down belt 53 is provided which consists of two pieces which can be buckled in any conventional manner and adapted to hold the knees of the user from moving when, for example, the user is doing sit-ups. It is preferred that the mat 40 be of minimal thickness since its function is primarily to provide comfort for the user.

The movable horizontal cross-bar assembly 54 resembles the fixed horizontal cross bar 20 in that both are positioned and supported between vertical rails 16 of ladder assemblies 14. The movable horizontal cross bar, however, can be placed in any desired receptor hole 26 depending upon the position of the bed-shelf assembly 28. The cross bar consists of a main shaft portion 56 which is preferably of cylindrical configuration, a fixed pin 58 at one end of said main shaft portion, and a movable pin 63 at the other end of said main shaft portion. Pin 63 consists of a shank portion 64 and a head portion 66. The head portion 66 is retained within bore 60 of main shaft portion 56, and biased outwardly, as shown in FIG. 8, by spring 68 until head 66 engages stops or flanges 62 which are an integral part of the main shaft portion 56. To remove the horizontal cross-bar assembly 54, it is only necessary to depress pin 63 against the force exerted by spring 68.

The grip-bar assembly 12 which is positioned between the ladder assemblies 14 and above the bed-shelf assembly 28 consists of two horizontal elongated rails 18, a plurality of transverse grip bars 22 extending between said horizontal rails 18 at either end thereof, and separated by a plurality of longitudinal grip bars 24. As shown in FIG. 2, horizontal rail 18 is provided with a plurality of slots 48 which function as do slots 46 of bed-shelf assembly 28.

In order to more fully comprehend the versatility of the subject exercise device, reference is made to the illustrations in FIGS. 2-5. In FIG. 2, the occupant of the device has positioned himself in order to perform a sit-up exercise. To prepare for this exercise, the bed-shelf assembly is inclined to any desired angle as shown. The occupant then lays flat on mat assembly 40 with the legs extended so that the upper part of the feet abut against a movable horizontal cross bar 54 thereby providing support and a point of exertion for conducting the sit-ups. Alternatively, the occupant's feet can be positioned so that the back of the ankles rest on the movable horizontal cross bar 54, while the front of the feet abut against a fixed horizontal cross bar 20. By raising the legs slightly, the exercise becomes more difficult.

FIG. 3 shows the occupant positioned to perform a leg-raise exercise. Again, after placing the bed-shelf assembly at any desired inclination, the user lays flat on mat assembly 40 and grasps a fixed horizontal cross bar, or preferably a movable horizontal cross bar, situated for the purpose, to provide a point of exertion for proceeding with the leg-raise exercise.

FIG. 4 illustrates one possible use of the grip-bar assembly 12. The particular illustration shows the occupant performing a simple upper body raise by simply grasping transverse grip bars 22. It is readily apparent that the very same exercise can be achieved by grasping longitudinal grip-bars 24 as well.

FIG. 5 illustrates another possible use of the grip-bar assembly 12. The user in this case is shown grasping

transverse grip bar 22 in order to perform a chin-up exercise. To stabilize the grip-bar assembly during this exercise, a locking bar 70 is provided as shown in FIG. 9. This locking bar is pivotally fastened to the grip-bar assembly by a pivot pin 72 so that said locking bar can be moved to its locking position 74, thereby preventing any relative motion between the grip-bar assembly and the corresponding fixed horizontal cross bars which are supporting same. These locking bars can be provided at each corner of the grip-bar assembly or at only two horizontally aligned corners. Also, two stabilizing rails 76 are provided, one on each side of the device to prevent any possibility that the device will collapse. As can be seen, the latter two transverse grip bars 22 (those closest to ladder assemblies 14) would be designed similar to movable horizontal cross bar 54 so that either could be removed when performing a chin-up exercise.

The preferred embodiment of the invention having been described, which is set forth by way of example only and not intended to limit the invention to which modifications evidencing the reasonable range of equivalents, will become apparent to those skilled in the art.

What is claimed is:

1. An exercise device which can be used to perform a plurality of different exercises comprising first and second spaced upright ladder members each having lower ends for supporting said exercise device and upper ends and each of said ladder members including a pair of elongated rails and a plurality of parallel spaced cross bars extending transversely between said rails;
- a grip-bar assembly extending between said first and second ladder members and attached to said upper ends thereof, said grip-bar assembly including a pair of elongated rails and a plurality of spaced grip bars extending between said rails, said plurality of grip bars being arranged in first and second groups adjacent said first and second ladder members, respectively, and each of said grip bars extends transverse to said rails of said grip-bar assembly, and said grip-bar assembly further including a plurality of longitudinal bars extending between said first and second groups of grip bars in parallel with said rails of said grip-bar assembly; and
- an elongated bed-shelf assembly extending between said first and second ladder members including a base having first and second ends, said first and second ends of said base including slot means for engaging said cross bars of said first and second ladder assemblies to support said bed-shelf assembly in a position transverse to said ladder members and in positions angularly displaced from said transverse position.
2. The exercise device as recited in claim 1 and further comprising suction cups secured to said lower ends of said first and second ladder members.
3. An exercise device which can be used to perform a plurality of different exercises comprising first and second spaced upright ladder members each having lower ends for supporting said exercise device and upper ends and each of said ladder members including a pair of elongated rails and a plurality of parallel spaced cross bars extending transversely between said rails;
- a grip-bar assembly extending between said first and second ladder members and attached to said upper

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ends thereof, said grip-bar assembly including a pair of elongated rails and a plurality of spaced grip bars extending between said rails; and an elongated bed-shelf assembly extending between said first and second ladder members including a base having first and second ends and a pair of parallel side walls extending between said first and second ends, said side walls each having a plurality of spaced transverse slots therein at each of said first and second ends for engaging said cross bars of said

first and second ladder assemblies to support said bed-shelf assembly in a position transverse to said ladder members and in positions angularly displaced from said transverse position.

4. The exercise device as recited in claim 3 wherein said bed-shelf assembly includes a rectangular mat supported on said base, and said base includes a drawer slidably mounted in one of said side walls and adapted to store said mat when not in use.

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