

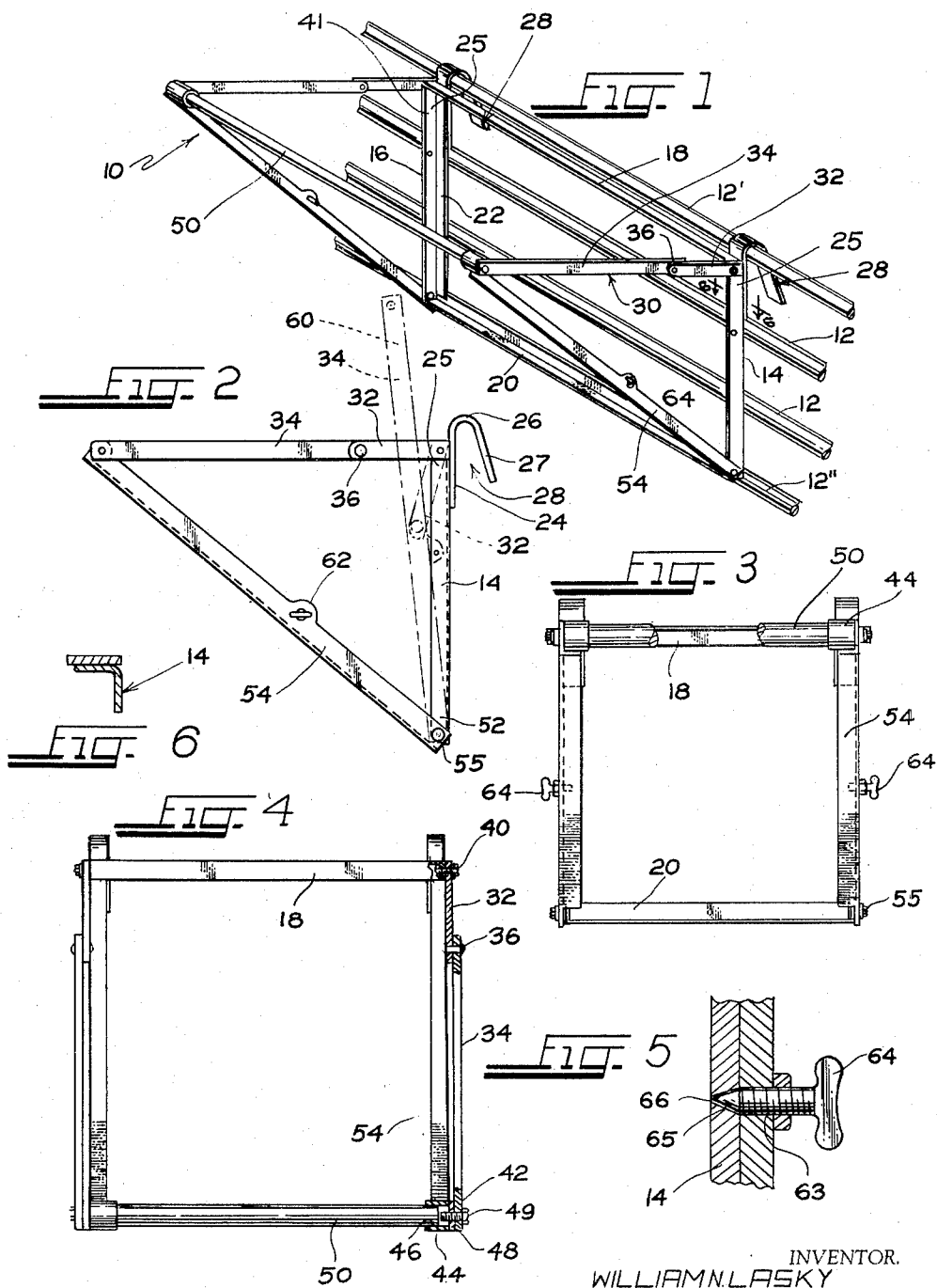
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CHINNING BAR ATTACHMENT

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CHINNING BAR ATTACHMENT

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This invention relates generally to physical exercise equipment and more particularly, relates to a novel construction for a chinning bar which is portable and collapsible.

An important object of the invention is to provide a chinning bar of the character described comprising a self-contained piece of equipment capable of being installed in position for use on a variety of supporting structures without requiring additional fasteners or brackets or perforating of the supporting structure.

Another object of the invention is to provide a chinning bar attachment of the character described which is capable of being collapsed when not in use to occupy a small volume of space folded next adjacent the support structure on which installed so as not to unduly protrude.

A further object of the invention is to provide such a chinning bar attachment which is light-weight, is simply and readily assembled and installed, is very economical to manufacture and is sturdy and durable.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of this invention, there is illustrated in the accompanying drawing a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, this invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawing in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawing:

Fig. 1 is a perspective view of the chinning bar attachment embodying the invention and shown installed on a gymnasium stall.

Fig. 2 is a side elevational view of said attachment of Fig. 1 and illustrated in broken outline folded to its collapsed condition.

Fig. 3 is a front elevational view of the attachment in unfolded condition.

Fig. 4 is a top plan view of the same, with portions shown in section to illustrate certain structural features.

Fig. 5 is a sectional view taken through the releasable locking means provided for maintaining the attachment in collapsed condition.

Fig. 6 is a sectional view taken along the line 6—6 of Fig. 1 and in the direction indicated.

Referring to the drawings, the chinning bar attachment embodying the invention has been designated generally by the reference character 10. Same may be

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installed on a great variety of support structures, an example of which is illustrated in Fig. 1 and seen to comprise a gymnasium stall consisting of a plurality of horizontal, vertically spaced, parallel bars 12 rigidly supported next adjacent a wall of the gymnasium.

The chinning bar attachment 10 is formed of a plurality of interconnected, elongate metal members to provide a self-contained unit, metals considered to be suitable including aluminum, steel and other metal alloys which are strong and light in weight. As seen in Fig. 1, said attachment includes a support frame or bed formed by a pair of laterally spaced, parallel standards 14 and 16 of substantially equal length and a pair of cross-bars or struts 18 and 20 secured at their ends between the standards adjacent the upper and lower extremities thereof respectively. The standards and cross-bars or struts preferably comprise angle irons and in their interconnected relationship, provide a substantially open rectangular support bed or frame in which the angle irons have their angles opening inwardly. The chinning bar proper is supported from said bed or frame, as hereinafter described.

In the installed position of the attachment 10, as seen in Fig. 1, the bed or frame is vertically arranged parallel to the supporting structure and each standard 14 and 16 has a leg 22 the plane of which is parallel to the plane of the said structure. Secured to the exterior face of each leg 22, as by welding or other suitable fastening means, is a metal strap 24 which extends upwardly beyond the upper end 25 of the standard. Each extending part is bent as at 26 to provide a section 27 spaced from the strap 24 to form thereby a downwardly opening hook formation 28, one adjacent each standard 14 and 16.

Pivotaly secured to each standard adjacent the upper end 25 thereof is a foldable arm designated generally 30. Each arm 30 is comprised of a pair of pivotaly connected links consisting of a short bar 32 and a longer bar 34 connected end to end by the pin 36. The end of each bar 32 opposite pin 36 is pivotaly connected as at 40 to the second leg 41 of a standard adjacent the upper end 25 thereof by means of a bolt extended through aligned openings therein and prevented from being withdrawn by a nut engaged over the free end of the bolt in a well known manner. It will be noted that the bars 32 are each connected along the exterior surface of the second leg 41 of a standard, and hence, there is a leg 30 attached along each of a pair of opposite side edges of the bed or frame.

The opposite end 42 of each bar 34 has a sleeve 44 rigidly attached transversely thereto which provides a socket 46, the pair of sockets facing inwardly toward one another. Said sleeves 44 may each comprise a short hollow member having one end open to provide said socket and the other end closed by a perforated wall 48. The sleeve 44 is attached by means of a threaded bolt 49 engaged through a transverse opening in the end 42 and the perforation in wall 48. The chinning bar 50, which comprises a cylindrical length of metal of suitable diameter is rigidly supported between the arms 30 with the ends of the bar each telescopically engaged in a said socket 46. Attachment in said sockets may or may not be permanent.

The forward end 42 of each arm 30 and the bottom end 52 of each standard 14 and 16 are interconnected by a rigid diagonal brace 54 also formed from angle iron. Each brace 54 is arranged with its angle opening upwardly and inwardly. The connection of the brace to the bottom end of a standard is a pivotal one provided by a bolt 55 engaged therethrough.

In the unfolded condition of the attachment illustrated in Fig. 1, it may be seen that same is readily supported on

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a bar 12' by engaging the bar inside the hook formations 28 against bends 26. The lower end 52 of each standard and the cross-bar 20 are engaged against another bar, such as designated 12' spaced below bar 12', so that the frame or bed is vertically suspended on the supporting structure. The arms 30 are straight and extend outward substantially perpendicular to the support bed or frame and the supporting structure, with the bars 32 and 34 of each aligned in a common horizontal plane. The bar 50 is horizontally supported laterally spaced from the supporting structure and support frame by means of the diagonal braces. It may be noted that in the unfolded condition of the attachment, same has a triangular configuration when viewed from a side thereof as seen in Fig. 2 formed by the interconnected arm 30, standard 14 and a brace 54; with the hypotenuse of the triangle provided by the brace 54 and apex of the angle formed by arm 30 and standard 14 disposed adjacent the point of suspension of the attachment on the supporting structure. In use, a person suspended from the chinning bar 50 exerts a downwardly directed force urging the lower end of the frame or bed against the supporting structure and tending to spread the upper end of the frame or bed away from the supporting structure, which of course, is resisted by the hook formations 28. This force maintains the arms 30 in their straight, extended condition with braces 54 supporting the bar 50 in its position laterally spaced from the frame or bed. The attachment may be seen to be sturdily and rigidly installed.

The folded condition of the attachment has been illustrated in broken outline designated generally 60 in Fig. 2. The braces 54 have been pivoted in a direction toward the frame or bed of the attachment which causes the bar 32 of each arm 30 to pivot relative to both the standard 14 or 16 and the bar 34 to which connected. To secure the attachment in its folded condition, there is provided on the upper edge of each diagonal brace 54 an upstanding ear 62 intermediate the ends thereof, transversely through which is threaded the shank 63 of a locking or latch pin having a flared end 64 and a tapered opposite end 65. The flared end 64 is disposed exterior of the brace for manually rotating said pin. The end 65 is adapted to be engaged in a transverse opening 66 in leg 41 of each standard, said openings 66 each being located so as to register with the tapered end 65 of a said locking pin. Openings 65 may also be tapered to complement end 65 of the pin. It will be noted that in folding the attachment, the braces 54 are each disposed with a leg thereof exterior of the leg 41 of a said standard so that the pin may be easily rotated for locking the attachment in folded condition and for unlocking same.

It will be appreciated that by reason of the construction of said chinning bar 10, same may be conveniently shipped in knock-down condition and readily assembled by the purchaser merely by attaching several bolts. Also, by reason of the hook formations 28, the attachment may be installed over the top of a door in a home, for instance. The attachment need not be removed from its supporting structure when not in use since same may be easily folded and retained in folded position occupying a relatively small amount of space and not protruding unduly from the supporting structure.

It is believed the invention has been described in sufficient detail to enable the skilled artisan to understand and practice the same. It is intended that the invention be construed in the broadest scope commensurate with the improvement contributed thereby to the arts and sciences.

What it is desired to secure by Letters Patent of the United States is:

1. A portable chinning bar attachment adapted to be vertically supported on an upright structure comprising, a substantially open rectangular support frame, hook means secured adjacent the top end of the frame for removably attaching same on said structure with the bottom end of the frame abutting against said structure,

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a pair of elongate, parallel, foldable arms each pivotally connected at one end thereof to said frame adjacent said top end, a hand bar secured horizontally between said arms adjacent the opposite ends thereof, brace members connected between the bottom end of the frame and said arms with the connection at said bottom end being pivotal, said arms capable of being extended to a first position substantially perpendicular to said frame with said bar laterally spaced from the frame and said brace members arranged diagonally to support said bar and folded to a second position disposing the bar and said brace members adjacent the vertical plane of said frame, said frame including a horizontally arranged frame member at the bottom end thereof adapted to bear against the structure in said first position, each arm comprising a pair of elongate bars pivotally connected together intermediate the ends of the arm, each arm having a sleeve member secured transversely thereto adjacent the opposite end of the arm, said sleeves opening inwardly one toward the other and said hand bar being telescopically engaged with said sleeves in said openings, said braces and frame having cooperable locking means for releasably locking same together in said second position comprising, said frame and at least one brace member having pin and socket connectors releasably interlockable along a side edge of the frame in the second position of the arms.

2. A portable chinning bar attachment adapted to be vertically supported on an upright structure comprising, a substantially open rectangular support frame, hook means secured adjacent the top end of the frame for removably attaching same on said structure with the bottom end of the frame abutting against said structure, a pair of elongate, parallel, foldable arms each pivotally connected at one end thereof to said frame adjacent said top end, a hand bar secured horizontally between said arms adjacent the opposite ends thereof, brace members connected between the bottom end of the frame and said arms with the connection at said bottom end being pivotal, said arms capable of being extended to a first position substantially perpendicular to said frame with said bar laterally spaced from the frame and said brace members arranged diagonally to support said bar and folded to a second position disposing the bar and said brace members adjacent the vertical plane of said frame, said frame including a horizontally arranged frame member at the bottom end thereof adapted to bear against the structure in said first position, each arm comprising a pair of elongate bars pivotally connected together intermediate the ends of the arm, each arm having a sleeve member secured transversely thereto adjacent the opposite end of the arm, said sleeves opening inwardly one toward the other and said hand bar being telescopically engaged with said sleeves in said openings, said braces and frame having cooperable locking means for releasably locking same together in said second position comprising, said frame having a transverse opening along one side edge thereof and a brace member mounting a manually operable latch member adapted to be matingly engaged in said transverse opening for releasably locking the attachment in said second position.

3. A portable chinning bar attachment comprising, a substantially open rectangular frame, means for removably suspending said attachment on a support structure in vertical disposition comprising downwardly opening hook formations rigidly secured adjacent the top end of the frame, an elongate, foldable arm pivotally connected at one end thereof along each side edge of the frame adjacent said top end, a chinning bar secured between the opposite ends of said arms, diagonal brace members each rigidly secured at one end thereof to said opposite end of an arm member and pivotally secured at its opposite end along a said side edge adjacent the bottom of the frame, said arms capable of being extended substantially perpendicular to the frame and foldable to dispose said chinning bar substantially coincident with the vertical

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plane of said frame, and cooperable locking means on said braces and frame for releasably locking said arms in said folded position, said frame including top and bottom horizontal members adapted to bear against the support structure in the installed position of the attachment, said locking means comprising, each side edge having a transverse opening therein and each diagonal brace having a manually operable latch pin engaged transversely there-through adapted to be matingly engaged in a said opening for locking the attachment in said folded condition.

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