Oct. 20, 1970 R. G. MYERS 3,534,956

JUMP APPARATUS

Filed Sept. 23, 1968 2 Sheets-Sheet 1

FIG. 1

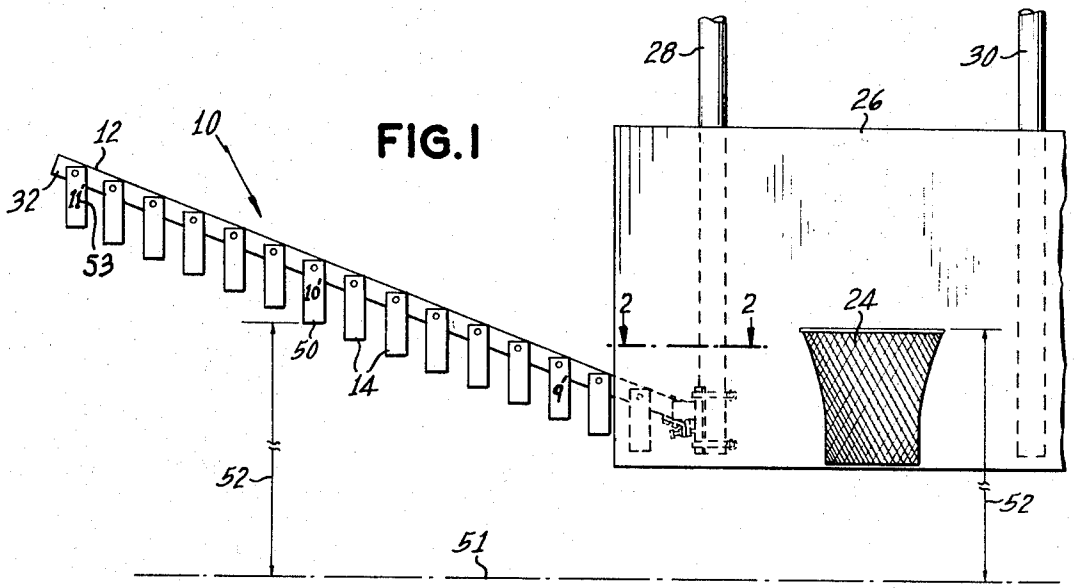


FIG. 2

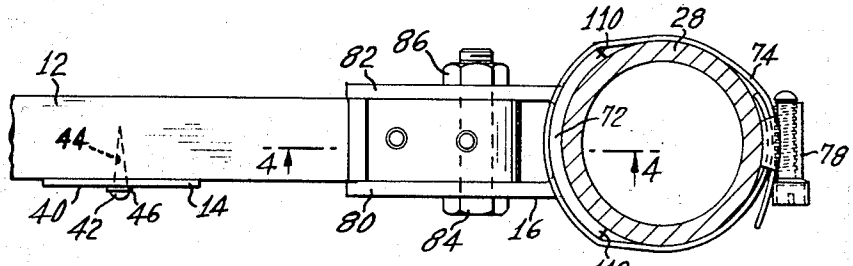
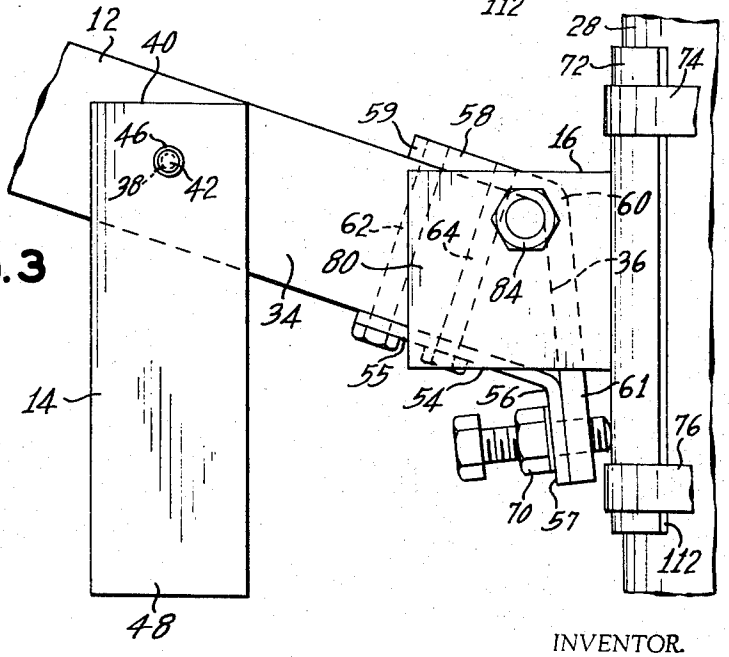


FIG. 3



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JUMP APPARATUS

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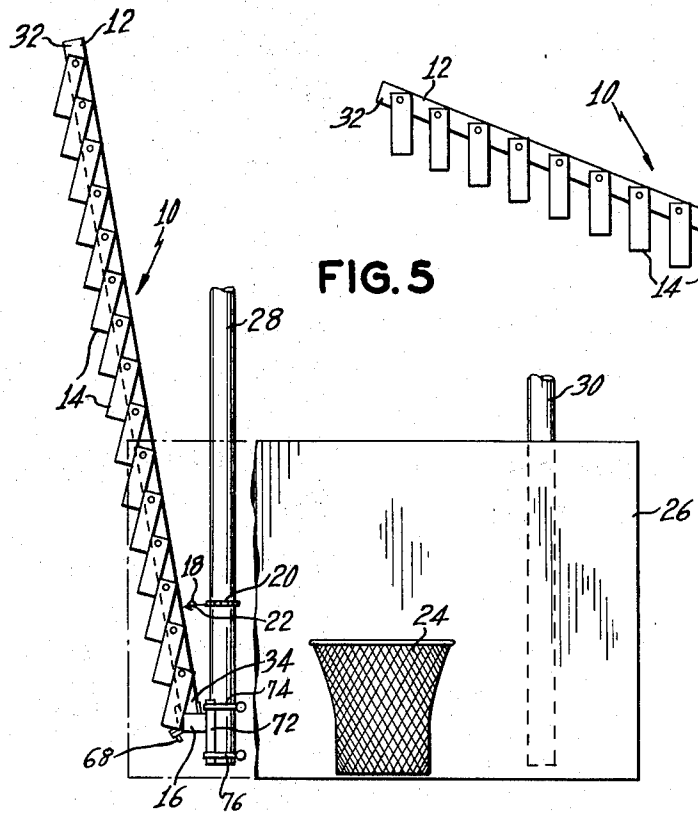


FIG. 5

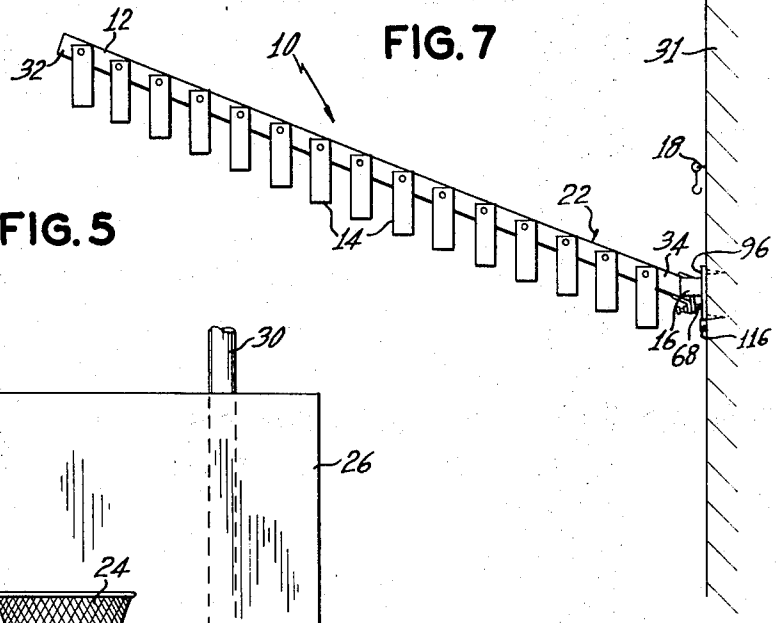


FIG. 7

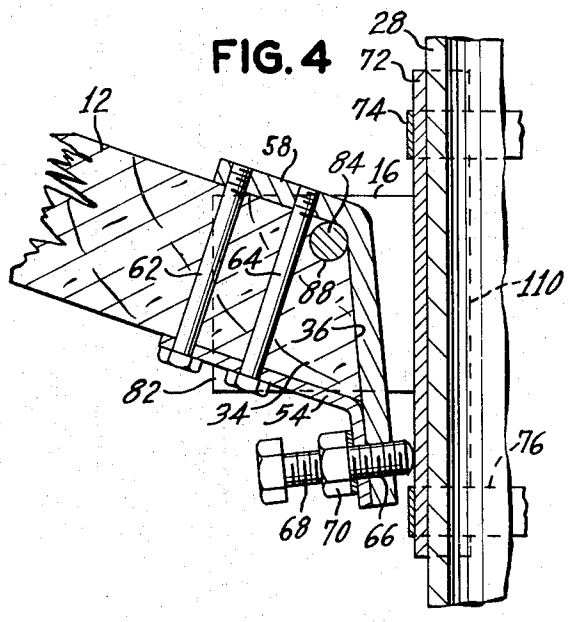


FIG. 4

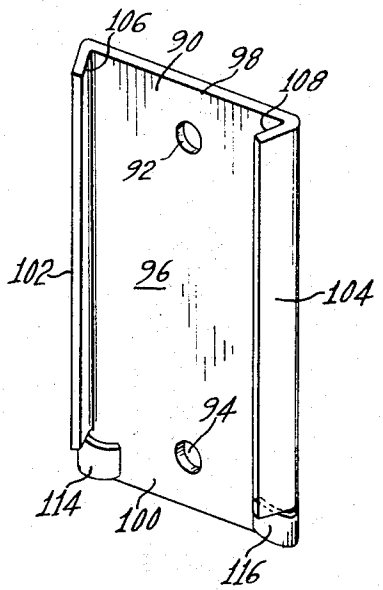


FIG. 6

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JUMP APPARATUS

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Int. Cl. A63b 69/00
U.S. Cl. 273—1.5 10 Claims

ABSTRACT OF THE DISCLOSURE

A jump practicing apparatus for attachment to a generally upright support to indicate the height to which a person can jump upwardly from a horizontal surface including an elongated arm and an attaching bracket connected to the inner end portion of the arm for mounting the arm to the support in an outwardly extending, upwardly inclined position. The bracket has a generally horizontal axis about which the arm is pivotable in a generally vertical arc. The apparatus also includes a plurality of flexible tabs of substantially uniform length and means for pivotally attaching each of the tabs adjacent its upper end potrion to the arm at generally uniform spaced locations therealong with the tabs extending vertically downward from the arm. Selectively adjustable stop means are provided between the arm and the bracket to permit the vertical angle between the arm and support to be selectively varied thereby varying the height increments between the lower ends of adjacent tabs. The tabs are further provided with indicia to indicate the height of their lower ends above the horizontal surface.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to improvements in jumping devices designed to motivate a person's jumping to increase his jumping ability and to measure and determine the height to which a person is capable of jumping upwardly off a horizontal surface or the like, in either a standing or a running jump.

It is known that the jumping ability of an individual can be improved by practice and that by periodically measuring and recording the individual's ability, he can be stimulated to practice and improve his ability.

The jumping apparatus of the present invention has primary and particular adaptation for use by basketball players to practice jumping, and by thus jumping to increase their vertical lift capabilities.

Description of the prior art

There have in the past been a number of jumping apparatuses, jump measuring devices, basketball jump practicing apparatuses and the like. One such prior art jump practicing device is disclosed in U. S. Pat. 2,469,145. Applicant's invention herein disclosed is an improvement over such prior art devices and apparatuses, as shown for example, in the above mentioned patent.

SUMMARY OF THE INVENTION

Therefore it is a general object of this invention to provide a jumping device designed to stimulate an individual to practice and improve his jumping ability and to measure and determine the height to which an individual is capable of jumping vertically off a floor or the like from a standing or running position.

Another object of the present invention is to provide a jumping apparatus of the above described nature which will not get out of order or become broken as a result of rought usage to which such apparatuses are usualy subjected.

A further object of the instant invention is to provide a jumping device which may be advantageously used in physical education classes at all age levels to help in developing jumping ability, to improve muscular coordination and in general to better condition the users of the device.

Still another object of the subject invention is to provide a jumping apparatus and practicing device which can be adjusted for use by individuals of different heights and age groups.

In general these objects are attained by providing a jump practicing apparatus which may be attached to a generally upright support to indicate the height to which a person can jump upwardly from a horizontal surface which includes an elongated arm and connecting means for mounting the arm to a support in an outwardly extending upwardly inclined position. The apparatus also includes a plurality of flexible tabs of substantially uniform length and means for pivotally attaching each of the tabs adjacent their upper end portions to the arm at generally uniform spaced locations therealong with the tabs being spaced each from the next and extending vertically downward from the arm.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features which are believed to be characteristic of this invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation, may best be understood by reference to the following description taken in connection with the accompanying drawings, in which:

FIG. 1 is a front elevational view of jumping apparatus of this invention shown in connection with a basketball backboard and connected to one of the support members thereof;

FIG. 2 is an enlarged transverse-sectional view taken along line 2—2 of FIG. 1;

FIG. 3 is an enlarged front elevational view of the lower end of the jumping apparatus showing its connection to the support member of the basketball backboard;

FIG. 4 is a transverse-sectional view taken along line 4—4 of FIG. 2;

FIG. 5 is a front elevational view similar to FIG. 1 showing the jumping apparatus in its inoperate position;

FIG. 6 is an enlarged perspective view of the bracket used for mounting the jumping apparatus on a flat surface; and

FIG. 7 is a front elevational view of the jumping apparatus showing the same attached to a wall or other similar flat surface.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings in detail, and in particular to FIG. 1 thereof, the jumping apparatus **10** of the invention, as depicted therein, includes an elongated arm **12**, a series of depending tabs or flaps **14** pivotally connected to arm **12** and an attaching and adjusting bracket assembly **16**. Assembly **16** is connected to one end of elongated arm **12**, and attaches jumping device **12** to a support member.

Jumping apparatus **10**, when in use is normally positioned in an operative position similar to that shown in FIGS. 1 and 7, but may be positioned when not in use in an inoperative position similar to that shown in FIG. 5. To maintain apparatus **10** in a non-use inoperative position, such as depicted in FIG. 5, the apparatus is pivoted upward about attaching bracket assembly **16** and held in a nearly vertical position by a hook **18**, attached to the supporting member by means of a chain **20** or the like, engaged within an eye **22** secured to arm **12** adjacent

its lower inner-end portion. Upon release and disengagement of hook 18 from eye 22, device 10, and in particular elongated arm 12 thereof, may be rotated to an operative in-use position such as indicated in FIGS. 1 and 7.

Jumping apparatus 10 is particularly adapted for use in conection with a basketball basket 24 and backboard 26 therefor as depicted in FIGS. 1 and 5. The basketball backboard 24 is usually supported from above by a pair of circular support columns or pipes such as 28 and 30. Jumping device 10 is readily connected to and mounted on one of these circular supporting columns or members such as 28, and extends outward therefrom in a direction opposite to basket 24 in a plane generally parallel to the plane of the backboard 26. Jumper 10 may also be readily attached to and mounted on a generally vertical, flat support surface or member, such as a wall 31 or the like, as depicted in FIG. 7. The apparatus of this invention may be used either indoors or outdoors with the same being readily mountable on any generally vertical, circular or flat supporting member or surface.

Elongated arm 12 includes an outer upper end portion 32 and an inner lower end portion 34 with arm 12 being continuous and uniform throughout its total length extending between these end portions. Arm 12 can be of any desired and conveniently workable length, as for example six feet and may be constructed from hard wood, a relatively light weight metal or the like. The arm 12 should be of uniform width and thickness throughout its entire length and is miter-cut along its inner edge or end 36 to permit pivoting and adjustment thereof as will be explained more fully hereinbelow.

Tabs or flaps 14 are thin and flexible, and preferably made from a plastic or other like material. These flaps 14 are of uniform size and thickness, particularly being uniform in their width and length dimensions, and preferably might be of a width of two inches and a length of six inches. Each tab or flap 14 is provided with an opening or passageway 38 extending therethrough adjacent the upper end portion 40 of the tab to permit the same to be attached or mounted to arm 12. Each of tabs 14 is connected to or mounted on arm 12 at equidistant, uniformly spaced points therealong by means of a screw 42 extending through opening 38 of the tab and into an appropriate opening 44 within arm 12. A suitable washer 46 is provided between the head of screw 42 and flap 14. The connection of each tab 14 to arm 12 is a freely pivotable connection such that tabs 14 and in particular the lower end portions 48 thereof are permitted to freely hang vertically downward from arm 12, no matter what the vertically positioning of the arm may be. Since tabs 14 are freely pivotable about their connection to arm 12, always depending generally vertically downward therefrom due to the force of gravity, it is possible that tabs 14 will at times assume a position generally in alignment with the longitudinal axis of arm 12, as is generally the case as depicted in FIG. 5 when arm 12 is in its inoperative generally vertical position. When jumping apparatus 10 is used in conjunction with a basketball basket as depicted in FIG. 1, it is often advantageous to position the lower end portion 48 of one of tabs 14 at the same height or level as the top of basket 24, and mark that particular tab 50 accordingly. This height or vertical dimension from the floor 51 to the lower end portion of tab 50 and the upper edge of the basketball rim 24 is depicted in FIG. 1 by the doubleheaded arrow or dimension-line at reference numeral 52.

Bracket or attaching arrangement 16 includes a lower supporting or reinforcing metal member 54 having a portion 55 extending along the lower edge of inner end portion 34 of arm 12 to a bend 56 therein, and then continues downward therefrom in portion 57 along the continuation of miter-cut end 36. Also provided is an upper reinforcing or supporting metal member 58 including a portion 59 extending along the upper edge of lower end portion 34 of arm 12 to a bend 60 therein, and then continuing downward in portion 61 along the inner miter-cut edge 36 of arm 12 and along downwardly extending portion 57 of lower supporting member 54, terminating adjacent the lower end thereof. Lower end portion 34 of arm 12 is positioned between lower and upper supporting or attaching members 54 and 58, and connected thereto by means of threaded bolts 62 and 64 extending through openings within lower member 54 and openings within arm 12 and being secured within threaded openings within upper attaching member 58. An opening 66 extends through downwardly directed portions 57 and 61 of respective attaching members 54 and 58, which opening 66 threadedly and engagingly receives a threaded bolt 68 extending therethrough to adjust and vary the angle between arm 12 and supporting member 28. Bolt 68 is provided with a locking nut 70 to lock and prevent rotation thereof after the same has been adjusted to the desired position. Assembly 16 further includes a curved or circular attaching plate 72 which is positioned against circular support member 28 for placement and attachment of the entire apparatus thereto. Plate 72 is attached to support member 28 by a pair 74 and 76 of flexible metal band clamps. Each of clamps 74 and 76 is provided with an adjusting and tightening bolt arrangement 78 whereby the clamp can be adjusted and tightened around supporting member 28 to secure plate 72 and the jumping apparatus thereto. A pair of spaced generally parallel plate members 80 and 82 extend outward from curved attaching plate 72 and are connected thereto. The arm 12 is connected to and pivotally attached between plate members 80 and 82 by means of a bolt 84 and nut 86. Bolt 84 extends through appropriate openings within the upper portions of members 80 and 82 and through an opening 88 provided within lower end portion 34 of arm 12 in a position closely adjacent curve 60 within upper supporting and attaching member 58. In this manner elongated arm 12 is freely pivotable about bolt 84 extending through lower end portion 34 of the arm and through members 80 and 82. By proper adjustment of bolt 68 the distance between plate 72 and downwardly directed portion 61 of supporting member 58 can be varied such that arm 12 is pivoted about bolt 84 to vary the angle between arm 12 and support 28.

Jumping apparatus 10 can be readily adjusted and moved upward or downward along supporting member 28 by loosening clamps 74 and 76 and then moving plate 72 and the apparatus attached thereto upwardly or downwardly along member 28 to the desired height or position of the apparatus therealong, thereafter clamps 74 and 76 are retightened to firmly position and secure device 10 to support 28. The height increment or vertical distance between the lower ends of each of the adjacent depending tabs or flaps 14 can be adjusted, if so desired, by simply changing and adjusting bolt 68 to vary the angle between elongated arm 12 and supporting member 28. In this manner the difference in heights of the lower ends of adjacent flaps 14 and the various increments therebetween could for example be one-half inch, one inch, two inches, etc. as may be desired. If desired, indicia, as at reference numeral 53, may be placed on the individual tabs 14 to give their actual height above the surface of the floor or ground, and new or different sets of tabs 14 may be readily exchanged with those existing on arm 12 when the angle between arm 12 and support 28 is changed, by means of adjustment bolt 68 to give different height increments between individual adjacent tabs 14, or when the entire apparatus 10 is moved upward or downward along support member 28.

When the apparatus 10 is positioned on and attached to a flat vertical support member, such as wall 31 as depicted in FIG. 7, the mounting bracket 90 as depicted in FIG. 6 is used. Bracket 90 is provided with a pair of openings 92 and 94 positioned within the mid-portion of bracket back 96 and closely adjacent respective upper and

lower end portions **98** and **100**, for attaching bracket **90** to flat surface **31** by a pair of screws passing therethrough. The outer side portions **102** and **104** of bracket **90** are turned and bent forwardly and inwardly of bracket back **96** to provide grooves or channels respectively at **106** and **108** within which outer side portions **110** and **112** of curved attaching plate **72** may respectively fit to become attached to bracket **90**. Outer side portions **110** and **112** are respectively positioned within grooves or channels **106** and **108**, being slid downwardly thereinto from above, and abut or engage respective stop members **114** and **116** provided on bracket back **96** closely adjacent lower end portion **100** thereof. Bracket **90** is normally permitted to remain attached to flat vertical surface **31** such that apparatus **10** can be readily attached to and removed therefrom without the aid of further connecting means.

While only a certain preferred embodiment of this invention has been shown and described by way of illustration, many modifications within the true spirit and scope of this invention and within the following claims will occur to those skilled in the art.

What is claimed as new and what it is desired to secure by Letters Patent of the United States is:

1. A jump practicing apparatus for attachment to a generally upright support to indicate the height to which a person can jump upwardly from a horizontal surface comprising an elongated arm, connecting means for mounting said arm to said support in an outwardly extending upwardly inclined position, a plurality of flexible tabs of substantially uniform length, means for pivotally attaching each of said tabs adjacent the upper end portions thereof to said arm at generally uniform spaced locations therealong, said tabs being spaced each from the next and extending vertically downward from said arm.

2. In the jump practicing apparatus as defined in claim **1** wherein said means for pivotally attaching each of said tabs includes individual pivot connections extending laterally of said arm whereby said tabs pivot substantially in a vertical plane extending through the longitudinal axis of said arm.

3. In the jump practicing apparatus as defined in claim **1** further comprising indicia means on said tabs indicating the height of the lower ends of said tabs above the horizontal surface.

4. In the jump practicing apparatus as defined in claim **1** wherein said connecting means includes a generally horizontal pivot positioned closely adjacent the inner end portion of said arm which is adjacent said support, said pivot being operative to permit said arm to be folded upwardly to a position closely adjacent said support.

5. In the jump practicing apparatus as defined in claim **1** wherein said connecting means includes an attaching bracket connected to the inner end portion of said arm, said attaching bracket including a curved plate member for mounting said apparatus on a curved upright support with said curved plate member being in engagement with said support.

6. In the jump practicing apparatus as defined in claim **5** wherein said connecting means further includes a generally flat plate member readily mountable on a generally flat upright support, said flat plate member having inwardly turned opposite side edges, said inwardly turned opposite side edges of said flat plate being adapted and arranged to respectively engage the opposite side edges of said curved plate member whereby said apparatus may be readily mounted on a generally flat upright support.

7. In the jump practicing apparatus as defined in claim **1** wherein said connecting means includes an attaching bracket connected to the inner end portion of said arm, said attaching bracket having a generally horizontal axis about which said arm is pivotable in a generally vertical arc to permit said arm to be folded upwardly to a position closely adjacent said support.

8. In the jump practicing apparatus as defined in claim **7** wherein said connecting means further includes selectively adjustable stop means positioned between said attaching bracket and said inner end portion of said arm, said adjustable stop means being operative to permit the vertical angle between said arm and said support to be selectively varied thereby varying the height increments between the lower ends of adjacent tabs of said plurality of tabs.

9. In the jump practicing apparatus as defined in claim **8** wherein said selectively adjustable stop means includes a generally upright member attached to said inner end portion of said arm and extending generally downward therefrom, and an adjustable lock bolt extending laterally through said member adjacent its lower end portion and being threadedly engaged therewith, said lock bolt spanning between said member and said attaching bracket, said lock bolt being engageable with said attaching bracket to prevent downward vertical pivoting of said arm about said horizontal axis.

10. In the jump practicing apparatus as defined in claim **8** further comprising indicia means on said tabs indicating the height of the lower ends of said tabs above the horizontal surface.

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U.S. Cl. X.R.

33—171; 272—59