May 3, 1949. D. D. BALIFF 2,469,145

JUMP MEASURING DEVICE

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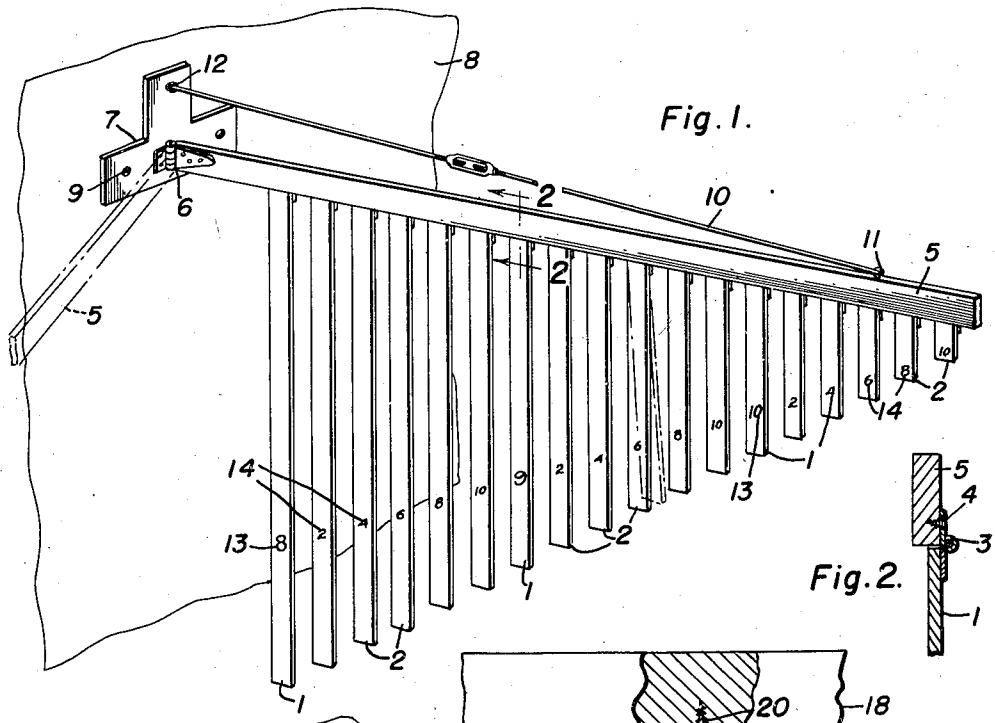


Fig. 1.

Fig. 2.

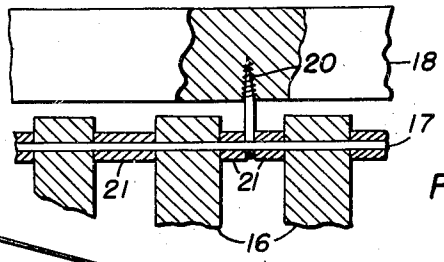


Fig. 4.

Fig. 3.

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JUMP MEASURING DEVICE

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4 Claims. (Cl. 272—59)

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My invention relates to improvements in jump measuring devices for determining the height to which persons are capable of jumping upwardly off a floor, or the like, in either a standing or a running jump.

The primary object of the invention is to provide a simply constructed, inexpensive device for the purpose indicated which is adapted for installation on a wall, or the like, to be swung horizontally flat against the wall when not in use, or, swung into outstanding projecting relation to the wall for use when desired.

Another object is to provide a device of the character and for the purpose above set forth which will not get out of order or become broken as a result of rough usage to which such devices are usually subjected.

Other and subordinate objects, within the purview of my invention, together with the precise nature of my improvements will be readily understood when the succeeding description and claims are read with reference to the drawing accompanying and forming part of this specification.

In said drawing:

Figure 1 is a view in perspective of my improved jump measuring device in a preferred embodiment thereof swung into position for use;

Figure 2 is a fragmentary view in vertical section taken on line 2—2 of Figure 1 and drawn to a larger scale;

Figure 3 is a view in perspective of a modified embodiment of my improved jump measuring device swung into a position for use;

Figure 4 is a fragmentary view partly in side elevation and partly in vertical section and drawn to a larger scale to illustrate in detail the manner in which the bars of the modified embodiment are suspended.

Referring to the drawing by numerals, and first to Figures 1 and 2, according to my invention, in the preferred embodiment thereof, a series of foot and inch indicating, flat bars are provided, the foot indicating bars being designated by the numeral 1 and the inch indicating bars by the numeral 2. The bars of the series, 1, 2 are graduated in length throughout the series.

Means are provided for swingably suspending said bars 1, 2 by corresponding ends thereof in edge to edge spaced apart relation with lower ends stepped upwardly from the longest bar, for a purpose presently seen. The suspending means preferably takes the form of hinges 3 at upper ends of said bars 1, 2 and on one and the same

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side of said bars, said hinges being suitably attached, as by screws 4, to a hanger arm 5, the arrangement being such that the foot and inch indicating bars 1, 2 may be swung away from the hanger bar 5 in one in the same direction only, the upper ends of said bars 1, 2 abutting the lower edge of the hanger bar 5 to prevent swinging of said bars 1, 2 in the opposite direction from normal vertical position.

The hanger bar 5 is hinged at one end thereof, as at 6, to a bracket plate 7 adapted to be fastened to a wall 8, or other upright support, as by screws 9 so that said arm 5 is swingable about a vertical axis, the arrangement being such that the hanger arm 5 may be swung toward the wall 8, as indicated by dotted lines in Figure 1, to position the same together with the foot and inch indicating bars 1, 2 substantially flat against the wall 8 in an out of the way position when not in use and, when it is desired to use the device, said arm 5 together with said bars 1, 2 may be swung away from the wall 8 to dispose the arm in outstanding position relative to the wall 8 with the foot and inch indicating bars 1, 2 disposed substantially in a common vertical plane at a right angle to said wall.

A turnbuckle rod 10 braces the hanger arm 5 against sagging on the hinge 6. For this purpose, one end of the turnbuckle rod 10 is suitably secured, as at 11, to the hanger arm 5 adjacent to the free end of said arm and inclines upwardly along the hanger arm 5 to the attaching bracket 7 with its other end swivelled, as at 12 in said bracket 7 for swinging of the turnbuckle arm 10 with the hanger arm 5.

As will be seen, the foot indicating bars 1 comprise the longest end bar of the series and intermediate shorter bars of the series and these foot indicating bars are designated on one side, as at 13 to indicate in numbers of feet different heights from the floor, or the like, not shown, in consecutively numbered ascending order beginning with the longest bar of the series.

The inch indicating bars 2 are designated on the same side thereof as the foot indicating bars 1 to indicate in numbers, as at 14, multiples of inches in a foot arranged in ascending order from the foot indicating bars 1 to supplement in inch measurements the designations 13 on the foot indicating bars.

As will be obvious, from the drawing, the foot and inch indicating bars 1, 2 are swingable sidewise from normal vertical position, in the direction previously indicated, with the designations

13, 14 on the side thereof opposite that facing the direction of such swinging movement.

In the modified embodiment of the invention shown in Figures 3 and 4, the arrangement is the same as described with reference to the preferred embodiment with the following exceptions. The foot and inch indicating bars, designated 15, 16, in this instance, are swingably suspended at the upper ends thereof on a rod 17 extending beneath the hanger arm 18 parallel therewith and having its ends suitably fixed in hanger brackets 19 on said arm 18. Eye screws 20 depending from the hanger arm 18 and through which said rod 18 is extended supports said rod 17 intermediate its ends against sagging. Spacing sleeves 21 on the rod 17 between the foot and inch indicating bars 15, 16 space said bars apart. In this embodiment of the invention, the foot and inch indicating bars 15, 16 are swingable sidewise from normal vertical position in relatively opposite directions.

Referring now to the use of the invention, the device is mounted on the wall 8, or the like, with the lower ends of the foot and inch indicating bars spaced above the floor, not shown, in correspondence with the indications thereon. The person jumping is measured as to height, with upstretched arm, for instance against a wall. In jumping, the jumper strikes the lower end of the highest foot or inch indicating bar that he or she can reach and causes the same to swing, thus identifying the bar struck. The height of the jumper plus the length of the upstretched arm is subtracted from the foot, or foot and inch indication on the struck bar to ascertain the height of the jump from the floor.

The described device is particularly useful in checking jumping ability in physical education courses and gymnasium work. It is easy to install, can be manufactured at a very low cost and provides equipment for encouraging and rendering interesting the practice of jumping.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification, without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A jump measuring device for attachment to an upright support and use to indicate the height at which a person can jump upwardly off a floor comprising a series of flat bars graduated in length throughout the series, a hanger arm adapted to be attached to said support in horizontal position and to which said bars are pivoted to hang pendent in edge to edge relation with lower ends stepped upwardly from the longest bar for striking with the hand by persons jumping to different heights to swing the bars sidewise and thus identify the struck bar, means on said bars indicating the height of the lower ends thereof from the floor, and means for attaching said arm to said support.

2. A jump measuring device for attachment to an upright support and use to indicate the height at which a person can jump upwardly off a floor comprising a series of flat bars graduated in length throughout the series, a hanger arm adapted to be attached to said support in horizontal position and to which said bars are pivoted to hang pendent in edge to edge relation with lower ends stepped upwardly from the longest bar for striking with the hand by persons jumping to different heights to swing the bars sidewise and thus identify the struck bar, means on said bars indicating the height of the lower ends thereof from the floor, and means for attaching said arm to said support comprising an attaching bracket on which said arm is hinged for swinging laterally to variably position the same and said bars.

3. A jump measuring device for attachment to an upright support and use to indicate the height at which a person can jump upwardly off a floor comprising a series of flat bars graduated in length throughout the series, a hanger arm adapted to be attached to said support in horizontal position and to which said bars are pivoted to hang pendent in edge to edge relation with lower ends stepped upwardly from the longest bar for striking with the hand by persons jumping to different heights to swing the bars sidewise and thus identify the struck bar, means on said bars indicating the heights of the lower ends thereof from the floor, and means for attaching said arm to said support comprising an attaching bracket on which said arm is hinged for swinging laterally to variably position the same and said bars, and a turnbuckle brace rod attached to said arm and swivelled in said bracket for swinging with said arm.

4. A jump measuring device for attachment to an upright support and use to indicate the height at which a person can jump upwardly off a floor comprising a series of foot and inch indicating flat bars graduated in length throughout the series, means to swingably suspend said bars by corresponding ends thereof in edge to edge spaced apart relation with lower ends stepped upwardly from the longest bar for striking by the hand of persons jumping to different heights from the floor to swing the bars sidewise and thus identify the bars struck, the longest bar and intermediate bars of the series being foot indicating bars designated on one side to indicate in numbers of feet different heights from the floor in consecutively numbered ascending order beginning with the longest bar, the other bars being inch indicating bars designated on one side thereof to indicate in numbers multiples of inches in a foot arranged in ascending order from the foot indicating bars for supplementing in inches the foot indications on said foot indicating bars.

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No references cited.