United States Patent

Quinn

[15] **3,685,824**

[45] **Aug. 22, 1972**

[54] **TRAINING HURDLE**

[72] Inventor: **Governor V. Quinn**, East St. Louis, Ill.

[73] Assignee: **Three-Line Research and Development Company**, Granite City, Ill.

[22] Filed: **March 10, 1971**

[21] Appl. No.: **122,832**

[52] **U.S. Cl.**.....**272/59 C**, 108/118, 119/29, 248/164

[51] **Int. Cl.**.....**A63k 3/04**

[58] **Field of Search**.....272/59 C; 119/29; 108/112, 108/115, 118, 134; 248/164, 188.2, 188.6, 431, 432

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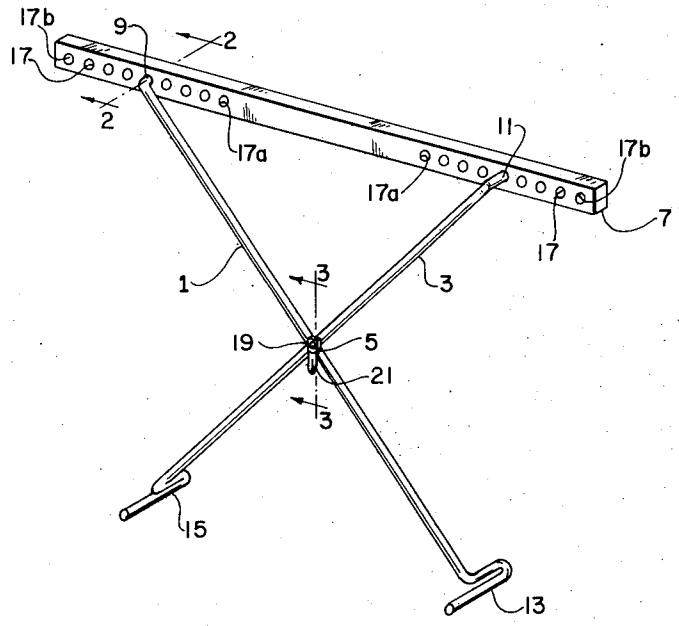
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Primary Examiner—Richard C. Pinkham
Assistant Examiner—Richard J. Apley
Attorney—Koenig, Senniger, Powers & Leavitt

[57] **ABSTRACT**

A training hurdle comprising a pair of legs pivoted to form an "X", with feet at the lower ends of the legs and pins at the upper ends of the legs received in openings in a crossbar. The bar has a plurality of openings and the legs are adapted to be pivoted to different angular positions for adjustment of the height of the crossbar. The bar is adapted to fall off the pins when struck by a hurdler.

6 Claims, 4 Drawing Figures



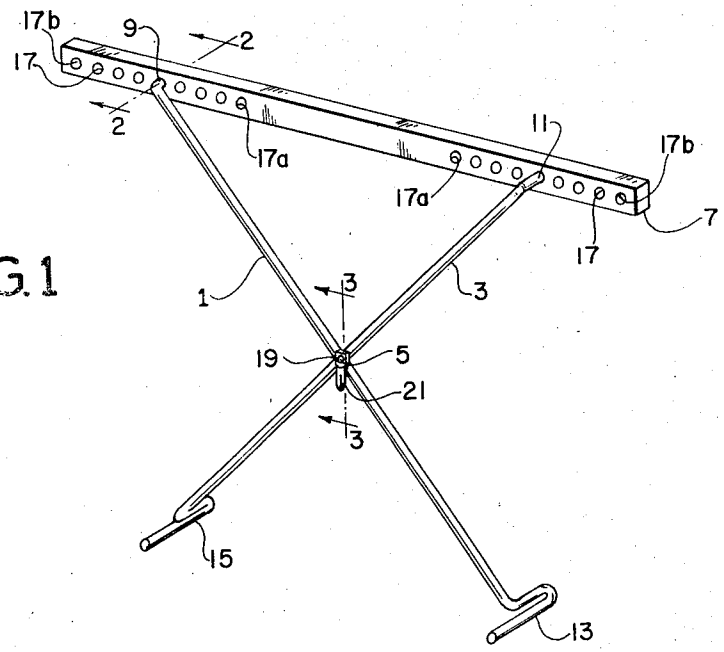


FIG. 1

FIG. 2

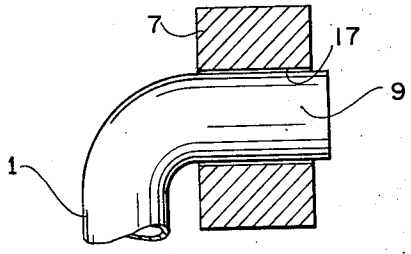


FIG. 4

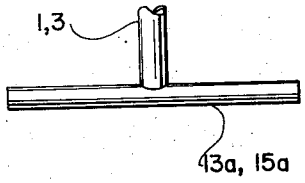
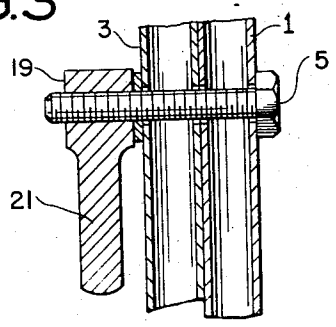


FIG. 3



Governor V. Quinn,
Inventor.
Koenig, Senniger,
Powers and Leavitt.
Attorneys.

TRAINING HURDLE

BACKGROUND OF THE INVENTION

This invention relates to the field of athletic equipment, and more particularly to a novel hurdle which is useful in the training of novice hurdlers.

To run the hurdle races successfully in competition, it is necessary for the hurdler to acquire a facility in "striding" over the hurdles. He must learn to step over the hurdles rather than interrupt the rhythm of his running stride by jumping over them. His legs must be generally horizontal as he passes over the hurdles, and oriented along the line in which he is running. To avoid loss of energy, distance and time, he must clear the hurdles by as narrow a margin as possible.

The acquisition of skill at "striding" over hurdles is often a difficult and frustrating experience for the novice hurdler. It may also be a hazardous experience since the novice hurdler is prone to strike the hurdle crossbar with the foot of his leading leg or the foot, thigh, shin or knee of his trailing leg, thus knocking the hurdle over and often upsetting himself in the process. Many novice hurdlers are injured in this manner every year.

Hurdles of adjustable height are known in the art which allow the novice to acquire his basic form with the hurdle set at a low height and then progressively increase the height of the hurdle to competition level. Such a hurdle is shown, for example, in Brook U.S. Pat. No. 1,044,128. This type of hurdle affords some reduction in the probability of injury to the learner but does not insure against it. If he misjudges the increase in hurdle height which his extent of practice will allow him to safely negotiate, the novice hurdler may be tripped up by a conventional adjustable height hurdle with consequences similar to those suffered if he had tripped over a standard competition hurdle. There has, therefore, been an unfulfilled need in the art for a training hurdle of adjustable height which will not itself be upset or upset the hurdler when his leading foot or any part of his body strikes the crossbar during practice.

SUMMARY OF THE INVENTION

It is an object of the present invention, therefore, to provide a training hurdle of adjustable height which is adapted for safe and effective use by novice hurdlers. It is also an object of the present invention to provide such a hurdle which will not be upset nor upset the hurdler when the hurdle crossbar is struck by the hurdler's foot or other portion of his body. It is a further object of the present invention to provide such a hurdle whose crosspiece is "kicked off" if struck by a portion of the hurdler's body while he is passing over the hurdle.

Briefly, a hurdle of the present invention comprises a pair of legs of generally equal length with means interconnecting the legs intermediate their ends for their disposition in the form of an "X" with the legs at various angles to one another for varying the height of the "X". Each leg has a foot at its lower end for supporting the "X" in an upright position on a track, and at its upper end each leg has a pin projecting generally at right angles to the plane of the leg and in forward direction with respect to the mode of setting up the hurdle on a track. The hurdle has a crossbar having at least one opening therein adjacent one of its ends extending transversely to the length of the crossbar for receiving the pin on one of the legs and a series of openings adjacent its other end spaced at intervals lengthwise of the crossbar, each extending transversely to the length of the crossbar for receiving the pin on the other leg, with the crossbar readily slidable off the pins in said forward direction when struck by a hurdler. Other objects and features will be in part apparent and in part pointed out hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a trimetric view of the hurdle from its rearward side;

FIG. 2 is a section on line 2—2 of FIG. 1;

FIG. 3 is a section on line 3—3 of FIG. 1; and

FIG. 4 shows an alternative form of the feet of the hurdle.

Corresponding reference characters indicate corresponding parts throughout the several views of the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In accordance with the present invention, a hurdle is provided which can be used to safely and effectively train novice hurdlers. Adjustable in height, it may be set at a relatively low height while the hurdler is learning basic form, and progressively increased in height as the hurdler gains experience. Should the hurdler understride as he attempts to pass over the hurdle and strike the crossbar with any portion of his body, that crossbar readily slides off pins at the top of supporting legs of the hurdle, and falls to the ground without tripping up the hurdler or otherwise obstructing his progress. Thus injury to the hurdler is avoided. This prevents fear from distracting the hurdler's training efforts and promotes more rapid development of hurdling skill.

As illustrated in FIG. 1, the hurdle comprises tubular metal legs 1 and 3 pinned together by an interconnecting pivot bolt 5 to form an "X" for support of a hurdle crossbar 7. Pins 9 and 11 at the upper ends of legs 1 and 3, respectively, extend at substantially right angles to the legs in a forward direction with respect to the mode of setting the hurdle up on a track. These pins are conveniently formed by bending the upper ends of each tubular metal leg over into a horizontal orientation displaced approximately 90° from the longitudinal centerline of the leg (see FIG. 2). Feet 13 and 15, constituted by integral "U" bends in tubular legs 1 and 3, with one side of the "U" bend extending generally rearward and the other generally forward, stabilize the support structure against tipping.

Crossbar 7 has a plurality of pairs of openings 17 extending transversely of its length in which the pins 9 and 11 are slidably engageable (see FIG. 2). One opening of each pair is spaced a predetermined distance to the left of a point on or near the center of length of crossbar 7 and the other opening of the pair is spaced an approximately equal distance to the right of that point. By engaging pins 9 and 11 in a pair of openings such as indicated at 17*a* in FIG. 1 close to the center of length of the crossbar as shown in FIG. 1, the hurdle may be adjusted to a relatively large height. Conversely, the hurdle may be adjusted to a relatively low height by engaging pins 9 and 11 in a pair of openings 17*b*

close to the ends of the crossbar. Each pair of openings in crossbar 7 may be labeled with indicia indicating the overall height of the hurdle when pins 9 and 11 are engaged in those openings. Where there is no necessity of adjusting the hurdle to very low heights, or where a relatively long crossbar is used, a single opening may be employed in one side of the crossbar to engage pin 9, for example, and a plurality of openings employed at the other end, for example, to engage pin 11.

To lock legs 1 and 3 in a given relative angular disposition, with pins 9 and 11 spaced from each other a distance corresponding to the spacing of a given pair of openings 17, a height adjustment lock is provided. This lock is shown in FIG. 3 and is constituted by the aforesaid pivot bolt 5 and a nut 19 threaded on the free end thereof. By tightening nut 19 on pivot bolt 5, legs 1 and 3 are clamped together and locked in position. Nut 19 has a handle 21 attached thereto to facilitate tightening and loosening it.

FIG. 4 illustrates an alternative form 13*a*, 15*a* for feet 13 and 15. The foot construction shown in FIG. 4 consists of a short length of tubing welded to the lower end of the support leg in the form of a tee. Other variations in design of feet 13 and 15 will be obvious to those skilled in the art. It will be similarly apparent that legs 1 and 3 can be constructed of angle-shaped members, channels, or other shapes rather than tubular. Tubular construction is preferred, however, since pins 9 and 11 and feet 13 and 15 may be easily integrally formed therefrom.

Crossbar 7 may be fabricated from a strip of wood, as the drawings suggest. Alternatively, a length of tubular metal having a diameter somewhat larger than the cross sectional dimensions of pins 9 and 11 may be drilled to provide openings 17 and serve as the crossbar. Other constructions of the crossbar will occur to those skilled in the art.

In use, the hurdle is set up with pins 9 and 11 facing forwardly down the track. Crossbar 7 is guided onto pins 9 and 11 at the pair of openings 17 corresponding to the height at which the hurdler wishes to practice. The height adjustment lock 19 is tightened and the hurdle is ready for a practice session. As he gains experience, the hurdler can adjust the height of the hurdle progressively upward by mutually rotating legs 3 and 5 to move pins 9 and 11 to pairs of openings closer to the center of length of crossbar 7. If his foot or other portion of the hurdler's body should strike the crossbar during a practice session, the bar does not trip him but simply slides off pins 9 and 11 and falls to the ground.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A hurdle comprising a pair of legs of generally equal length, means interconnecting the legs intermediate their ends for their disposition in the form of an "X" with the legs at various angles to one another for varying heights of the "X", each leg having a foot at its lower end for supporting the "X" in upright position on a track, each leg having at its upper end a pin projecting generally at right angles to the plane of the legs and in forward direction in respect to the mode of setting up the hurdle on a track, and a crossbar having at least one opening therein adjacent one of its ends extending transversely to the length of the crossbar for receiving the pin on one of the legs and a series of openings adjacent its other end spaced at intervals lengthwise of the crossbar each extending transversely to the length of the crossbar for receiving the pin on the other leg with the crossbar readily slidable off the pins in said forward direction when struck by a hurdler.

2. A hurdle as set forth in claim 1 wherein each leg is formed of a tubular metal rod bent at one end constituting its upper end to form the respective pin.

3. A hurdle as set forth in claim 2 wherein the interconnecting means comprises a pivot extending through the legs.

4. A hurdle as set forth in claim 3 wherein the pivot is a bolt having a nut threaded thereon for clamping the legs in various positions of adjustment.

5. A hurdle as set forth in claim 1 wherein the crossbar has a series of said openings adjacent its said one end.

6. A hurdle as set forth in claim 2 wherein each rod is bent at its other end constituting its lower end to form the foot with the foot extending both rearward and forward.

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(5/69)

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,685,824 Dated August 22, 1972

Inventor(s) Governor V. Quinn

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

The name of the assignee should read "Three-Line Research and Development Co., Inc." not "Three-Line Research and Development Company".

Signed and sealed this 9th day of January 1973.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents

147