EQUIPMENT SYSTEM FOR USE IN A BALL THROWING GAME

Inventor: Mark D. Fuchs, Mequon, WI (US)

Correspondence Address:
John Horn
W68 N336 Palmetto Ct.
Cedarburg, WI 53012 (US)

Appl. No.: 11/502,899
Filed: Aug. 11, 2006

Related U.S. Application Data
Provisional application No. 60/707,828, filed on Aug. 12, 2005.

Publication Classification
Int. Cl. A63B 63/00 (2006.01)

U.S. Cl. 273/343

ABSTRACT

An system of equipment for use in playing games in which pairs of balls that are tethered together are thrown from a distance at horizontal crossbars with the objective of looping sets of balls around the crossbars. The system includes a support stand having several detachable components including the horizontal crossbars that act as the targets in the game, vertical columns that support the crossbars, and a base including support members having support legs for supporting the vertical columns and crossbars. Each vertical column comprises a pair of matching rectangular indent bars joined together with a rectangular shaped in-line connector. The crossbars are constructed of D-shaped tubing and indent bars have reinforcing ribs that provide added strength and stability to the assembly. The tethered balls are comprised of a soft vinyl material and each pair is connected by a short rope the ends of which are glued into place inside of the balls.
EQUIPMENT SYSTEM FOR USE IN A BALL THROWING GAME

[0001] This application claims the benefit of U.S. Provisional Patent Application Ser. No. 60/707,828 filed on Aug. 12, 2005, which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to games of skill in which objects are thrown or tossed at targets and more particularly to the construction of the equipment including the targets and balls for use in such games.

[0003] The lawn or yard game often referred to as “LadderBall”, but also known as “Bolo Ball”, “Ladder Golf”, “Hilly Billy Horseshoes” or “Polish Golf” and by other names, involves tossing pairs of tethered balls at a set of horizontal rungs on a support stand. The balls are usually tethered by a short piece of rope or cord that is 8-12 inches in length. The rungs that are used as the target are usually about 24 inches across and are positioned at vertical heights of approximately 36 inches, 24 inches and 12 inches above the ground. The rungs are supported by vertical columns on either side of the bars that extend upward from a base platform.

[0004] In normal play a pair of participants, or teams in a LadderBall game, each toss three of the sets of tethered balls toward the target rungs from a 20-40 foot distance and are awarded 3 points for looping a set of balls around the top bar, 2 points for looping a set of balls around the middle bar, and 1 point for looping a set of balls around the lowest bar. Once both individuals or teams has completed tossing their balls, the individual or team with the highest score is awarded those points less the total points of the lower scoring individual or team. The game progresses until one individual or team reaches a total score of 21. This score must be attained exactly, and if the score exceeds 21 points the individual or team doing must subtract the last score from the total and continue play until one team achieves exactly 21 points.

[0005] The successful practice of this game requires a support stand including the three target bars that is inexpensive to construct, sturdy, lightweight and capable of being readily disassembled into a compact form for convenient storage and transport. Further, the tethered balls must be strongly connected and rugged yet large enough, light enough and soft enough to not be a safety hazard in case any of the participants are accidentally struck by one of the balls.

SUMMARY OF THE INVENTION

[0006] The present invention comprises an equipment system for use in playing games of LadderBall including a design for a support stand having horizontal crossbars for use as targets and a construction for pairs of tethered balls to be thrown at the crossbar targets with the objective of entangling the balls on the crossbars. The support stand comprises several detachable components including three horizontal crossbars that act as targets, two vertical support columns, two horizontal floor supports and a fourth ground-level crossbar that helps connect the vertical columns and floor supports. Each vertical column comprises two reinforced rectangular indent bars joined together with a hollow rectangular shaped in-line connector. Each floor support comprises two support legs connected at a three way T-joint that also connects the floor support to one of the columns. The crossbars used as targets in the game extend between the vertical columns at different spaced apart levels. Each of the components is constructed of High Density Polystyrene. The fourth crossbar that extends between the columns and floor supports at ground level serves to reinforce the assembly. The design of each component is unique in combining light construction with sturdiness, durability and functionality. In particular, the crossbars are constructed of D-shaped tubing and the indent bars have reinforcements or cross ribs and X-shaped reinforcing ribs that provide added strength and stability to the assembly when in use. The design of the support stand with these crossbars, indent bars and floor supports creates a rugged game stand. The tethered balls are connected by a short rope or cord about twelve inches in length. Each end of the cord is inserted into a small cavity in the ball along with a plug. The end of the rope and plug are glued in place with adhesive. The ball is sized to be about as large as a standard tennis ball and is composed of soft vinyl material with a dimpled surface.

[0007] It is an object of the present invention to provide an equipment system that enables a LadderBall type game to be simply and easily assembled and disassembled into a compact and easily stored form.

[0008] It is another object of the present invention to provide an equipment system for a LadderBall type game that provides lightweight and compact components that are easily transported and stored and yet at the same time are rugged and sturdy in operation.

[0009] It is another object of the present invention to provide an equipment system for a LadderBall type game or similar game in which the components are as safe as possible for use by adults and children.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The invention may be better understood with reference to the following drawings in which like reference numbers are intended to refer to like elements.

[0011] FIG. 1 provides an overall perspective view of the equipment system of the present invention as it might appear during use.

[0012] FIG. 2 provides a perspective view of the main T-joint and in-line coupler components of the present invention as connected in place during use of the invention.

[0013] FIG. 3 provides a detailed cross-sectional view of the crossbar and column based crossbar fittings of the present invention as connected together during use of the invention.

[0014] FIG. 4 provides a perspective view of one of the indent bar components in accordance with the present invention showing its rectangular shape, its X-shaped reinforcements and its fittings for connecting with crossbars.

[0015] FIG. 5 provides a close-up perspective of one of the in-line coupler components of the present invention for connecting indent bars to make vertical columns.

[0016] FIG. 6 provides a close-up perspective of one of the T-joint components of the present invention for coupling support legs to the indent bars which make up the vertical columns.
FIG. 7 provides a close-up perspective view of one of the crossbar components or support leg components of the present invention.

FIG. 8 provides an overall perspective view of a set of tethered balls in accordance with the present invention.

FIG. 9 provides an exploded view of one of the balls of a set of tethered balls showing how the rope or cord is adhered to the ball through the use of a plug in accordance with the present invention.

FIG. 10 provides a detailed cross-sectional view of the top of one of the balls of a set of tethered balls showing how the rope or cord is adhered to the ball in accordance with the present invention.

DETAILED DESCRIPTION

Referring now to FIG. 1, the equipment system 10 includes a support stand 20 that is about 39 inches high for supporting the bars that serve as targets in the game and several sets or pairs 50a and 50b of tethered balls that are about the size of tennis balls that are intended to be thrown at the targets. The support stand 20 includes spaced apart horizontal crossbars 22a-22d that serve as targets during game play and vertical columns 24a and 24b that are connected to and support the crossbars 22a-22c. The vertical columns 24a and 24b include rectangular indent bars 26a-26d that are connected together by in-line couplers 28a and 28b. The indent bars 26a-26b include spaced apart fittings 30 for connecting with and securing the crossbars 22a-22d. The indent bars 26a and 26c have a top orientation while the indent bars 26b and 26d have a bottom orientation which allows the bars 26a and 26b to properly form the column 24a and the bars 26c and 26d to properly form the column 24b with all of the flats 70a (see FIG. 3) on all of the fittings 30 oriented downward. The support stand 10 further includes a base 32 including horizontal support members 32a and 32b. The support members 32a and 32b include the support legs 34a-34d that are connected by the three way T-joints 36a and 36b that also connect to and support the lower indent bars 26b and 26d of the vertical columns 24a and 24b. The end caps 35 protect the ends of the support legs 34a-34d. All of the components of the support stand 20 are made of polyethylene plastic. The tethered ball sets 50a and 50b include balls 52a and 52b that are connected by the cords 54a and 54b. The balls 52a and 52b are made of soft vinyl plastic while the connecting ropes are made of nylon.

Referring now to FIG. 2, the vertical column 24a comprises a rectangular top oriented indent bar 26a and a rectangular shaped bottom indent bar 26b connected together at the in-line coupler 28a with the open ends 60 of the indent bars being press fitted into opposite ends 64a and 64b of the coupler 28a. The far end 68 of the column 24a is connected with the T-joint 36a at the rectangular fitting 42 where it is also press fitted in place. The support legs 34a and 34b are also connected to the T-joint 36a by being pressed into the two fittings 40. The ground level crossbar 22b is similarly connected to the T-joint 36a by being press fitted into the lower fitting 30 on the indent bar 26b in proximity to the T-joint 36a.

Referring now to FIG. 3, the connection 66 shows an interference fit between a crossbar 22d and a fitting 30 that is representative of all the joints formed by the crossbars 22a-22d and support legs 34a-34d which are press fitted into fittings 30 and 40 to form connections between the crossbars 22a-22d and indent bars 26a-26d and the support legs 34a-34d and the T-joints 36a and 36b. Both the crossbar 22d and the fitting 30 have a D-shaped cross section characterized by matching flats 70a and 70b that imparts strength and stability to the joints which they form.

Referring now to FIG. 4, the indent bar 26a is generally typical of all the indent bars 26a-26d and comprises an elongated bar having a rectangular cross section. The indent bar also includes eight box sections including cross ribs 75 and X-shaped reinforcing ribs 72 running up and down its length for providing strength and stability to the assembled support stand 20. Since the bar 26a has a top orientation it includes an open end 62 for mating with the coupler 28a, two fittings 30 having flats 70a facing downward toward the open end 60 of the bar and a far end 68 comprising the top of the column 24a. In contrast an indent bar such as bar 26b having a bottom orientation would include an open end 62 for similarly mating with the coupler 28a, two fittings 30 having flats 70a facing downward toward the far end 68 of the bar for connecting with the crossbars 22c and 22d and a far end 68 for connecting up with the T-joint 36a.

Referring now to FIG. 5, the in-line coupler 28a is also representative of the coupler 28b and includes ends 64a and 64b which can be mated with the open ends 60 of separate indent bars to form extended vertical columns. As shown by the phantom lines 62 the ends of the coupler 28a are hollow to allow entry but not passage by the ends of indent bars which can then be press fitted into place to form joints by interference fit with the coupler.

Referring now to FIG. 6, the three way T-joint 36a is also representative of the T-joint 36b and includes a rectangular fitting 42 on its top for connecting with an indent bar and a pair of D-shaped fittings 40 along opposite sides for connecting with ground level support legs 34a and 34b. As shown the fittings 40 and 42 are hollow to allow entry but not passage by an indent bar or support leg, respectively, and the formation of a secure joint by interference fit.

Referring now to FIG. 7, the crossbar 22a is representative of all the crossbars 22a-22d and comprises a hollow elongate cylinder having a radial flat 70b on one side running axially down its length.

Referring now to FIG. 7, the set 50a of tethered balls is typical of all sets of tethered balls and includes the balls 52 and a short piece of rope or cord 54 that runs between and connects the balls. The rope 54 is generally about one-quarter inch in thickness and separates the balls by about 12 inches. The balls 52 are made of soft vinyl material and are about the size of standard tennis balls. The balls are preferably dimpled along their exterior surfaces to provide a pleasing appearance and for them to be more easily grasped during game play. The balls may also be weighted with about 100 grams of extra filling material such as sand so as to be about the same weight as standard golf balls.

Referring now to FIGS. 9 and 10, the rope 54 is connected to the ball 52 by being inserted into the ball 52 and secured in place by an adhesive joint 76 formed between a plug 78 and a cavity 80 in the ball. During manufacture the end 74 of the rope 54 is passed through a hole 84 in the plug 78 and is formed into a knot 86 on its far end. The end 74 of the rope or cord and the knot 86 are then inserted within the ball 52 and the plug is glued into place along the sides of the cavity 80 with an adhesive 88. The two ends 74 of the rope 54 are secured within different balls to form a tethered set of balls such as set 50a.
In use the stand 20 is assembled from its components. The vertical columns 24a and 24b are formed from the indent bars 26a-26d and couplers 26a and 28b. The base 32 is formed from the support legs 34a-34d and T-joints 36a and 36b. The vertical columns 24a and 24b are connected up with support members 32a and 32b of the base 32 at the fittings 42 and the crossbars are connected between the columns 24a and 24b at the fittings 30. LadderBall game play may then be undertaken with the tethered balls being thrown at the target crossbars by the players in accordance with the rules adopted for the game by the contestants.

Although the present invention has been described with reference to the specific embodiments described above, it should be recognized that changes may be made in the form and details of the invention as described without departing from the spirit of the invention or the scope of the claims and the equipment system may be used in playing other games besides LadderBall.

1. A support stand for use in a game in which pairs of balls that are tethered together by a short cord are thrown from a distance at a set of horizontal bars with the objective of entangling the balls on one of the horizontal bars, comprising:
   a) a set of horizontal crossbars;
   b) a pair of vertical columns each of which comprises a plurality of indent bars joined together by one or more in-line couplers and including fittings for connecting with and supporting said crossbars; and
   c) a base comprising a plurality of horizontally inclined support legs and a pair of T-joint for connecting them to said vertical indent bars.

2. The support stand of claim 1, in which:
   a) a set of horizontally inclined spaced apart crossbars;
   b) a pair of vertical columns for connecting with and supporting said crossbars;
   c) a horizontal base having support legs for connecting with and supporting said vertical columns;
   d) a plurality of sets of tethered balls each set of which includes two balls, a cord having two ends for connecting said balls together and two couplings for enabling the ends of said cord to be fitted into and connected to said balls by adhesive.

3. The system of claim 2, in which:
   a) said balls are comprised of a soft vinyl plastic material.
   b) said balls are approximately the size of standard tennis balls.
   c) said crossbars are D-shaped and said columns include D-shaped fittings for connecting with said crossbars.

4. The system of claim 3, in which:
   a) said columns are rectangular and include a plurality of built-in X-shaped reinforcing ribs.
   b) said crossbars are D-shaped and said indent bars include X-shaped reinforcing ribs.

5. A system for providing a target for use in a game in which pairs of balls that are tethered together by a short cord are thrown from a distance at a set of horizontal bars with the objective of entangling the balls on one of the horizontal bars, comprising:
   a) a set of horizontally inclined crossbars;
   b) a pair of vertically inclined rectangular indent bars having built in reinforcing ribs and including fittings for connecting with and supporting said crossbars; and
   c) a base comprising a plurality of horizontally inclined support legs and a pair of T-joint for connecting said support legs together and connecting them to said vertical indent bars.

6. The system of claim 5, in which:
   a) said crossbars are D-shaped and said fittings are D-shaped for connecting with said crossbars.
   b) said set of horizontally inclined crossbars includes three target crossbars and a reinforcing crossbar extending between said indent bars.

7. The system of claim 5, in which:
   a) said balls are comprised of a soft vinyl plastic material.
   b) said balls are approximately the size of standard tennis balls.

8. The system of claim 8, in which:
   a) said columns are rectangular and include a plurality of built-in X-shaped reinforcing ribs.