United States Patent

[11] 3,626,502

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[73] Assignee **Indian Head, Inc.**

[54] **TETHERED BALL FOR BASEBALL BATTING PRACTICE**
1 Claim, 5 Drawing Figs.

[52] **U.S. Cl.** ..... **273/26 E,** 273/58 C
[51] **Int. Cl.** **A63b 69/40**
[50] **Field of Search** ..... 273/26, 58 (1), 58 (5), 95 A, 97, 200

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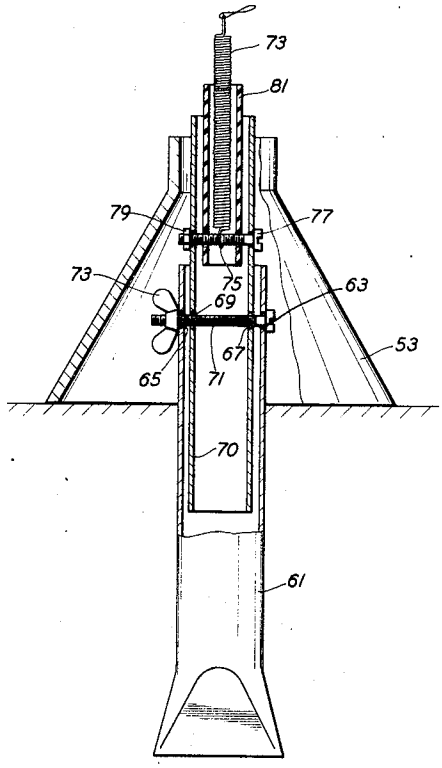
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ABSTRACT: A batting practice apparatus including a ball secured to a cord light enough and long enough to have little effect on the pitching and batting of the ball, the cord being secured to an upright stake arrangement for absorbing the shock of the ball and keeping the ball in a confined area. The stake arrangement principally includes a vertically mounted spring surrounded by a flexible collar and an inverted funnel-shaped enclosure to prevent the cord from becoming fouled on the stake.



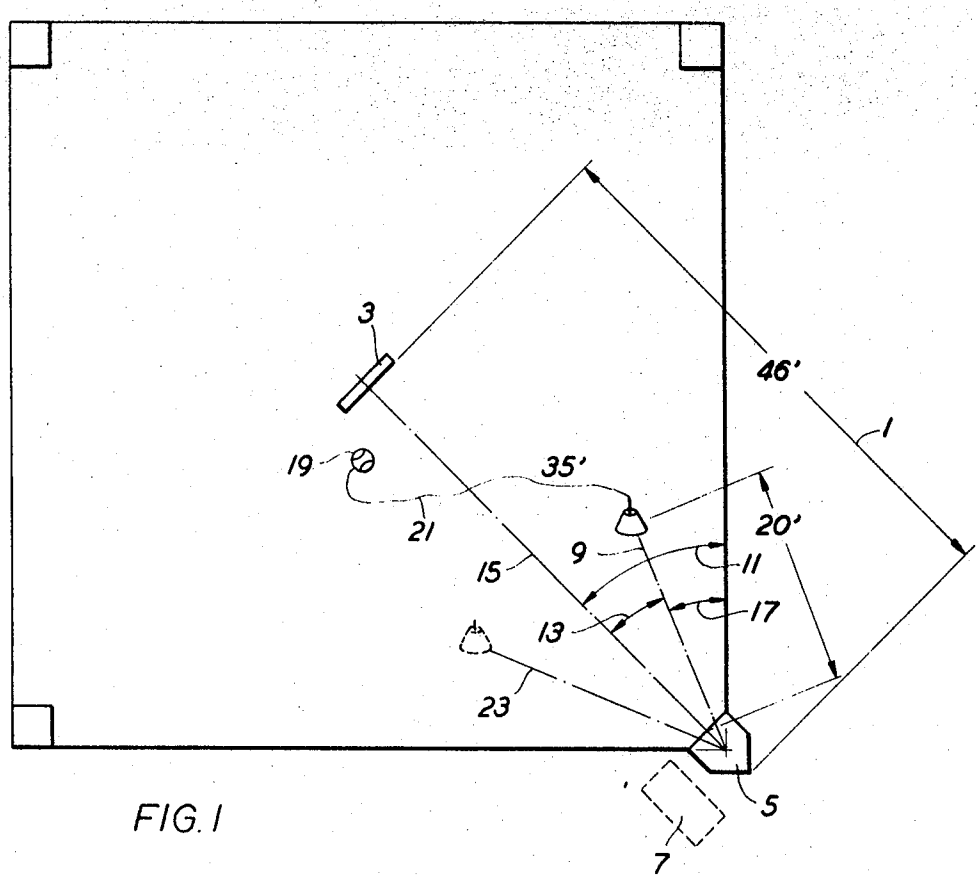


FIG. 1

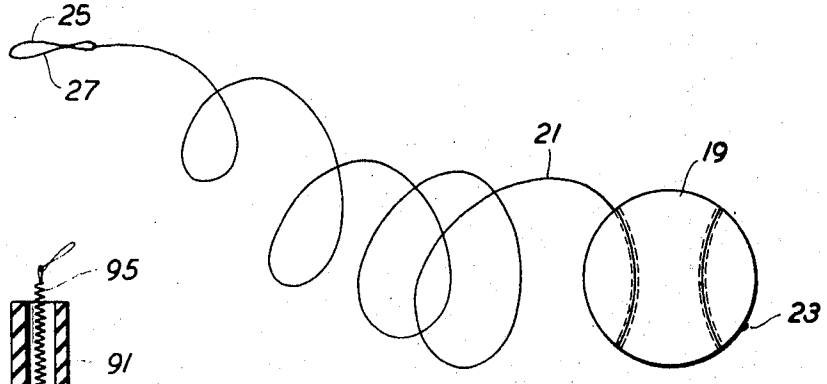


FIG. 2

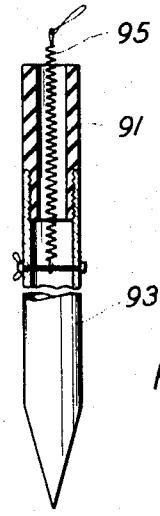


FIG. 6

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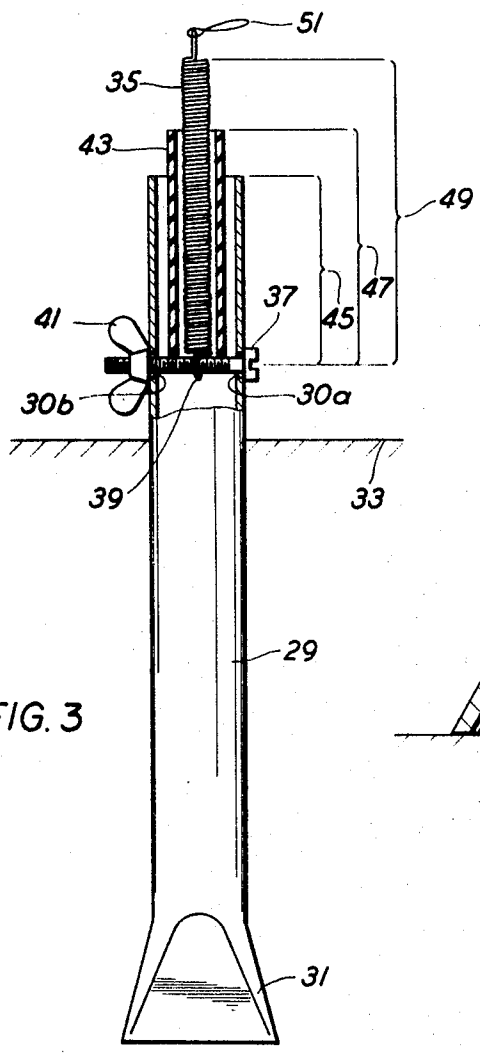


FIG. 3

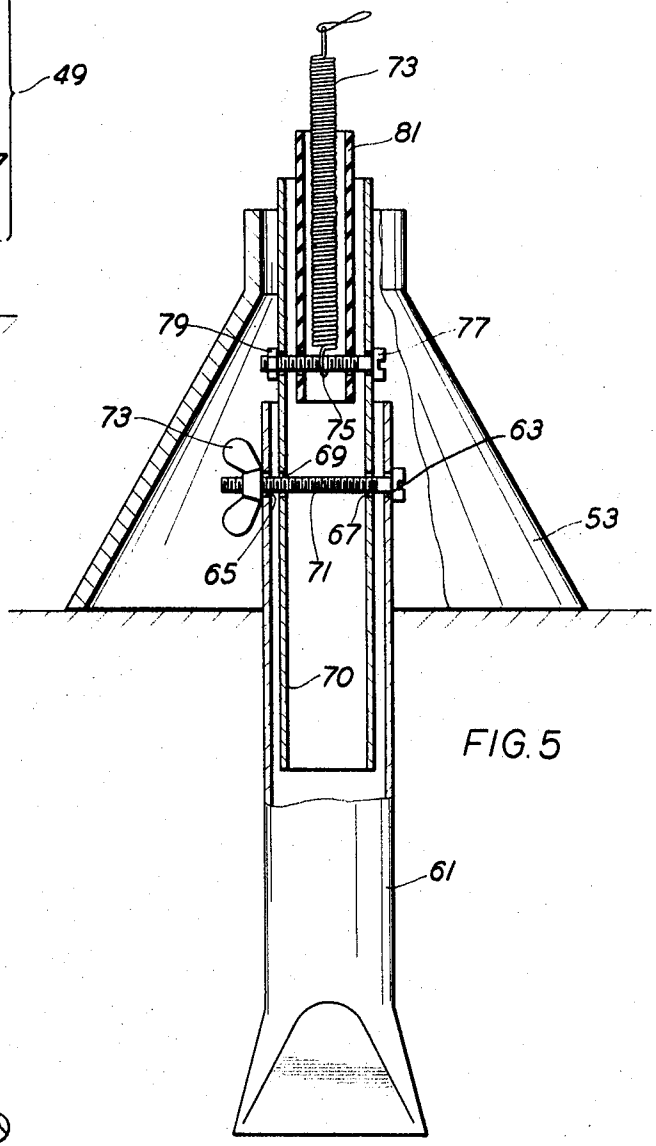


FIG. 5

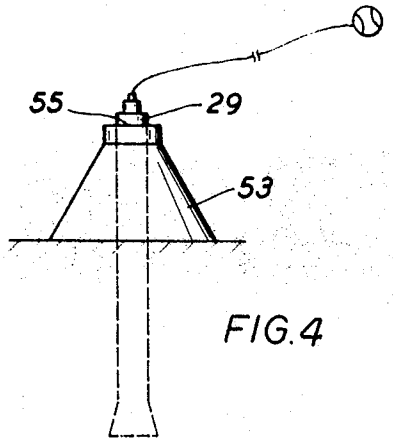


FIG. 4

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TETHERED BALL FOR BASEBALL BATTING PRACTICE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to athletic training devices and more particularly to apparatus suitable for training baseball players in the art of batting. The apparatus is particularly well suited for training younger ball players, who might be competing in Little League, Pony League, or other boys' baseball programs.

One of the chronic problems facing the younger baseball players, especially in the 8–14 year-old age bracket, is that not enough opportunity is afforded during regular practice hours to become skilled in the art of batting. During regular practice hours, team skills are developed and emphasized. Some of the skills worked on most during time when the players and the coaches are together include fielding, running, defensive and offensive strategy and the like. These skills must be worked on during these occasions since they cannot be worked on by the players alone and since some degree of accomplishment is necessary in these group skills for a team to make even a semblance of a showing in competition with other teams.

Because of the emphasis that must be given development of the aforementioned group skills, individual skills such as throwing, pitching and batting are slighted and must be worked on, to be developed to a competitive level, away from the practice field, and at times other than at the regular practice sessions.

No special equipment is necessary to practice throwing than is required to play the game. The same is true for pitching. That is, players can play catch and practice pitching using only a ball and a glove for each participant. However, practicing batting using only a bat, gloves and a ball presents many problems. First, balls hit and not hit must be retrieved, interrupting the time spent in batting practice. Second, an area must be selected where the balls will neither be lost nor cause damage to nearby property, which is not descriptive of the normal residential backyard or the normal city vacant lot.

2. Description of the Prior Art

Many devices have been improvised to allow two boys or a boy and his dad to practice batting in a backyard type of environment. These include such creations as a golf-tee-and-string-type arrangement; the employment of multiple balls so that each time a ball is hit it does not have to be retrieved before the next pitch; a tethered-ball-and-string-type arrangement, and others. One recently developed device includes a spring for absorbing shock and imparting a drag and hence a curve to the pitched ball. This is shown in U.S. Pat. No. 3,297,321, Kuhnes, et al.

In spite of the apparent widespread need for an improved and simplified practicing device, heretofore no apparatus has been developed having the advantageous features and characteristics of the device hereinafter described and claimed.

SUMMARY OF THE INVENTION

The invention disclosed and claimed herein fulfills the badly needed requirement for an easy-to-use batting practice apparatus useful in a typical play yard area having confined dimensions for providing the maximum amount of batting practice with a small amount of equipment of with a negligible chance of causing property damage. The apparatus generally includes a ball and cord attachable through a snaphook to a stake arrangement. The stake of this arrangement is preferably hollow with a pointed end and is driven vertically into the ground to one side of a line between the batter and the pitcher. The stake arrangement includes preferably a 7-inch compression spring, such as is used on a screen door, secured at one of its ends at a point about 4 inches within the exposed hollow end of the stake by a bolt passing transversely through the stake. A wingnut secures the bolt. A 5-inch resilient tubular collar is slipped over the spring to rest on the bolt. The spring is allowed to bend in any direction, but is protected against excessive bending and wear against the top of the stake by the tubular collar. An inverted funnel-shaped stake shield is then slipped over the stake to cover the bolt ends. The cord, desirably approximately 35 feet in length, is then snapped to the spring by the aforementioned snaphook.

It may be seen that such an apparatus allows the batter and the batting practice pitcher to practice batting with the ball without the bother of having to chase it or the fear that property damage might result. The cord is long enough so that it does not exert an appreciable drag on the ball before it reaches a simulated plate (the distance for practice is typically about 46 feet) and mostly stays behind the ball during the pitching delivery so as not to distract the batter's attention from the ball itself. When the ball is hit, there is a realistic trajectory to the ball until the cord is fully extended. Then, the spring absorbs the shock of even the hardest hit ball. Also, fouling of the cord about the stake is prevented by the inverted funnel-shaped stake shield.

BRIEF DESCRIPTION OF THE DRAWINGS

So that the manner in which the above-recited advantages and objects of the invention, as well as others which will become apparent, are attained can be understood in detail, more particular description of the invention briefly summarized above may be had by reference to the embodiments thereof which are illustrated in the appended drawings, which drawings form a part of this specification. It is to be noted, however, that the appended drawings illustrate only typical embodiments of the invention and are therefore not to be considered limiting of its scope, for the invention may admit to other equally effective embodiments.

In the drawings:

FIG. 1 is a plan view of a simulated boy's baseball diamond showing a typical use of the invention.

FIG. 2 is a showing of a ball, cord and snap connector suitable for employment in the invention arrangement illustrated in FIG. 1.

FIG. 3 is a partially cross-sectional view of a preferred embodiment of the present invention shown in a position of use.

FIG. 4 is an illustration of the embodiment shown in FIG. 3 and including the inverted funnel-shaped structure.

FIG. 5 is a partially cross-sectioned view of another embodiment of the present invention.

FIG. 6 is a partially cross-sectioned view of still another embodiment of the present invention.

DESCRIPTION OF PREFERRED EMBODIMENTS

Now referring to drawings and first to FIG. 1, the invention is shown with respect to a simulated boy's baseball diamond in a position of typical placement. In Little League baseball the distance 1 between the pitcher's rubber 3 and homeplate 5 is 46 feet. Thus assuming that the batter is standing to the left side of the plate facing the pitcher in a position 7 for hitting the ball from a right-handed stance, a convenient placement of the batting practice device to be described below is on a line 9 bisecting angle 11, the angle between the pitcher's mound, homeplate and first base. That is, angle 13 between line 15 drawn from the pitcher's mound to homeplate and line 9 is approximately equal to angle 17 between line 9 and the first base line. Assuming the use of a 35-foot cord, a convenient distance for the placement of the device is 20 feet along line 9 from homeplate 5.

Ball 19 to be used in batting practice is preferably secured to the ground staked position of the device by a light but strong 35 foot nylon cord 21 or the like. A cord of 3/16-inch diameter has been found to be acceptable. Plenty of room is then allowed for the pitcher to take a full windup and for the ball to pass over homeplate without the cord effecting an appreciable resistance or drag to change the trajectory of the ball. In fact, a cord should be selected which is light but strong and long enough to have little effect other than keeping the ball from being pitched or hit outside a confined area.

Should the batter be left-handed so that he would take a position on the right side of the plate facing the pitcher, the batting practice apparatus should be secured to the ground along line 23 which is the line bisecting the angle enclosed by line 15 and the third base line.

Actually, the location of the ground-attached position of the batting practice apparatus is not critical except that the placement should allow the ball to be freely pitched and should allow the ball to pass over homeplate without extending the full length of cord 21.

In what may be the more typical batting practice area layout, a site is selected which may not have base paths at all, such as in a backyard or vacant lot. The stake is driven into the ground to one side of the line between where the pitcher will stand and where the batter will stand, and the ball is walked in a circle about the stake with the cord extended to insure that the ball will not strike anything which it could damage.

As may be best shown in FIG. 2, the pitched portion of the batting practice apparatus includes baseball 19 secured to cord 21. The end of cord 21 that is secured to ball 19 is preferably threaded through the center of the ball and secured on the opposite side thereof by a knot or other convenient securing means 23.

Secured to the opposite end of cord 21 from ball 19 is a snaphook connector 25 or other quick-disconnect means. Connector Generally provides the means for securing the end of cord 21 to the portion of the apparatus which is anchored in the ground described hereinafter. When this ground-anchored portion is left in place during periods of nonuse, the cord and ball may then be easily removable. Connector 25 is of any convenient arrangement, but one having a spring-loaded closing portion 27 has been found to be preferred.

The part of the apparatus which is anchored in the ground in the preferred embodiment is shown in FIG. 3. Generalhy the arrangement may be characterized as the ground-stake group (contrasted with the ball and cord group). All components of the group are located with respect to stake 29, which is typically basically a hollow aluminum or other malleable tube of about ¾ inch in outside diameter and about 18 inches long. A wall thickness of ⅛ inch has been found to be adequate. Stake 29 is flattened or otherwise closed at end 31 to form a wedge or a flat point. This wedge allows the stake to be anchored or driven into the ground to a point such that holes 30*a* and 30*b* are slightly above ground surface 33. As illustrated in FIG. 3 stake 29 is preferably vertically anchored in the ground, rather than at an angle. Holes 30*a* and 30*b* are horizontally aligned opposite each other and are slightly larger than bolt 37, which they receive.

An elongated elastic means such as a compression or pull spring 35 is secured with its end loop 39 at a point opposite the aforementioned bolt holes via a bolt 37 nominally 3/16 inch in diameter, which passes transversely through both openings and through loop 39 to be held by wingnut 41. A spring, such as may be used to hold a screen door, about 7 inches in length has been found to be preferable when the boltholes are 4 inches from the exposed end of the stake 29.

Slipped over spring 35 is a flexible protection means such as hollow resilient tubular collar 43. Collar 43 may be most conveniently made of rubber or resilient plastic material, such as a piece of garden hose. If the collar is approximately 5 inches in length it may be seen that it extends above the exposed end of stake 29 by about an inch and is about 2 inches below the exposed end of spring 35. That is, distance 45 from boltholes 30*a* and 30*b* to the exposed end of stake 29 is preferably 4 inches, length 47 of collar 43 is preferably 5 inches and length 49 of spring 35 is preferably 7 inches.

With these dimensions, spring 35 is secured to upright stake 29 and supported from the side of collar 43 in such a manner that spring 35 assumes a vertical position when not under a force that overcomes the elastic qualities of the spring.

The usual procedure for installing the ground-stake group shown in FIG. 3 is to first anchor or drive stake 29 vertically into the ground at the desired location. A hammer, blunt end of an axe or similar tool may be used. Spring 35 is next lowered the desired amount until loop 39 is aligned opposite boltholes 30*a* and 30*b*. Bolt 37 is then pushed through the boltholes and the loop and secured by wingnut 41. Finally, collar 43 is slipped over spring 35 to complete the ground-stake group installation.

The loop at the exposed end of spring 35 has secured to it a suitable S-hook 51. Snaphook 25 attached to cord 21 is secured to S-hook 51, thereby attaching cord 21 to the ground-stake group just described. A swivel (not shown) may also be included, but such a swivel has been found to be unnecessary. It will be seen that when the ball is hit by the batter, it assumes a realistic trajectory until cord 21 is fully extended. At this time spring 35 absorbs the shock of the ball and is bent sideways against the top of resilient collar 43. Collar 43, extending somewhat beyond the exposed end of stake 29, will normally have its resiliency overcome to some extent, and will bend somewhat to follow the curvature of the spring 35. The collar 43, However, prevents the spring 35 from bending sharply and being damaged and may be characterized as bend-retarding. Hence, the spring is prevented from being sharply bent against the end of the stake. Also, the spring does not wear against the top surface of the metallic stake in an abrasive manner. Negligible loosening of the stake results, even with relatively soft ground and overextended practice periods.

The same action occurs when the ball is missed or when the ball is not swung at, but the more violent shock to the spring is caused when the ball is hit by the bat.

In the preferred embodiment a downwardly and outwardly flaring frustoconically shaped enclosure means, such as an inverted funnel 53, is placed over the stake to rest on the ground. This is best shown in FIG. 4. Opening 55 located in the center of inverted funnel 53 and which passes over the exposed end of the stake comes to rest just below the top of stake 29, but above and covering the ends of bolt 37, including wingnut 41. In fact, preferably opening 55 is made small enough that it will not pass over these bolt ends.

When cord 21 secured to the ball slaps against the funnel, the funnel 53 enclosure shields the stake to prevent the cord from wrapping around it or an exposed bolt end.

An alternate embodiment of the invention is shown in FIG. 5. This embodiment includes a stake 61 which is similar to stake 29 shown in FIG. 3 except that boltholes 63 and 65 for receiving a transverse bolt 71 are located very close to the top of stake 61. A metallic stake 70, which is slightly smaller in outside diameter than the inside diameter of stake 61, is telescopically positionable within the exposed hollow end of stake 61. At a point approximately 5 inches from its topmost end are located holes 67 and 69, which are the same size as and which align with holes 63 and 65. Bolt 71 is insertable through all four holes to secure the two stakes together. The bolt is clamped secure by wingnut 73 in a conventional manner so as to provide a quick-disconnect means for the joinder.

Secured to the exposed or topmost end of tube 70 is an elongate compression spring 73. Loop end 75 of spring 73 is secured at a second set of boltholes in tube 70. Bolt 77 is used to make this connection, the bolt being secured by a conventional hexagonal nut 79 tightened thereon. An O-ring (not shown) may be placed about stake 70, if desired to make the fit between stake 70 and stake 61 a bit more positive than otherwise.

A collar 81 of suitable resilient structure, such as for collar 43, is placed around spring 73. The collar may rest on bolt 77, as with the FIG. 3 embodiment. However, preferably instead of merely resting on bolt 77, the collar includes two holes that match with the second set of boltholes in stake 70 through which bolt 77 is secured. That is, when bolt 77 is secured in place by nut 79 it not only secures spring 73, but it also secures collar 81. The dimensional relationships for collar 81, spring 73 and the exposed end of tube 70 are similar for collar 43, spring 35 and the exposed end of stake 29 for the embodiment shown in FIG. 3. Also, the operation of the arrangement is similar for that shown in FIG. 3.

In installing the ground-stake group shown in FIG. 5, stake 61 is first driven vertically into the ground. The rest of the arrangement is then secured thereto via bolt 71 and wingnut 73. The subarrangement secured to stake 61 in this manner and comprising tube 70, bolt 75, collar 81 and spring 73 ordinarily are left permanently fixed together.

As with the FIG. 3 embodiment, an inverted funnel-shaped enclosure 53 is placed over the exposed stake end to cover the potential cord-catching bolt ends, but without hampering the flexing of collar 81 or the elastic bending of spring 73.

FIG. 6 shows still another embodiment of the invention. In this embodiment collar 91, made of a rather hard elastomer, is externally threaded at one end for attaching within suitable receiving threads internally grooved in the top of stake 93, which is otherwise similar to stake 29. A spring 95, similar to springs 35 and 73, is secured to the stake 93 via a bolt-and-wingnut-arrangement, as before. An inverted funnel-shaped enclosure may also be placed over this ground-stake group to prevent fouling of the cord on the bolt ends, as before.

It may be seen that stake 93 may be driven into the ground prior to the screwing of the collar 91 into the stake.

Batting practice with any of the embodiments previously described is identical and in accordance with the description given above.

In between practice sessions, it may be desirable to remove the ground-stake group; to leave the ground-stake group in the ground and disconnect the cord and ball; or to cap the stake with either a loose cover or a cap that snaps or snugly fits over the end of the exposed stake to keep the stake form accumulating dirt or rain. Any convenient means for doing this is acceptable. If the stake is to be left in the ground it may be desirable to round or rubberize the exposed edges to minimize possible injury.

If the stake is removed, slight relocation of the stake may be required at the next practice session since the hole may be slightly enlarged. Also, an inverted plastic stake hole or sleeve (not shown) may be permanently imbedded in the ground to mark the desired location, if desired.

The arrangement shown in FIG. 1 is an ideal one if there is a baseball diamond available. However, it should be further noted that any suitable practice area may be used, the dimensional limitations of the cord preventing the ball from being hit beyond a reasonably retrievable location or from windows and the like where property damage might be caused.

It should be further noted that when the invention apparatus is used, pitches may be delivered on an average of from 10 to 15 second intervals, regardless of whether the ball has been missed and the batter has to return the ball by hand to the pitcher; the ball has been intentionally passed by the batter (since it appeared to be out of the strike zone) and the batter has to return the ball by hand to the pitcher; or the ball has been hit.

With the apparatus a great deal of concentrated practice may be obtained in only 15 to 20 minutes, far shorter than by any other readily available method.

Although the invention has been described with respect to boys, adults as well can use the device without worry. The dimensions that have been specifically described allow practice even by professional baseball players without fear that the apparatus will fail.

While several embodiments of the invention have been described, it is obvious that various substitutions or modifications of structure, such as a stake including a solid spike for driving into the ground, may be made without varying from the scope of the invention.

What is claimed is:

1. Baseball batting apparatus, comprising

a ball,

a cord having a first end secured to said ball,

elongate elastic means having a first end secured to the second end of said cord,

a stake having a ground end and suitable for vertically wedgedly anchoring in the ground so as to leave an exposed end and hollow at least at the exposed end thereof for surrounding a portion of said second end of said elastic means,

said second end of said elastic means being securable to said stake,

a resilient collar surrounding at least a portion of said elastic means,

said collar providing a universal wear-resistant and bend-retarding surface for said elastic means,

downwardly and outwardly flaring frustoconical means fitting over said exposed end of said stake for preventing said cord from fouling on said stake.

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