Title: APPARATUS AND METHOD FOR SOCCER TRAINING AND PRACTICE

Abstract: An apparatus for holding and returning a soccer ball including an anchoring means. A preferred embodiment of the anchoring means is a spiral tie down stake (15). The spiral tie down stake has a rotating loop (40) which swivels 360 degrees around the stake and 360 degrees around the perpendicular axis of the loop preventing the attached ball tether (75) from tangling. An alternative anchoring means consists of a weighted base (100). A detachable link (55) is attached to the anchoring means by way of a swivel-eyebolt (70) connection allowing a 360 degree spin for the ball. The link in turn is connected to a first end of an elastic tether cord (75). A second end of the tether cord is attached to an adjustable durable nylon net (85) for holding the ball.
Apparatus and Method for Soccer Training and Practice

FIELD OF THE INVENTION

This invention relates generally to ball sports devices and more particularly to a soccer practice device having a tethered ball.

BACKGROUND OF THE INVENTION

Soccer is a team sport and serious players practice long hours with a team. When an individual player wishes to practice on his or her own, difficulty arises. The part of the game which involves kicking the ball a distance from the player, for example shots on goal, creates a ball retrieval problem.

A device to facilitate soccer practice for a single player which returns the soccer ball to the player after it is kicked has obvious benefits. Two such devices are disclosed in U.S. Pat. Nos. 5,620,186 and 4,147,353. Both devices, however, have shortcomings in the anchoring means and the ball holding means. Both the '186 and the '353 devices use a "tent stake" means for anchoring the device. Anchoring by means of a simple tent stake in the ground might be suitable for young children, but not for stronger players. It is possible for a high school, college or professional player to dislodge an ordinary "tent" stake with a few powerful kicks. This makes these soccer practice devices ineffective, and also potentially dangerous. Further, the prior art devices lack freedom of movement of the ball’s tether around the stake. The tether in the prior art devices wraps around the "tent stake" anchoring means and prohibits the free movement of the ball around and over the anchoring means. This lack of freedom of movement of the ball also inhibits the ball from rolling back to the player freely, smoothly and without the tangling of the tether cord.

The problems in the ball holding means are also significant. To a soccer player, the feel of the ball when kicking is an important element of feedback and a vital aspect
of training and practice. Existing prior art devices use straps, sewn overlapping fastenings, metal rings or Velcro closings to hold the ball. All of these coverings on the ball cause an uneven, bumpy feel upon kicking the ball and impede the rolling of the ball when it returns to the player.

It remains desirable to have a soccer practice device for strong players which approximates normal game play.

It is an object of the present invention to provide a method and apparatus to firmly and securely anchor a tethered soccer ball.

It is another object of the present invention to provide a method and apparatus to tether a soccer ball to an anchor such that the tether does not become entangled with the anchor during play.

It is another object of the present invention to provide a method and apparatus to hold a soccer ball in a practice device such that the ball retains the feel of a ball in normal soccer play.

**SUMMARY OF THE INVENTION**

The problems of anchoring a tether and holding a soccer ball are solved by the present invention of soccer practice device having a stable anchoring means, and a tethering means that resists tangling and which allows the ball to roll smoothly.

The present invention is an apparatus for holding and retrieving a soccer ball including an anchoring means which consists of a spiral tie down stake. The spiral tie down stake has a rotating loop which swivels 360° around the stake and 360° around the perpendicular axis of the loop preventing the attached tether from tangling. An alternative anchoring means consists of a weighted base, which is hollow and can be filled with sand, or some fluid material, so that it is of sufficient weight to prevent its movement when the attached soccer ball is kicked. A smaller sized weight can be used when the apparatus is intended for use by younger players. A
detachable link is attached to the anchoring means. The 
detachable link is attached to a swivel-eyebolt connection 
allowing 360° spin for the ball. This link in turn is 
connected to a first end of an elastic tether cord. Because 
the tether cord is attached to the anchoring means by a 
detachable link, the cord can be replaced with cords of 
various lengths and various elasticities to enable different 
skills and techniques to be practiced and to accommodate 
players of different skill levels. Also the cord may be 
replaced when worn. A second end of the tether cord is 
attached to an adjustable durable nylon net for holding the 
ball. The net can be adjusted to hold various sizes of soccer 
balls. The net provides a natural feel to the player using 
the device. Additionally, because the elastic cord is 
attached to the swivel-eyebolt at the anchoring means, the net 
with the ball can roll along the ground freely, back to the 
player without becoming tangled. In a second embodiment of 
the invention, a circular upper portion of the tie down stake 
holds a ring. A detachable link attaches one end of a tether 
cord to the ring. At the other end of the tether cord, a net 
holds a soccer ball. The detachable link has a swivel-eyebolt 
connection that allows a 360° spin for the ball.

The present invention together with the above and other 
advantages may best be understood from the following detailed 
description of the embodiments of the invention illustrated in 
the drawings, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of a first preferred 
embodiment of a ball anchoring means according to principles 
of the invention;

Figure 2 is a perspective view of the tie down stake, the 
rotating ring, the rotating loop and the detachable link of 
Figure 1;

Figure 3 is a perspective view of the tether and 
detachable link of Figure 1;
Figure 4 is a perspective view of the net holding the soccer ball of Figure 1;

Figure 5 is a perspective view of a second preferred embodiment of a ball anchoring means according to principles of the invention;

Figure 6 is a perspective view of a third preferred embodiment of a ball anchoring means according to principles of the invention; and

Figure 7 is a side view of the anchoring means of Figure 6.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Figure 1 is shows a first embodiment of a soccer practice device 10 according to the principles of the present invention. The first embodiment of the soccer practice device 10 has a spiral tie down stake 15 which has a spiraled lower portion 20, which, in use, is inserted into the ground. The upper portion 25 of the stake is bent into a triangular shape forming a handle for pushing the stake 15 in and pulling the stake 15 out of the ground. A lower stop 30 and an upper stop 35 are positioned on the stake 15 between the handle 25 and the spiraled lower portion 20. The stake 15 has a rotating loop 40 which is attached to the stake 15 by means of a pin 45 and a rotating ring 50. The rotating ring 50 is held in place along the length of the stake by the lower 30 and upper 35 stops. A detachable link 55 is attached to the rotating loop 40 by a clasp 60 which releases with a thumb spring mechanism 65. The detachable link 55 also has a swivel-eyebolt 70. The swivel-eyebolt 70 holds one end of a tether 75, which in the present embodiment, is an elastic cord. The other end of the tether 75 holds a drawstring 80 for a net 85 which holds a soccer ball 90. In the present embodiment, the elastic cord tether 75 has clamped loops on both ends for attachment to the swivel-eyebolt 70 and the drawstring 80, but other attachment means are possible.

In operation, the tie down stake 15 anchors the tethered soccer ball 90. The ball 90 may be kicked about by the user
without tangling the tether 75 because of the freedom of movement of the ball 90 in relation to the stake 15 as will be described below.

Figure 2 shows the tie down stake 15, the rotating ring 50, the rotating loop 40 and the detachable link 55 with indicators showing the freedom of movement of the various components. The rotating ring 50 and rotating loop 40 form a rotating tether cord attachment means which provide the soccer ball with the freedom of movement to simulate realistic soccer ball play. The detachable link 55 with the swivel-eye bolt 70 provides even more freedom of movement. The rotating ring 50 rotates around the stake 15 with 360° freedom of movement. The rotating loop 40 rotates around the pin 45 with 360° freedom of movement. The swivel-eye bolt 70 rotates around the axis of the detachable link 55 with 360° freedom of movement. The rotational freedom of movement of the ring 50, the loop 40, and the swivel-eye bolt 70 allows the soccer ball 90 tethered to the stake 15 to spin and roll with a minimum of tangling of the tether 75.

Figure 3 shows the tether 75 with clamped loops at both ends. One end of the tether 75 is connected to the swivel-eye bolt 70 of the detachable link 55. The swivel-eye bolt 70 allows 360° rotation about the axis of the detachable link 55. The tether 75 is removable from the stake 15 so that cords of various lengths and degrees of elasticity may be attached to the stake 15. This allows players with different skill levels to be accommodated and enables different techniques to be practiced such as indirect and direct kicks, penalty kicks, corner kicks, goal kicks, throw-ins, and trapping. In addition, by being removable, worn tethers may be easily replaced.

Figure 4 shows the soccer ball 90 enclosed in the net 85. The net 85 may be made of nylon or some other strong, flexible material. Because of the adjustability of the net 85 with the drawstring 80, the net 85 can accommodate various sizes of soccer balls. After the soccer ball 90 is inserted
into net 85, the drawstring 80 is drawn snug and tied off and then attached to the tether 75.

Figure 5 shows a second alternative embodiment of the soccer practice device according to principles of the present invention. The second alternative embodiment has a weighted base 100 and a connection element 110 to anchor the soccer ball 90. The detachable link 55 attaches to the base 100 by means of the connection element 110. The ball is tethered as before with the elastic tether 75 and the net 85. The weighted base 100 shown is cylindrically-shaped with tapered sides, but other shapes may be used. Also, the weighted base 100 may be of various sizes, for instance sized according to the strength and skill levels of the anticipated users. The weighted base 100 may be made of plastic or metal. The weighted base 100 is hollow and may be filled through the filling opening 115 by sand or some other dense filling material.

Figures 6 and 7 show a third alternative embodiment of the soccer practice device according to principles of the present invention. The third alternative embodiment has a tie down stake which has a spiraled lower portion 120, which in use, is inserted into the ground. The upper portion of the stake is formed into a circular holder 125 that holds a ring 130 which is free to travel along a substantial portion of the circular upper portion of the stake. A handle 135 projects from the tie down stake below the circular holder 125. In operation, the spiraled lower portion is inserted into the ground 140, and a tether is attached to the ring 130 by for example the detachable link 55 shown in Figure 1. The circular holder 125, ring 130, and rotating detachable link 55 provide a high degree of freedom of movement for the soccer ball and simulate the motion of the ball in free play.

The tie down stake and handle as shown in Figures 6 and 7 are made of one piece of material spiraled and turned to form this embodiment of the soccer practice device. Alternatively, the device could be formed of a plurality of pieces. For example, the lower portion, upper portion and handle could be manufactured as separate pieces which are then assembled to
form the soccer practice device. Other manufacturing and assembly configurations are possible within the scope of the invention.

The present invention allows a serious player of any ability to go out to a soccer field or back yard on his or her own and get in an intensive practice on a particular skill, at his or her own pace in an efficient manner. Further, the device is of simple construction of durable individual parts capable of being quickly exchanged to allow for the practice of a variety of techniques by players at different skill levels, as well as enabling any worn part to be readily replaced.

It is to be understood that the above-described embodiments are simply illustrative of the principles of the invention. Various and other modifications and changes may be made by those skilled in the art which will embody the principles of the invention and fall within the spirit and scope thereof.
What is claimed is:

1. An apparatus for holding a soccer ball, comprising:
   an anchoring means;
   a tether cord;
   an attachment means attaching a first end of the tether cord to the anchoring means, the attachment means rotatable about itself and about the anchoring means; and
   a net for holding a soccer ball, the net attached to a second end of the tether cord,
   wherein the soccer ball is tethered to the anchoring means with freedom of movement about the anchoring means.

2. The apparatus of claim 1 wherein the anchoring means is a tie-down stake having a spiraled portion to be inserted into the ground.

3. The apparatus of claim 2 wherein the attachment means further comprises:
   an upper stop and a lower stop on the tie-down stake;
   a rotating ring positioned between the upper and lower stops;
   a pin affixed to the rotating ring; and,
   a rotating loop attached to the pin in such a way that the rotating loop rotates around the axis of the pin, and also about the axis of the tie-down stake,
   wherein the rotating ring and rotating loop provide the soccer ball freedom of movement about the anchoring means.

4. The apparatus of claim 3 wherein the attachment means further comprises a detachable link attached at a first end to the rotating loop and at a second end to the tether cord, the detachable link allowing removal and replacement of the tether cord.

5. The apparatus of claim 4 wherein the detachable link has a thumb-spring clasp at the first end and a swivel-eye bolt at the second end, the swivel-eye bolt rotatable about the axis
of the detachable link providing further freedom of movement
about the anchoring means.

6. The apparatus of claim 2 wherein the tie-down stake has an
upper portion bent into a triangular shape to form a handle.

7. The apparatus of claim 1 wherein the tether cord is an
elastic cord.

8. The apparatus of claim 1 wherein the net is adjustable so
that various sizes of soccer balls may be held.

9. The apparatus of claim 1 wherein the anchoring means is a
weighted base.

10. The apparatus of claim 9 wherein the weighted base is
hollow and may be filled by a weight-providing material.

11. The apparatus of claim 9 wherein the attachment means is
detachable link attached to a connection element on the
weighted base, the detachable link allowing removal and
replacement of the tether cord from the weighted base.

12. The apparatus of claim 11 wherein the detachable link has
a thumb-spring clasp at the first end and a swivel-eye bolt at
the second end, the swivel-eye bolt rotatable about the axis
of the detachable link providing further freedom of movement
about the anchoring means.

13. An apparatus for holding a soccer ball, comprising:
   a tie-down stake having a spiraled lower portion to be
   inserted into the ground, the tie-down stake having two stops
   on an upper portion;
   a rotating ring positioned between the two stops on the
tie-down stake;
   a rotating ring positioned between the two stops;
   a pin affixed to the rotating ring;
a rotating loop affixed to the pin in such a way that the loop rotates about the axis of the pin and also about the axis of the tie-down stake;

a detachable link connected to the rotating loop, the link having a first end with a clasp mechanism and a second end with a swivel-eye bolt which rotates around the axis of the detachable link;

an elastic tether cord attached at a first end to the swivel-eye bolt;

a net attached to a second end of the elastic tether, the net adjustable to hold various sizes of soccer balls, wherein the soccer ball is tethered to the tie-down stake so that the soccer ball returns after it is kicked and the elastic tether cord does not tangle.

14. An apparatus for holding a soccer ball, comprising:
   a) a tie down stake having
      i) a spiraled lower portion to be inserted into the ground; and
      ii) a circular-shaped upper portion;
   b) a ring on said circular-shaped upper portion, said ring able to travel along a substantial portion of said circular-shaped upper portion, said ring to hold a tether to said tie down stake; and
   c) a handle under said circular-shaped upper portion.

15. The apparatus of claim 14 wherein said handle projects from said tie-down stake.

16. The apparatus of claim 14 further comprising a detachable link attached to said ring, said detachable link to attach the tether to said tie down stake.

17. The apparatus of claim 16 further wherein said detachable link has a swivel-eye bolt rotatable about the axis of said detachable link.
Figure 3

Figure 4

SUBSTITUTE SHEET (RULE 26)
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A63B/67/00
US CL: 473/465, 422, 423, 424
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S.: 473/465, 422, 423, 424

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 4,095,787 A (SAFERSTEIN) 20 June 1978, See the entire document.</td>
<td>1-17</td>
</tr>
<tr>
<td>X</td>
<td>US 5,165,682 A (McGUCKIN et al.) 24 November 1992, See the entire document.</td>
<td>1-17</td>
</tr>
<tr>
<td>X</td>
<td>US 5,460,380 A (OBER) 24 October 1995, See the entire document.</td>
<td>1-17</td>
</tr>
<tr>
<td>Y</td>
<td>US 4,720,095 A (SOWARDS) 19 January 1988, See the entire document.</td>
<td>1-17</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,083,797 A (VARTIJA et al.) 28 January 1992, See the entire document.</td>
<td>1-17</td>
</tr>
<tr>
<td>X</td>
<td>US 5,620,186 A (DUDLEY) 15 April 1997, See the entire document.</td>
<td>1-17</td>
</tr>
</tbody>
</table>

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
   *A* document defining the general state of the art which is not considered to be of particular relevance
   *E* earlier document published on or after the international filing date
   *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
   *O* document referring to an oral disclosure, use, exhibition or other means
   *P* document published prior to the international filing date but later than the priority date claimed

* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*G* document member of the same patent family

Date of the actual completion of the international search
17 MARCH 2000

Date of mailing of the international search report
05 APR 2000

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231
Facsimile No. (703) 305-3230

Authorized officer
JEANETTE CHAPMAN
Technology Center 3700

Telephone No. (703) 308-3550