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U1S S1163

(56) Documents Cited
GB 2258665 A GB 2116222 A GB 1464455 A
GB 0671779 A GB 0525395 A US 4778142 A
US 4543972 A

(58) Field of Search
UK CL (Edition L) A6D D11F , E1D DPA
INT CL^5 A63B , E02D , E04H

(54) Sports equipment anchoring device

(57) A device for anchoring a goal assembly, or other item of sports, athletics or leisure equipment to the ground, comprises a helically coiled or spiral stake (10) having a sharp point (12) at its lower end, and fixing means (8, 18, 19) at its upper end for securement to a lower cross member of the goal assembly. The fixing means may be a plate (8) having a pair of latch members (18, 19) hinged thereto, each member having a hole (20, 21) through which a lynch pin is insertable, thereby securing the cross member.

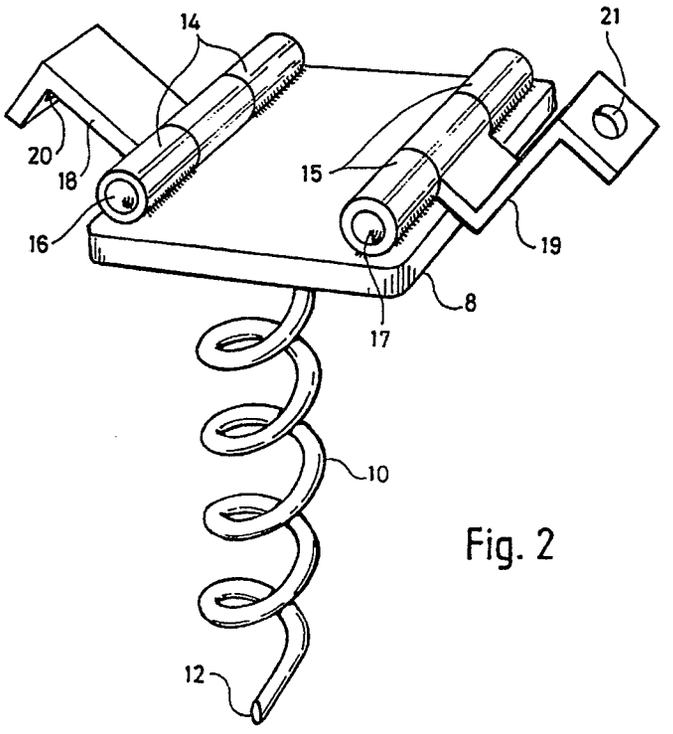

Fig. 2

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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

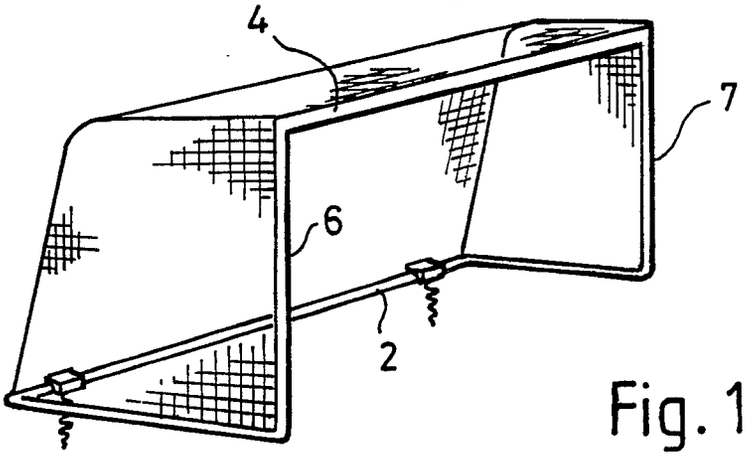

Fig. 1

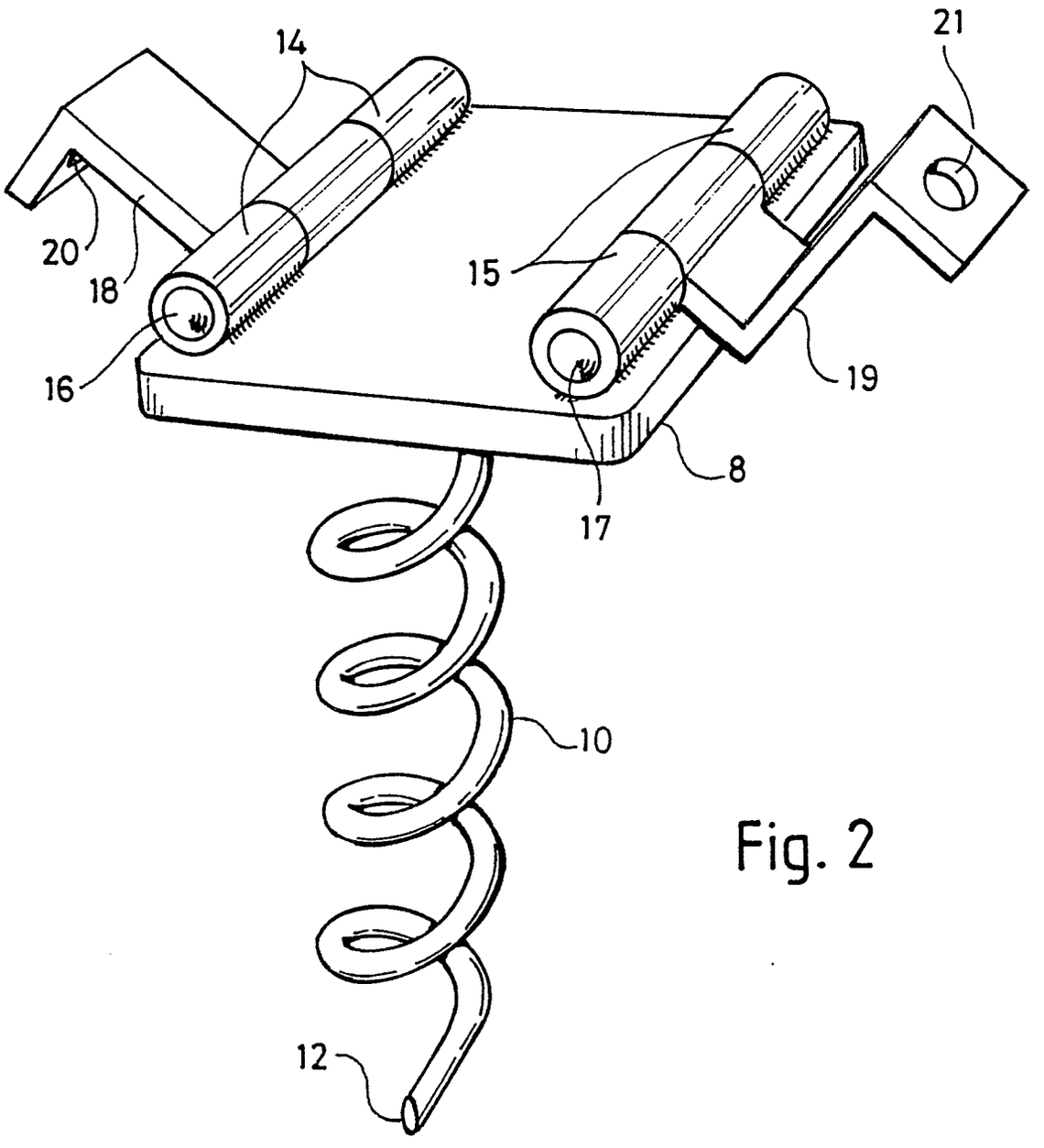

Fig. 2

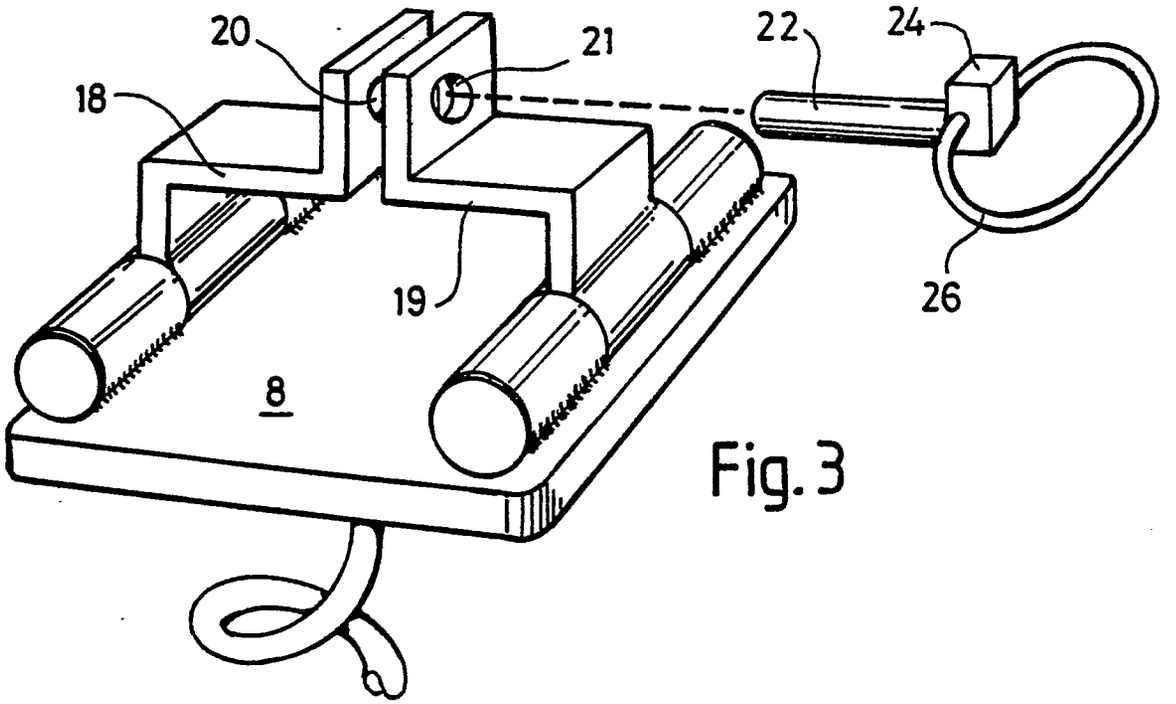

Fig. 3

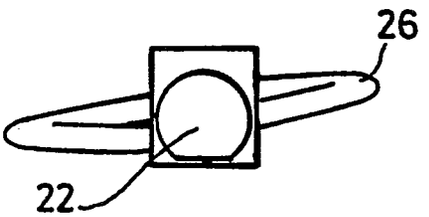

Fig. 4

Title: Sports Equipment Anchoring Device

Field of the Invention

This invention relates to a device for anchoring sports equipment to the ground, particularly free standing goal assemblies which include a pair of goal posts and an upper cross member defining therewith a goal mouth and a lower rear cross member which rests on the ground and serves to strengthen and stabilise the structure. Although to be described with particular reference to such goal assemblies, the invention is equally applicable to other free-standing items of sports or leisure equipment which in use need to be secured to the ground. For convenience, reference will hereafter be made to a goal assembly or the like, which expression is intended to include all such other equipment.

Background to the Invention

Hitherto such goal assemblies have been secured to the ground by means of stakes, similar to tent pegs, which are driven into the ground and engage the goal assembly and hold it down. Such devices can work loose and the assembly can then topple over, causing serious injury if a player is trapped.

It is an object of the present invention to provide an improved anchoring device for securing such goal

assemblies to the ground.

It is also an object of the invention to provide an anchoring device as aforesaid which can also be used to secure other items of sports, athletics or leisure equipment to the ground.

Summary of the Invention

According to one aspect of the present invention an anchoring device for a goal assembly or other equipment as aforesaid, comprises a helically coiled or spiral stake or spike which can be screwed into the ground and which is adapted at its upper end to be secured to the goal assembly or other equipment.

Typically the said upper end is adapted to grip or surround or be attached to the rear lower cross member of a goal assembly or the lower end of an item of sports or athletics equipment as aforesaid.

Preferably the helically coiled stake is made from steel rod.

Corrosion resistance may be increased by employing stainless steel or by galvanising or coating the rod with a protective covering such as plastics or paint.

Preferably connecting means is provided at the said upper end of the stake for encompassing the said rear lower cross member or a horizontal protruding part of an item of sports or athletics equipment.

The connecting means may comprise a plate screwed to the

upper end of the stake and a latch formed by a member hinged to the plate and engageable around the cross member (or other horizontally protruding part) and securable to the plate (or another latch member also attached to the plate) to encompass the cross member or horizontally protruding part.

Typically the plate is welded to the upper end of the stake.

Preferably the latching device comprises a pair of handed L-shaped jaws each hingeable at one end to the plate and thereby pivotable relative to the plate into an open position in which the cross member or horizontally protruding part can be dropped therebetween onto the plate and afterwards positioned towards one another into a closed position in which they are secured so as to form a bridge over the captive member to retain the latter on the plate.

The free ends of the jaws may be apertured, the openings therein aligning when the jaws form the said bridge to allow a locking pin to be secured therethrough, so as to prevent the two jaws from opening and releasing the captive member.

Preferably locking means is provided to lock the locking pins in the aligned openings.

The locking pins and locking means may for example comprise a lynch pin or a padlock.

Preferably the hinging of the jaws permits them to be pivoted outwardly of the plate in opposite directions, to

form two oppositely protruding hand grips by which the stake can be gripped and twisted into the ground.

If greater leverage is required, an elongate bar may be positioned on the plate and held in place by hinging the L-shaped jaws together and securing them over the bar with the bar extending by substantially the same distance on opposite sides of the plate. The stake can then be lowered into contact with the ground and twisted so as to screw into the ground by one person holding both protruding bar portions or by two people each holding one of the protruding bar portions. The bar is removed after the stake is fully screwed into the gound by releasing the jaws.

The lower end of the coiled stake may be sharpened to define a point to facilitate entry into and through the ground.

The surface of the coiled member may include at least one barb like wing or protrusion to resist reverse twisting of the stake out of the ground.

According to another aspect of the invention a method of anchoring a goal assembly or item of sports or athletics equipment as aforesaid to the ground, comprises the steps of screwing a helically coiled stake into the ground where the goal assembly or equipment is to be located so that an upper end of the stake protrudes just above the surface of the ground, and securing the goal assembly or equipment to the said protruding upper end.

In the case of a goal assembly as aforesaid, preferably the rear lower cross member is secured to the upper end of

the stake.

Although the invention is hereinafter described with particular reference to a goal assembly as aforesaid, the invention is equally applicable to any article of sports or leisure equipment which is portable but during use has to be anchored to the ground. The invention may thus be employed in anchoring items of sporting and athletics equipment such as are employed in games of Football, Hockey, Netball, Lacrosse, Badminton and the like, in track and field events in athletics, and in securing leisure equipment including seating, shelters and boat moorings.

Brief Description of the Drawings

An example of a device for anchoring a goal assembly or the like in accordance with the invention, will now be described with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a free-standing football goal secured to the ground by the device of the invention;

Figure 2 is a perspective view of the device ready to be inserted into the ground;

Figure 3 is a view similar to Figure 3 but showing the two latches in position for fixing the goal frame; and

Figure 4 is a rear view of a lynch pin for securing the latches.

Detailed Description

Figure 1 is a perspective view of a free-standing football goal having a rear lower cross bar 2 in contact with the ground and an upper cross-bar 4 extending between the upper ends of the goal posts 6, 7. The bar 2 is anchored to the ground by two devices one of which is shown in detail in Figures 2 and 3.

The anchoring device comprises a square plate 8 to the underside surface of which is welded the upper end of spiral stake 10 similar in shape and configuration to a cork screw. Typically the diameter of the spiral is of the order of 60mm.

The lower end 12 of the stake 10 is sharpened to assist penetration of the soil.

Welded adjacent to opposite edges of the upper face of the plate 8 are two pairs of aligned bushes 14, 15 through which extend a hinge pins 16, 17.

Pivoted on the pins 16, 17 are two L-shaped latches 18, 19 which when they occupy their closed position shown in Figure 3, form a bridge over the plate 8.

The dimensions of the latches 18, 19 and the spacing between the pairs of bushes is chosen so that the horizontal bar 2 of the goal assembly of Figure 1 is a sung fit below the two latches when folded over to form the bridge.

The outboard ends of the latches 18, 19 are bent upwardly, and each is formed with a hole 20, 21 respectively.

The latches 18, 19 are prevented from opening by the insertion of a lynch pin 22 through the aligned holes 20.

In known manner the pin 22 has a head 24 with two offset holes at opposite sides thereof, into which are fitted the opposite ends of a discontinuous ring 26. After the pin is enserted the ring 26 is snapped over through approximately 180°, thereby preventing withdrawal of the pin.

The lynch pin 22 is shown in end view in Figure 4.

To prevent loss of the lynch pin 22 a chain (not shown) may be secured to one end of the ring 26 and at its other end (not shown) to the plate 8.

With the two latches in the position shown in Figure 2 the two latches serve as handles which can be gripped so enabling the device to be forcibly screwed into the ground.

The entire device may be made from steel. Stainless steel will resist corrosion. Alternatively if formed from mild steel plating or painting may be employed to resist corrosion.

It will be apparent that the helical screw provides an exceptionally high resistance to withdrawal thereby greatly reducing the risk of a goal assembly such as shown in Figure 1 from toppling forward. Laterally extending barbs (not shown) may be provided aong the sprial to further resist withdrawal.

By employing a different plate and latching mechanism, a device incorporating the spiral spike of the invention may be adapted to secure different items of sports and athletics equipment from that shown.

Claims:

1. An anchoring device for a goal assembly or the like comprising a helically coiled or spiral stake or spike which can be screwed into the ground and which is adapted at its upper end to be secured to the goal assembly or the like.

2. A device according to claim 1 in which said upper end is adapted to grip or surround or be attached to a rear lower cross member of the goal assembly or the like.

3. A device according to claim 1 or claim 2 in which the helically coiled stake is made from a steel rod.

4. A device according to claim 3 in which the corrosion resistance of the stake is increased by employing stainless steel or by galvanising or coating the stake with a protective covering such as plastics or paint.

5. A device according to any one of claims 2 to 4 in which a connecting means is provided at the upper end of the stake for encompassing the rear lower cross member of the assembly or the like.

6. A device according to claim 5 in which the connecting means comprises a plate screwed to the upper end of the stake, and a latch formed by a member hinged to the plate and engageable around the cross member and securable to the plate to encompass the cross member.

7. A device according to claim 6 in which the plate is welded to the upper end of the stake.

8. A device according to claim 6 or claim 7 in which the latch comprises a pair of handed L-shaped members each hingeable about opposite sides of the plate and thereby pivotable relative to the plate into an open position in which the cross member can be placed therebetween onto the plate, and afterwards pivotable towards one another into a closed position in which they are securable so as to form a bridge over the cross member to retain the latter on the plate.

9. A device according to claim 8 in which the free ends of the L-shaped members have apertures which are aligned when said members are in the closed position, and further comprising a locking pin securable through the apertures to prevent the two members from opening and releasing the cross member.

10. A device according to claim 9 in which a locking means is provided to lock the locking pins in the aligned apertures.

11. A device according to claim 10 in which the locking pin and locking means comprises a lynch pin or a padlock.

12. A device according to claim 11 in which the hinging of the two members permits them to be pivoted outwardly of the plate in opposite directions, to form two oppositely protruding handgrips by means of which the stake can be gripped and screwed into the ground.

13. A device according to any one of claims 8 to 12 further comprising a tommy bar insertable on the plate and held in place by hinging the L-shaped members together and securing them over the bar with the bar extending by

substantially the same distance on opposite sides of the plate, so that the stake can then be lowered into contact with the ground and twisted so as to screw into the ground by one person holding both protruding bar portions or by two people each holding one of the protruding bar portions.

14. A device according to any one preceding claim in which the lower end of the helically coiled stake is sharpened to define a point to facilitate entry into and through the ground.

15. A device according to any one preceding claim in which the surface of the coiled stake comprises at least one barb-like wing or protrusion to resist reverse twisting of the stake out of the ground.

16. A metnod of anchoring a goal assembly or the like to the ground, comprising the steps of screwing a helically coiled or spiral stake into the ground where the goal assembly or the like is to be located, so that an upper end of the stake protrudes just above the surface of the ground, and securing the goal assembly or the like to the proruding upper end.

17. A method according to claim 16 in which a rear lower cross member of the goal assembly is secured to the upper end of the stake.

18. An anchoring device for a goal assembly or the like substantially as herein described with reference to and as shown in the accompanying drawings.

19. A method of anchoring a goal assembly or the like

substantially as herein described with reference to and as shown in the accompanying drawings.

Patents Act 1977
Examiner's report to the Comptroller under S tion 17 (The Search Report)

Application number

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Relevant Technical fields

(i) UK Cl (Edition L) E1D: DPA
A6D: D11F

(ii) Int Cl (Edition 5) E02D E04H A63B

Search Examiner

J D CANTRELL

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

7 JULY 1993

Documents considered relevant following a search in respect of claims 1-19

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2116222 A (TUPPER) - see Figure 14	1, 3, 4, 16
X	GB 1464455 (SCREEN)	1, 16
X	GB 671779 (BROWN)	1, 16
X	GB 525395 (LAKE)	1, 16
X	US 4778142 (ROBA)	1, 16
X	US 4543972 (BENNETT)	1, 16
A	GB 2258665 A (HARROD)	

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

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