United States Patent [19]

Tanner

[11] **3,774,361**

[45] **Nov. 27, 1973**

[54] **SHORE LINE BOAT ANCHOR**

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[52] **U.S. Cl.** ..... **52/162,** 114/206 R
[51] **Int. Cl.** **E02d 5/80,** B63b 21/34
[58] **Field of Search** ..... 52/162–165, 155, 166; 114/206 R; 135/15 PE

[56] **References Cited**

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[57] **ABSTRACT**

An anchor to secure a cord or other tying device to the ground includes a stake which is driven into the ground. At its leading end the stake has hinge plates which are movable relative to the stake about hinge pins. As the stake is driven into the ground, the hinge plates lie along the side of the stake, projecting toward the trailing drive end thereof. Once inserted, the stake is withdrawn slightly, and this causes the hinge plates to swing outwardly to an anchoring position wherein they project laterally from the stake and secure the stake firmly in the ground. A retaining cord is provided for holding plates in the anchoring position. To remove the anchor from the ground, the retaining cord is released, permitting the hinge plates to fold against the stake in the opposite direction as the stake is withdrawn. The cord which is secured by the anchor is attached to the stake between its leading end and its longitudinal midpoint.

6 Claims, 9 Drawing Figures

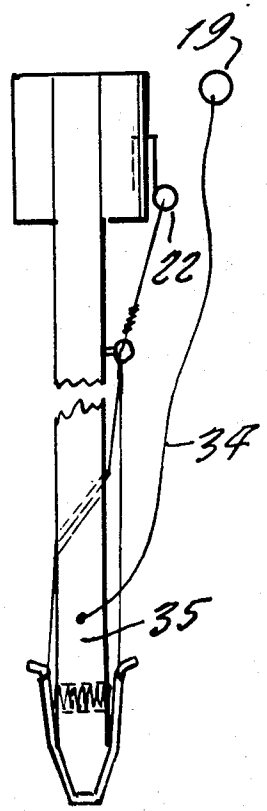


Fig. 1

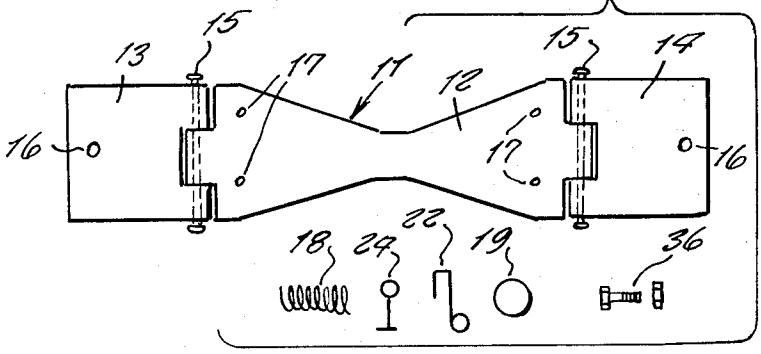


Fig. 2

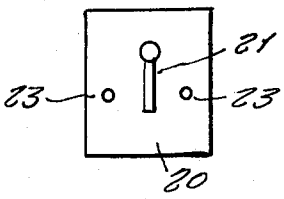


Fig. 3

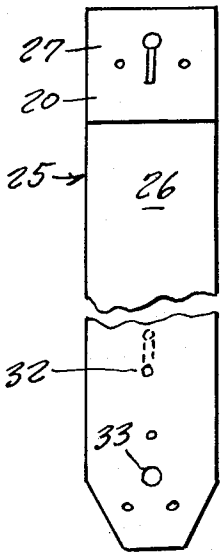


Fig. 4

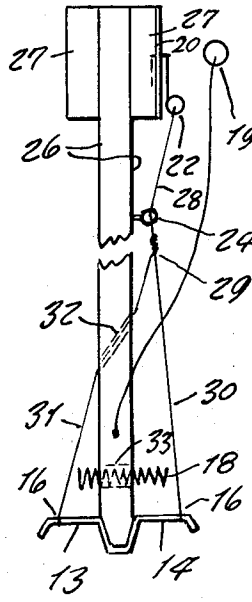


Fig. 5

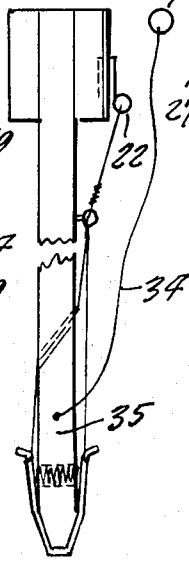


Fig. 6



Fig. 7

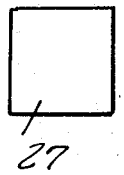


Fig. 8

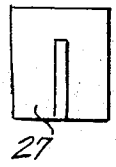
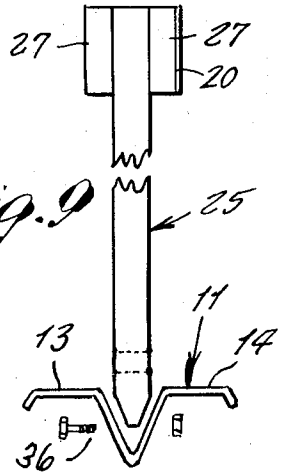


Fig. 9



SHORE LINE BOAT ANCHOR

BACKGROUND OF THE INVENTION

This invention relates in general to an anchoring device and, more particularly, to a device for anchoring a flexible tying device such as a cord.

The typical ground anchor for securing a cord to the ground on a temporary basis is merely a stake which is driven into the ground and has the cord tied around its upper end, which usually projects above the ground. This arrangement creates tremendous leverage on the stake, and in many instances causes the top of the stake to pull over and loosen the securement.

SUMMARY OR THE INVENTION

One of the principal objects of the present invention is to provide an anchor for firmly securing a cord to the ground. Another object is to provide an anchor of the type stated which is light in weight, easy to carry and store, and simple to operate. A further object is to provide an anchor of the type stated which has tremendous holding power. An additional object is to provide an anchor which is ideally suited for securing small boats, tent ropes, and beach equipment. Still another object is to provide an anchor of the type stated which is easily removed from the ground so that it may be reused. These and other objects and advantages will become apparent hereinafter.

The present invention is embodied in an anchor device including a stake and at least one hinge plate on the stake. The hinge plate moves about a hinge axis between insertion, withdrawal and anchoring positions. In the insertion and withdrawal positions the hinge plate extends in the direction of the stake and may be easily inserted and withdrawn, respectively, from the ground. In the anchoring position the hinge plate extends latually from the stake. The invention also consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of specification and wherein like numerals and letters refer to like parts wherever they occur.

FIG. 1 shows some of the individual components of the anchor forming present invention, and one of the components is an intermediate plate 12 which is illustrated in an opened or flat condition;

FIG. 2 shows a plate used at one end of the anchor;

FIG. 3 is an elevational view of a stake forming part of the anchor;

FIG. 4 is an elevational view of the anchor showing the hinge plates in their anchoring position;

FIG. 5 is an elevational view similar to FIG. 4, but showing the hinge plates in their insertion position;

FIG. 6 is an elevational view similar to FIG. 4, but showing the hinge plates in their withdrawal position;

FIG. 7 is an elevational view of a block fastened to the upper end of the stake on one side thereof;

FIG. 8 is an elevational view of another block fastened to the upper end of the stake on the opposite side thereof; and

FIG. 9 is a partially exploded elevational view showing the manner in which the intermediate plate is attached to the leading end of the stake.

DETAILED CONSTRUCTION AND DESCRIPTION

In FIG. 1, reference numeral 11 represents a complete hinge which includes an intermediate plate 12 a leftside hinge plate 13 and a rightside hinge plate 14 which are interconnected together by means of transverse extending pins 15. An opening 16 in each left and right plates 13 and 14 serve to receive the cords 31, 30. On the intermediate plate 12 there are two pairs of openings 17 that serve as bolt holes. The reference numeral 18 represents a coil spring placed on a main stake 25 to push out the left and right plates 13 and 14, the spring 18 being fitted through the stake 25. The spring 18 thus aids in spreading the hinge. A ring 19 serves to be tied on the end of the anchor cord 34.

A metal plate 20 shown in FIG. 2 has a key hole 21 for receiving a hook or pin 22 shown in FIG. 1. Screw openings 23 are provided upon the metal plate 20. Additionally there is provided an eye screw 24 through which the anchor cord 28 is fitted and guided.

As shown in FIGS. 3 to 6, there is a main stake 25 to opposite sides 26 of which flat blocks 27 are secured in alignment with the upper edge of the main stake. The block 27 is approximately one-half inch thick and one and one-half inches in length. The plate 20 with the key hole 21 is secured to one of the blocks 27 as shown.

A cord 28 is attached to one end to the pin 22, the cord 28 being extended through the eye screw 24 and the opposite end of the cord 28 being connected by means of a knot 29 to two separate cords 30 and 31. The cord 30 at its opposite end is connected to the opening 16 in the right hinge plate 14 while the other cord 31 extends through a diagonally extending hole 32 through the main stake and the opposite end of the cord 31 extending out of the hole 32 is connected to the opening 16 in the left hinge plate 13. The cords 28, 30 and 31 and the hook 22 constitute retaining means for holding the plates 13 and 14 in a laterally extending anchoring position. A transverse extending opening 33 through a lower portion of the main stake 25 is adapted to receive a spring 18 which in a relaxed position extends out of each opposite side of the main stake as shown in FIG. 4 of the drawing. An anchor cord 34 is connected at one end to a lower portion of side edge 35 of the main stake 25, the opposite end of the anchor cord 34 being connected to the ring 19.

As shown in the comparative positions illustrated in FIGS. 4, 5 and 6, it is now evident that when the hinge left and right plates are pivoted in an upwardly position as shown in FIG. 5, the spring 18 is in a compressed position within the interior of the transverse opening 33 that extends through the main stake. When the pin 22 is unhooked from the block 27, as shown in FIG. 6, the left and right hinge plates 13 and 14 are downwardly pivoted.

It is to be noted that one of the side blocks 27 on one side of the main stake comprises a member 20 which includes the key hole 21 for allowing the pin 22 to be hooked therewithin. The opposite block 27 is plain such as is shown in FIG. 7.

It is to be additionally noted that the present invention includes a bolt and nut set 36 which are shown in an operative position in FIG. 9.

I claim:

1. An anchor to be forced into the ground for securing an elongated tying device such as a cord to the ground, said anchor comprising: an elongated stake

adapted to be driven into the ground and having a lead end and a trailing drive end; an intermediate plate of generally V-shaped configuration fastened to the stake at the lead end thereof such that the converging portion of the V-shaped configuration is presented forwardly and forms the endmost surface of the anchor, the rearwardly presented ends of the intermediate plate being provided with hinge pins which are located near the lead end of the stake and are fixed in position with respect to the stake; hinge plates connected at their ends to the hinge pins with one hinge plate being on one side of the stake and the other on the other side of the stake, both hinge plates being movable relative to the stake about the hinge pins between insertion, withdrawal, and anchoring positions, the hinge plates when in their insertion positions being extended generally in the direction of the stake and projecting from the hinge pins toward the drive end of the stake, the hinge plates when in their withdrawal position being also extended in the general direction of the stake, but projecting from the hinge pins away from the drive end, the hinge plates when in their anchoring positions being intermediate the insertion and withdrawal positions and projecting laterally from the stake; and retaining means for holding the hinge plates in their anchoring positions when withdrawal forces are applied to the stake, the retaining means being releasable to enable the hinge plates to move to their withdrawal positions, whereby the anchor may be easily withdrawn from the ground.

2. An anchor according to claim **1** wherein the elongated tying device is secured to the stake between the lead end and the longitudinal midportion thereof.

3. An anchor according to claim **1** wherein the retaining means comprises cords connected at their lower ends to the hinge plates and means for attaching the opposite ends to the stake at the drive end thereof, the lengths of the cords being such that when the opposite ends are attached to the drive end of the stake and the hinge plates are in their anchoring positions, the cords are taut.

4. An anchor according to claim **3** wherein the stake is provided with apertured means at its drive end and the means for attaching the cord includes a hook sized to engage an aperture in the apertured means.

5. An anchor according to claim **4** and further characterized by spring means for urging the hinge plates from their insertion to their anchoring positions.

6. An anchor according to claim **5** wherein the hinge plates lie along the sides of the stake when in the insertion position; and wherein the spring means comprises a compression type coil spring extended through the stake at a location which enables the ends of the spring to bear against the hinge plates when the plates are in the insertion position.

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