

[54] **POST ANCHOR**

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[72] Inventor: **Patrick Joseph Stratton**, 30 Sandy Drive, Whitecourt, Alberta, Canada

Primary Examiner—Henry C. Sutherland
Attorney—Ernest Peter Johnson

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[57] **ABSTRACT**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 863,010, Sept. 24, 1969, abandoned.

A detachable post anchor for use with highway marker posts and the like is provided. The anchor comprises two separable elements, more particularly a spike member and a holder. The spike member includes a spike, a horizontal base plate carried by the spike at its upper end, and a slotted lug extending upwardly from the base plate. The holder is tubelike in form and receives the bottom end of the post in its upper end. A pair of spaced, vertical, slotted lugs are fixed within the bottom end of the holder. The slots of the spike and holder lugs line up when the holder is mounted on the base plate. A shear pin is inserted through the lugs to secure the holder and spike together. When the post is struck from the side, the holder pivots about its bottom edge; the shear pin parts and the post and holder topple over. The anchor can be re-assembled by insertion of a new shear pin.

[52] U.S. Cl.52/99, 52/157, 94/1.5, 287/103

[51] Int. Cl.E01f 9/01, E04c 3/32

[58] Field of Search.....94/1.5; 52/155, 157, 98-100; 287/103, 119

[56] **References Cited**

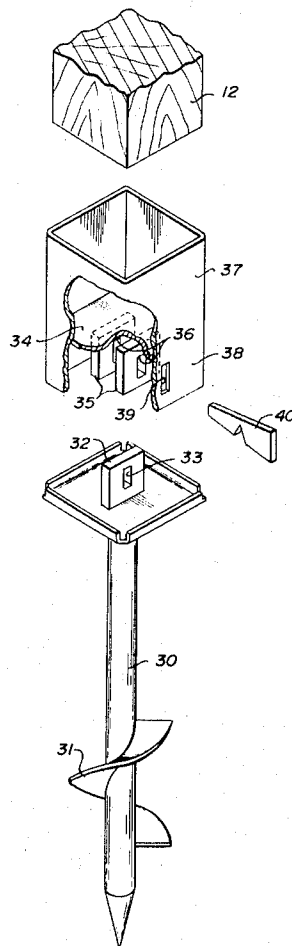
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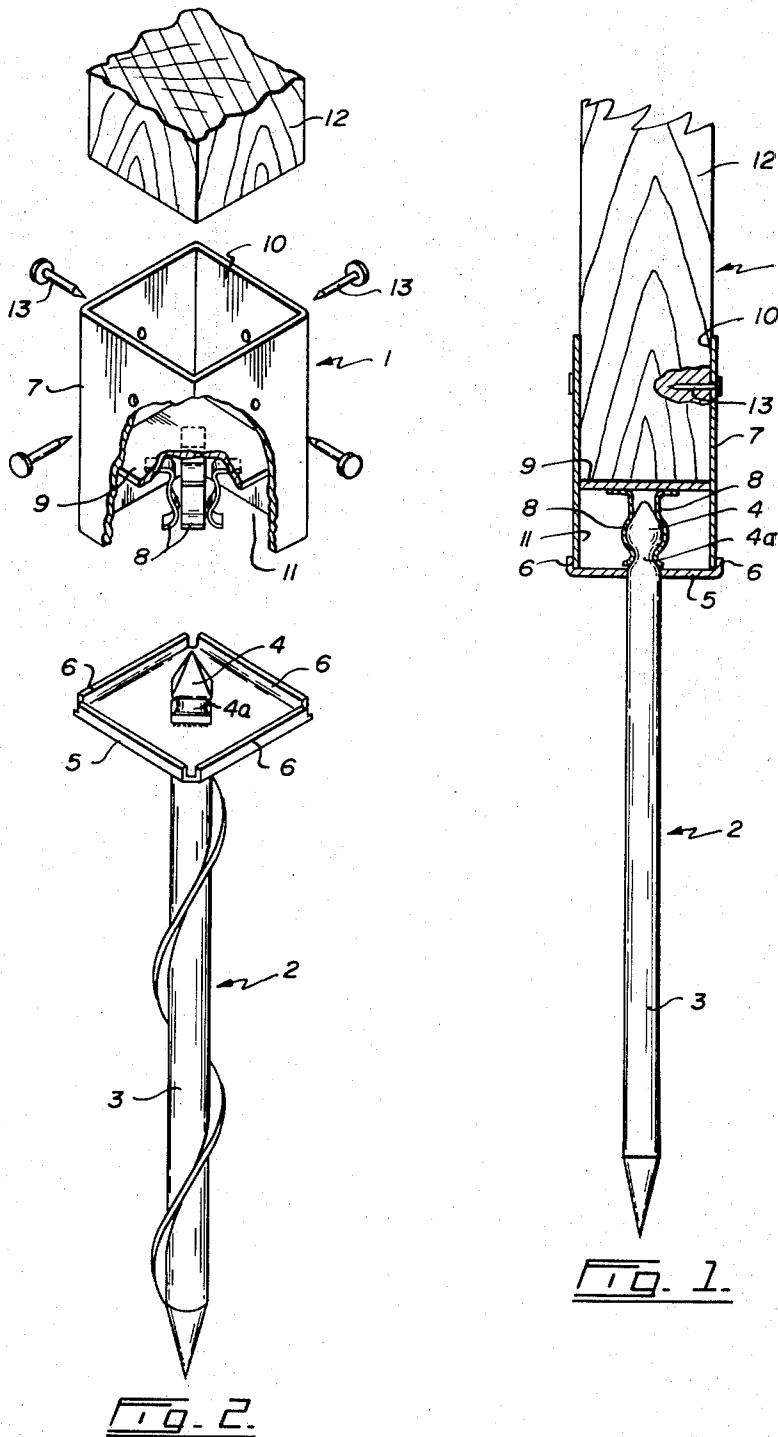
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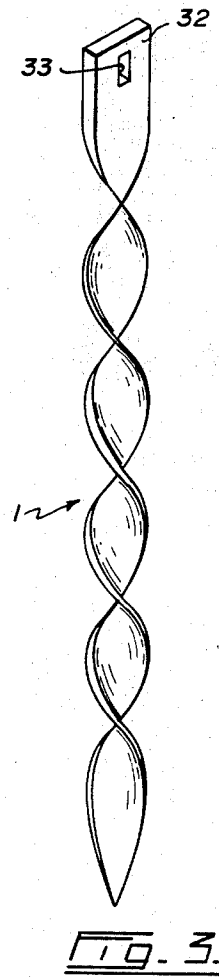
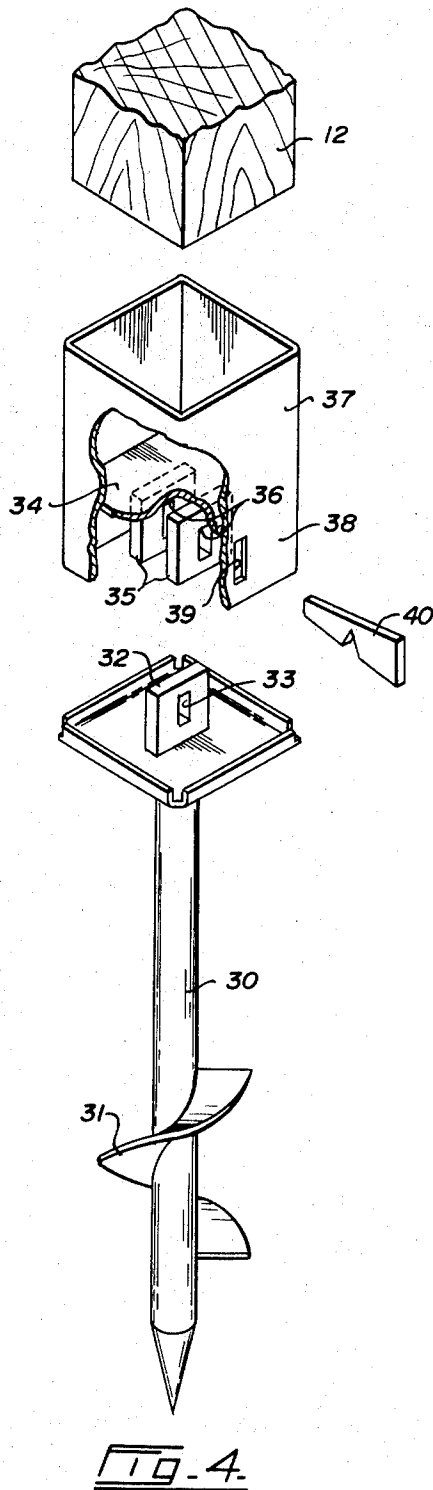
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1 Claim, 4 Drawing Figures







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POST ANCHOR

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of my application for U.S. Letters patent Ser. No. 863,010, filed Sept. 24, 1969, now abandoned.

BACKGROUND OF THE INVENTION

This invention relates to a post anchor.

It is known to provide a highway marker post or the like with a post anchor which can be easily planted and which permits the post to pivot free when struck from the side. The anchor includes a spike which is driven into the ground up to a horizontal plate carried at the spike's upper end. The bottom end of the post is fixed in a tubelike holder and the holder is detachably secured to the base plate and spike by a joint mechanism. Two typical examples of this prior art are shown in U.S. Pat. No. 3,451,319, issued to Gubela, and Swiss Pat. No. 375,038, issued to Beilharz.

Highway posts are often knocked down by graders and other vehicles. There are advantages to be gained by equipping these posts with detachable post anchors. For example, the spike can be installed without digging a hole, which is a relatively costly operation. In addition, the post remains undamaged when struck down and can be re-used. Finally, the post can be easily taken down when desired; this is desirable, for example, when a grader operator wishes to clear a posted section of a road or when the posts are to be re-painted.

The prior art anchors of this type are characterized by certain structural features which affect their performance in cold weather areas. More particularly, some anchors have joint parts which are buried beneath the ground surface. When the ground is frozen these parts are virtually inaccessible and cannot be replaced. Other anchors have joint parts which tend to become very difficult to release when surrounded with ice and snow.

SUMMARY OF THE INVENTION

It is an object of this invention to provide a post anchor whose joint parts are located above the base plate and within the bottom end of the tubelike holder. As a result of this arrangement, the parts would be accessible at all times and unaffected by surrounding snow or ice.

It is another object to provide a post anchor which is equipped with a releasable joint assembly which has one or more parts adapted to yield to allow the holder to separate from the anchor member when the holder is pivoted about its bottom edge.

It is another object to provide a post anchor whose releasable joint assembly includes an easily-replacable shear pin as the locking element of the joint.

In accordance with the invention, a rigid part, such as a slotted lug, extends upwardly from the anchor base plate. This part comprises part of the separable joint assembly. Securing means are provided within the lower end of the tubelike post holder to cooperate with the lug to complete the joint assembly. The securing means may comprise a pair of spaced, vertical, slotted lugs, fixed within the holder, and a shear pin. The holder and anchor lugs are arranged so that their slots are aligned when the holder is erected on the base plate in the

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operative position. The shear pin is inserted through an opening in the holder side wall to extend through the slots and thereby connect the holder and anchor member together. When a side thrust is applied to the post, the holder pivots about the up-turned peripheral flange of the base plate and parts the shear pin, thereby releasing the holder from the anchor member.

My assembly has several desirable features. The yielding parts are located above the base plate where they are accessible for replacement. Additionally, the joint parts are substantially enclosed within the holder in the assembled or operative position; as a result, they are protected from ice and the like. Finally, by spacing the holder lugs sufficiently apart so that they don't jam against the spike lug when releasing, a joint is provided which separates when the post is struck from any side.

BRIEF DESCRIPTION OF THE DRAWING

In the drawings:

FIG. 1 is a sectional side view of one embodiment of the invention.

FIG. 2 is an exploded perspective view of the embodiment shown in FIG. 1.

FIG. 3 is a perspective view of another embodiment of the anchor section.

FIG. 4 is an exploded perspective view of another embodiment of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Definitions

Anchor member or spike — These words are intended to mean any point which is elongate and easily pierces the ground. Usually this will involve a solid steel spike having a sharpened end, as shown in FIG. 1. However, equivalents, such as the twisted spike shown in FIG. 3 or a length of steel tubing, are considered within the scope of these words.

Holder — Is intended to include both the tubelike element and the means for securing the element and post together. The securing means may be a taper in the holder side wall or nails driven through the wall into the post.

Tubelike — Is intended to include holders of round or other cross section, such as rectangular.

With reference to FIG. 1, the anchor comprises a holder section 1 and an anchor section 2.

The anchor section 2 includes a pointed steel spike 3. A head 4 is connected to the spike 3 at its upper end by a neck 4a of reduced cross section. A rectangular base plate 5 is carried by spike 3 just below neck 4a. As shown, base plate 5 is arranged transversely to the axis of spike 3. The edge of base plate 5 is up-turned to provide a peripheral flange 6. Plate 5 and flange 6 are adapted to snugly receive the bottom end of the holder 7.

The holder section 1 comprises a holder 7 and spring elements 8. As shown, holder 7 is rectangular in section and tubelike in form. A plate 9 traverses the interior of the holder 7 inwardly of its lower end and thereby divides it into upper and lower cavities 10, 11. The bottom end of post 12 is received in cavity 10 and is retained therein by nails 13.

The four spring elements 8 are secured to the bottom surface of plate 9. These elements 8 form a downwardly opening, expandable spring socket arrangement which can be forced over head 4. The head 4 and spring elements 8 combine to form a releasable joint which, in the assembled state, secures the holder and anchor sections together.

To assemble and use the anchor, the spike 3 is first driven into the ground. The base plate 5 bears against the ground surface and acts as a stop. The holder 7, usually already attached to the post 12, is biased downwardly to force the spring elements 8 over head 4 and thereby secure the holder and anchor sections together in the operative position.

When the post 12 is struck with substantial force from the side, the holder 7 pivots about its bottom edge and the adjacent base plate flange 6. The spring elements 8 release head 4 as pivoting continues and the post and holder section fall free.

Turning now to the alternative embodiment shown in FIG. 4, a spike 30 having a helical thread 31 is shown. In this case, the releasable joint assembly includes a rigid lug 32 extending upwardly from spike 30. The lug 32 defines a longitudinal slot 33 extending therethrough. A pair of spaced, vertical lugs 35 are disposed within the lower end of holder 37; as shown, they are fixed to the traversing plate 34. Each lug 35 defines a longitudinal slot 36 extending therethrough. When the holder 37 is mounted on the spike base plate, the lug 32 extends into the bottom end of the holder and between the two holder lugs 35. The lug slots 33, 36 are aligned so that a shear member 40, inserted through the opening 39 in holder side wall 38, will extend through them. Shear member 40 functions to releasably connect the holder 37 and anchor member together.

When the post 12 is struck from the side, the holder 37 pivots about its bottom edge causing the shear pin 40 to part. The holder lugs 35 are spaced apart sufficiently to allow them to pass over lug 32 without jamming when pivoting is occurring. As a result, the

post and holder fall free. The device is re-erected by reassembling the parts and inserting a new shear pin.

From the foregoing it will be appreciated that the joint assembly parts are disposed above the base plate so that they are readily accessible. In addition, they are sheltered so as to be relatively free of icing problems.

While the invention has been described with a certain degree of particularity, it is understood that the disclosure has been made only by way of example and that changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

What is claimed is:

1. In combination:

a tubelike holder having an opening in its side wall; said holder being adapted to receive and retain the lower end of a post in the upper end thereof; means traversing said holder inwardly of the lower end thereof;

an anchor member having a spike, for insertion in the ground, and a base plate carried by the spike at its upper end, said base plate having an upwardly turned peripheral flange;

a pair of spaced, vertical lugs fixed to the traversing means and being disposed within the lower end of the holder, each such lug having a longitudinal slot formed therein;

a rigid lug, having a longitudinal slot extending therethrough, said rigid lug extending upwardly from the base plate between the said pair of holder lugs;

the lug slots and holder opening being aligned;

a shear member extending through the lug slots and releasably connecting together the holder and anchor member;

said pair of holder lugs being spaced apart sufficiently whereby the said lugs may be displaced from the operative position without jamming when the holder is pivoted about its bottom edge.

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