Oct. 18, 1966 J. F. DE KORTE 3,279,133

BOUNDARY MARKER

Filed Aug. 18, 1964

Fig. 1.

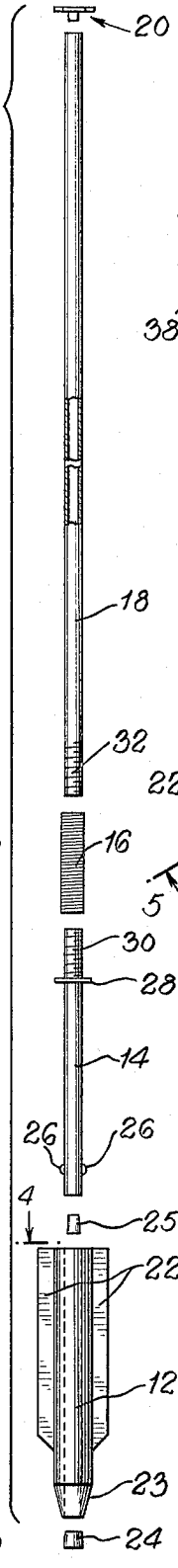


Fig. 7.

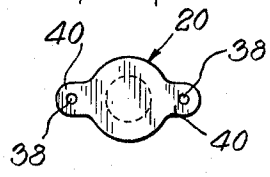


Fig. 2.

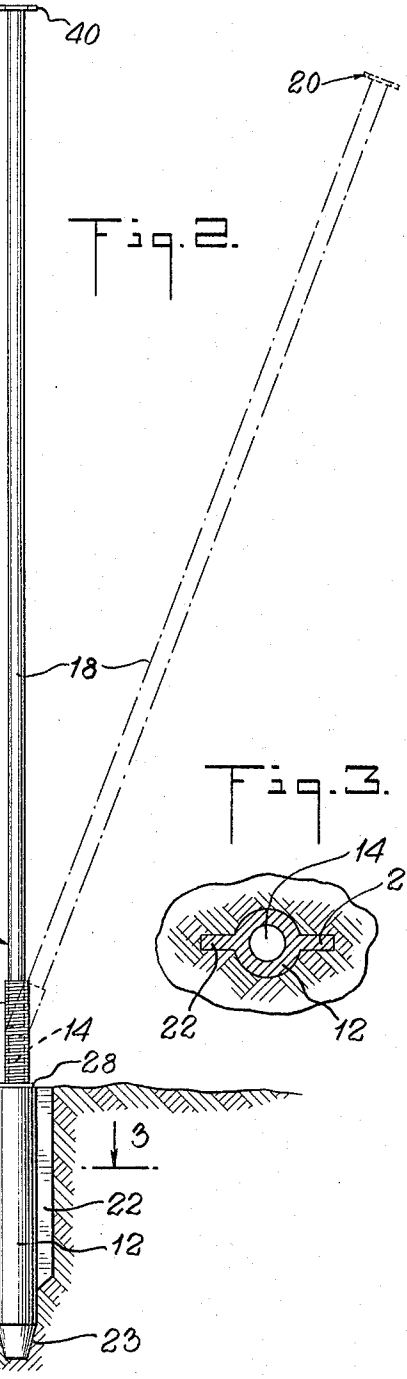


Fig. 5.

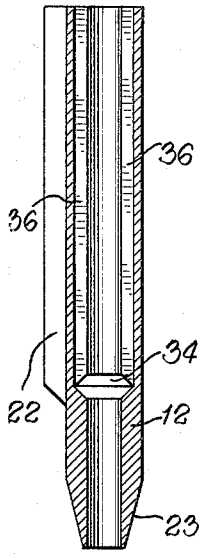


Fig. 4.

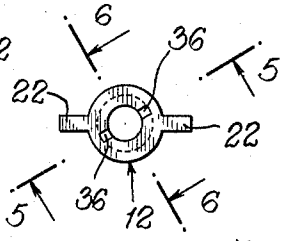
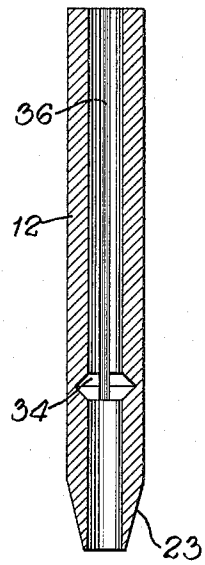


Fig. 3.

Fig. 6.



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BOUNDARY MARKER

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9 Claims. (Cl. 52—103)

The invention relates to boundary markers for driveways, lawns, golf greens and similar areas and in particular to those boundary markers which return to the vertical position after being struck by a vehicle or other device.

Prior art boundary markers have generally been made of metal or a luminescent material which was essentially rigid. These markers usually became bent or broken after they had been struck by a vehicle or other object. As a result, they were frequently in need of repair or replacement. While these prior art devices were usually relatively inexpensive initially, the replacement and repair costs were rather high. A need has existed for some time for a boundary marker which is relatively inexpensive, has a long installation life and returns to the vertical position after it has been struck.

Accordingly, it is an important object of the invention to provide a boundary marker which is easy to install and which returns to the vertical position after it has been struck.

It is a further object of the invention to provide such a boundary marker with means for attaching a pair of plumb bobs to facilitate the vertical alignment of the boundary marker when it is originally installed in the ground.

It is a still further object of the invention to provide such a boundary marker which is readily seen at night.

These and other objects, advantages, features and uses will be apparent during the course of the following discussion when taken in connection with the accompanying drawings wherein:

FIGURE 1 is an exploded elevational view of a preferred embodiment of boundary marker of the invention;

FIGURE 2 is an elevational view of the boundary marker of FIGURE 1 installed in the ground;

FIGURE 3 is a sectional view along the lines 3—3 of FIGURE 2, viewed in the direction of the arrows;

FIGURE 4 is a view in the direction of the arrows 4—4 of FIGURE 1;

FIGURE 5 is a sectional view, taken along the lines 5—5 of FIGURE 4, viewed in the direction of the arrows;

FIGURE 6 is a sectional view, taken along the lines 6—6 of FIGURE 4, viewed in the direction of the arrows; and

FIGURE 7 is a top plan view of a preferred form of the top cap of the invention, showing the openings for receiving the plumb bob strings.

In the drawings, wherein, for the purpose of illustration, is shown a preferred embodiment of the invention and wherein like numerals are used to designate like parts throughout the same, the numeral **10** designates the boundary marker of the invention, generally.

Boundary marker **10** is seen to comprise hollow socket **12** which is installed in the ground and receives stud **14**, spring **16** which is threaded onto stud **14**, and marker **18** which has an open upper end and which is threaded into spring **16**.

Socket **12** is tapered as shown at **23** and is provided with outwardly projecting fins **22** which serve to aid in the positioning of the socket in the ground. Plug **24** is provided to close the opening in socket **12** to prevent dirt or other foreign matter from entering the opening. For ease and economy in fabrication, stud **14** is made hollow and plug **25** is employed to close the lower end of the opening. Stud **14** is provided with protuberances **26**, the purpose and function of which will be described further on in this specification. Flange **28** is provided near the top of stud **14** to prevent the stud from being pushed too far into the socket.

Stud **14** is threaded above flange **28** as shown at **30**. Spring **16** is threaded onto threads **30** to secure the spring to the stud. Marker rod **18** is threaded at **32** and the spring is also threaded onto them. Plug **20** encloses the top of marker rod **18** to prevent the entry of dirt, water or other foreign matter into the interior of the rod.

To simplify the positioning of stud **14** in socket **12**, stud **14** is provided with protuberances **26** which are adapted to fit into groove **34** in the inner wall of socket **12** (FIGURE 6). Installation of stud **14** into socket **12** is facilitated by grooves **36** (FIGURES 4 and 5) which are spaced to permit protuberances **26** to mate therewith so that stud **14** may be slid into socket **12** until protuberances **26** rest in groove **34**. Flange **28** serves to prevent stud **14** from being pushed too far into socket **12**.

Installation of boundary markers of the invention may be accomplished in many ways. It is preferred that the combination be completely assembled and the concrete or cement into which the unit is to be installed be poured. While the cement is still liquid (commonly referred to as mud), the top plug **20** is inserted at the top of marker rod **18**. A plumb bob string is run into each opening **38** in the outwardly projecting ears **40** and the combination is aligned in proper vertical attitude. The concrete or cement now sets so that the unit is correctly placed and aligned. Top plug **20** may also be fabricated without ears **40** and openings **38** for use in markers which need not be aligned by the method described above.

Installation may also be made by inserting the socket in the ground first and then assembling the boundary marker after the socket is installed in the ground. If a boundary marker of the invention is broken, the stud may be removed from the socket and a new upper assembly of stud, spring and marker rod installed. The same technique may also be used to replace broken marker rods or weakened springs. To reduce the losses from pilferage and other mischief, stud **14** may be cemented with a plastic adhesive or similar material to socket **12** and spring **16** may be similarly cemented to threads **30** and **32**. Marker rod **18** is preferably formed of or coated with a luminescent material to make the boundary marker visible at night.

In operation, if the boundary marker is hit by a vehicle or other object, the spring gives and the unit takes a position similar to that shown in the dotted lines of FIGURE 2. After the force on it is removed, it returns, due to the resilience of the spring, to the vertical position of FIGURE 2.

While a particular embodiment of the invention has been shown and described, it is apparent to those skilled in the art that modifications are possible without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A boundary marker for insertion in the ground for indicating the limits of designated areas on the ground and adapted to return to its upright position after being struck comprising:

a socket having a central opening therein inserted in the ground;

a stud sized to fit in the central opening of the socket and having a flange thereon adjacent the top thereof to inhibit the further entry of the stud into the socket;

the stud being threaded for at least a portion of its length above the flange;

a spring threaded onto the threaded portion of the stud;

a marker rod having an open upper end and a threaded portion at the lower end thereof threaded in the reverse direction from the threaded portion of the stud threaded into the spring.

2. A boundary marker as described in claim 1 wherein the stud is provided with a pair of protuberances, the wall of the central opening in the socket is provided with a groove formed to receive the protuberances to lock the stud in the socket and the wall of the central opening is tapered toward the groove at positions matching the positions of the protuberances on the stud to permit the stud to be easily inserted into and removed from the socket.

3. A boundary marker as described in claim 2 wherein the socket is provided with a pair of oppositely placed, outwardly projecting fins for a portion of its length to stabilize the positioning of the socket in the ground.

4. A boundary marker as described in claim 2 including a plug for insertion at the top of the marker rod, the plug comprising a pair of oppositely placed, outwardly projecting ears each of which has an opening therein to receive a plumb bob for vertically aligning the boundary marker.

5. A boundary marker as described in claim 4 wherein the socket is provided with a pair of oppositely placed, outwardly projecting fins for a portion of its length to stabilize the positioning of the socket in the ground.

6. A boundary marker as described in claim 1 including a plug for insertion at the top of the marker rod, the plug comprising a pair of oppositely placed, outwardly projecting ears each of which has an opening therein to receive a plumb bob for vertically aligning the boundary marker.

7. A boundary marker as described in claim 6 wherein the socket is provided with a pair of oppositely placed, outwardly projecting fins for a portion of its length to stabilize the positioning of the socket in the ground.

8. A boundary marker as described in claim 1 wherein the socket is provided with a pair of oppositively placed, outwardly projecting fins for a portion of its length to stabilize the positioning of the socket in the ground.

9. A boundary marker as described in claim 1 wherein the marker rod is formed of luminescent material.

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