Oct. 31, 1950 F. B. LEWIS, JR., ET AL 2,527,681

MARKING DEVICE

Filed May 1, 1947 2 Sheets-Sheet 1

Fig. 1.

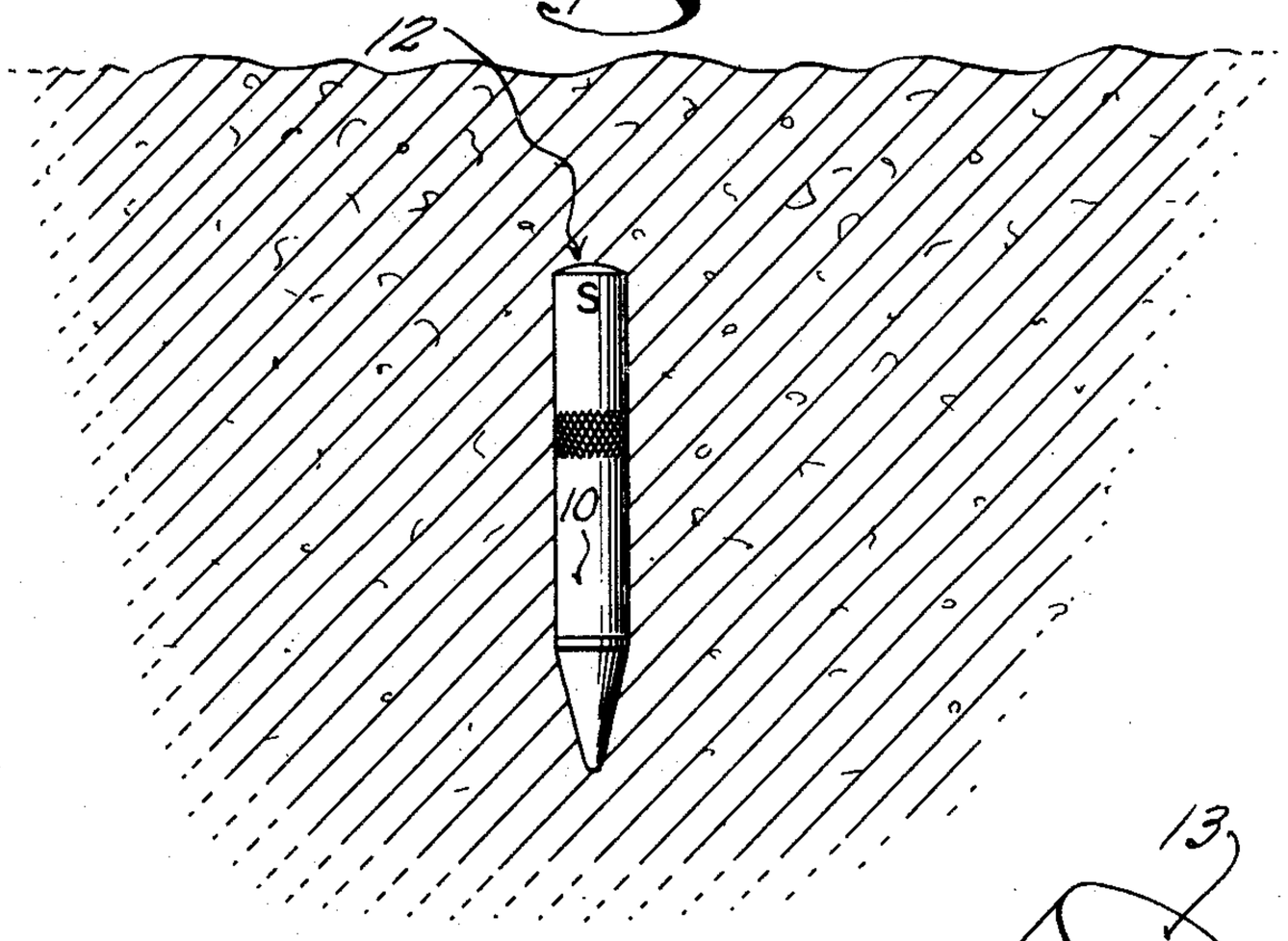

Fig. 2.

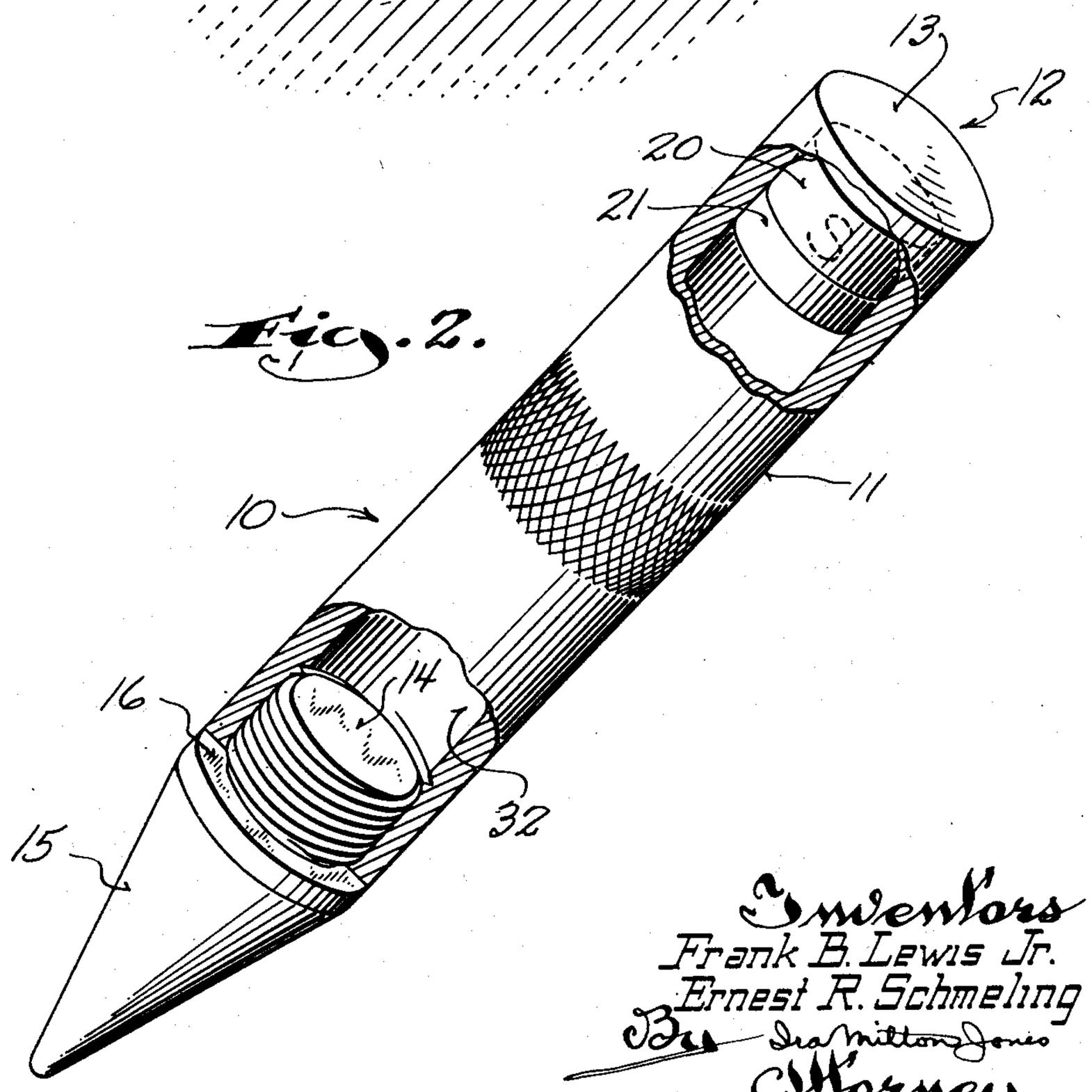

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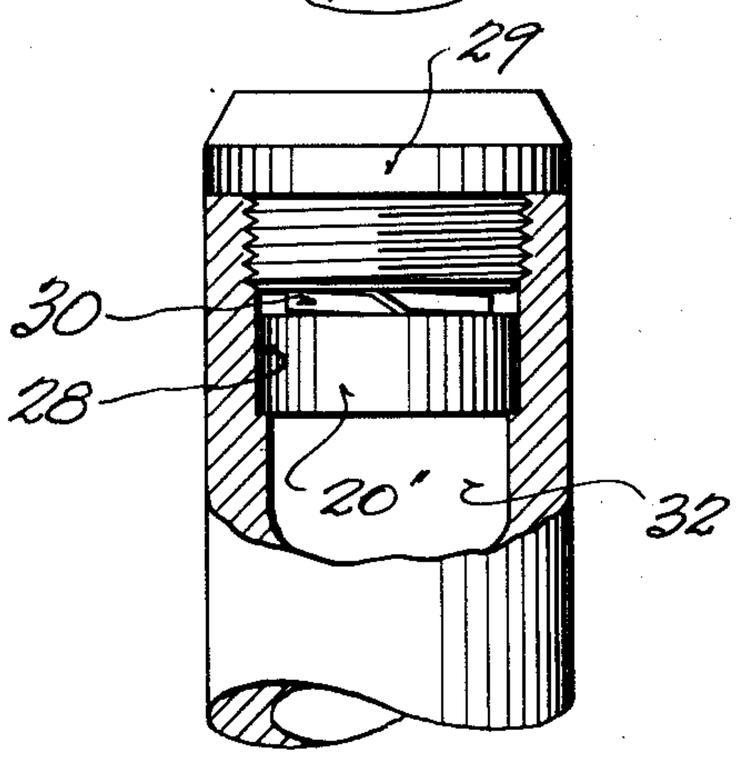
Fig. 5.



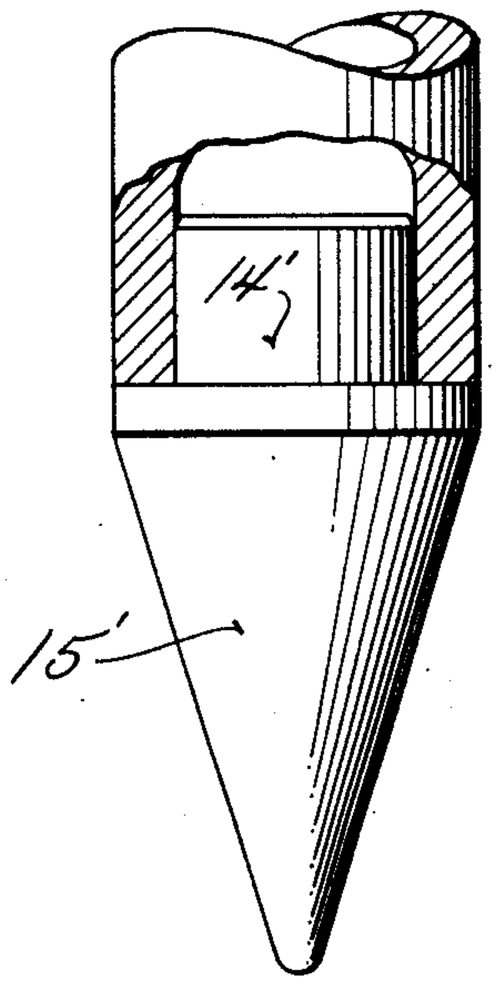


Fig. 3.

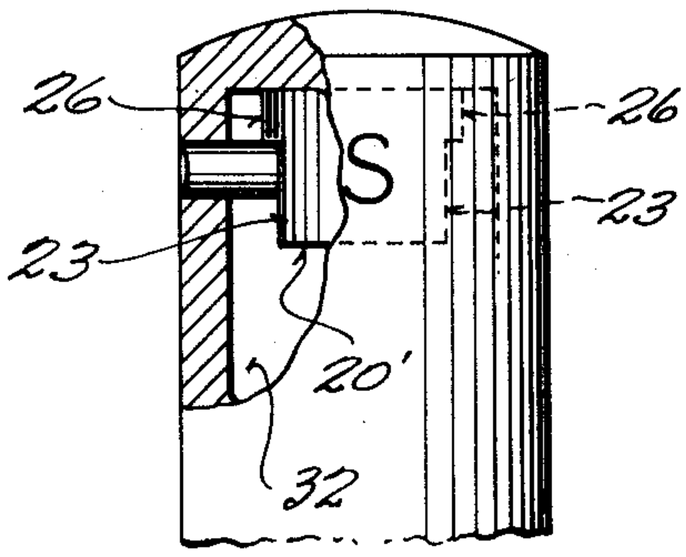
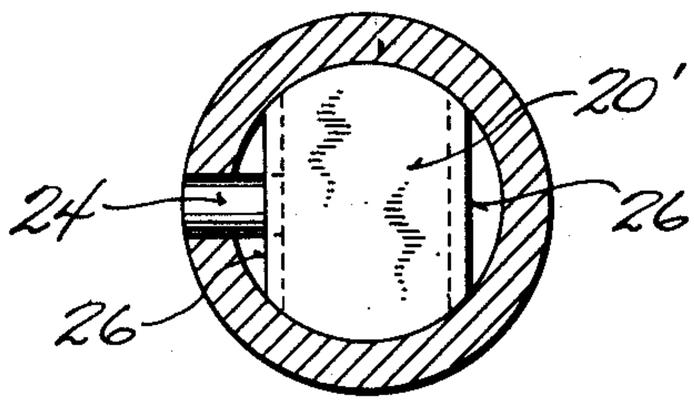


Fig. 4.



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Patented Oct. 31, 1950 2,527,681

UNITED STATES PATENT OFFICE

2,527,681

MARKING DEVICE

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Application May 1, 1947, Serial No. 745,194

6 Claims. (Cl. 175—183)

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This invention relates to markers and has as its main object to provide a marker which is adapted to be concealed from view but which is provided with means to enable the same to be readily located despite its concealed condition.

One specific use of the marker of this invention is in the marking of the exact location of a burial site, and for such use the marker is adapted to be driven into the ground a distance beneath the surface so as to be entirely concealed. A small permanent magnet enclosed within the marker is provided to readily enable one searching in the general vicinity of the marker to ascertain its exact position by means of a pocket compass or other magnetically responsive instrument, the needle of which is influenced by the magnet within the marker as the location of the same is approached.

Another object of this invention resides in the provision of a marking device of the character described which is in the form of an elongated hollow tube closed at its opposite ends but having one end thereof readily detachable so as to enable access to be had to any article or document which may be placed in the receptacle formed by the hollow interior of the marker.

Still another object of this invention resides in the provision of a marker of the character described having novel means for securing the permanent magnet in place therein in a predetermined position relative to the body of the marker.

With the above and other objects in view, which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

The accompanying drawings illustrate several complete examples of the physical embodiments of the invention constructed according to the best modes so far devised for the practical application of the principles thereof, and in which:

Figure 1 is an elevational view of the marker of this invention illustrating how the same is adapted to be driven into the ground a distance beneath ground level so as to be entirely concealed from view;

Figure 2 is an enlarged perspective view of the marker having end portions of the body thereof broken away to illustrate details of construction;

Figure 3 is an elevational view of the upper end

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of a slightly modified form of the marker having portions thereof broken away and shown in section to illustrate the manner in which the magnet is secured inside the body of the marker;

Figure 4 is a cross sectional view through the marker of Figure 3 taken along the plane of the line 4—4 thereof; and

Figure 5 is an elevational view showing a further modified form of marker and having portions thereof broken away and shown in section to illustrate details of construction.

Referring more particularly to the accompanying drawings in which like numerals indicate like parts, the numeral 10 generally designates the marker of this invention. In its preferred form the marker comprises an elongated tubular body 11, permanently closed at its end 12 which is adapted to be disposed uppermost in the operative condition of the marker by an end closure cap 13 integral with the tubular body. It will be readily appreciated, however, that the cap 13 can be made in the nature of a plug pressed or threaded into the upper end of the tubular body of the marker.

The opposite end of the body, which is adapted to be disposed lowermost in use, is provided with screw threads on its interior as shown in Figure 2 to receive the reduced threaded shank 14 of a pointed detachable closure 15. An annular shoulder 16 on the point flatwise abuts the lower end of the tube 11 to establish a moisture-proof seal therebetween precluding moisture from entering the interior of the body. In order to improve the seal for the lower end of the body, a copper gasket (not shown) may be interposed between the shoulder 16 and the lower end of the tube if desired.

Both the tubular body 11 and the point 15 are made of any non-magnetic corrosion resistant material having a strength sufficient to enable the marker to be driven into the ground, point foremost, to a distance well beneath ground level, as seen in Figure 1, so that the entire marker is concealed from view. The use of brass for the body as well as the point 15 has been found highly satisfactory.

In order to enable the marker to be readily located despite the concealed condition thereof, a small but powerful permanent magnet 20 of a type now available is mounted within the hollow interior of the tubular body 11 at the extreme upper end thereof, as seen in Figure 2. This magnet may have a more or less cylindrical shape and a diameter to enable the same to be slid easily into the tube from the lower end

thereof before securing the point to the body. The magnet **20** is held in the upper end of the marker and against axial or rotational movement relative to the marker body as by means of a plug **21** pressed into the interior of the tube against the underside of the magnet to confine the same between the plug **21** and the upper closed end of the body. The plug **21** is preferably also formed of a non-magnetic material such as brass.

The exterior of the tube near the top thereof is preferably provided with a suitable pole designation, such as the letter S seen in Figures 1 and 3, and the circumferential placement of the pole designation on the cylindrical exterior of the body **11**, of course, is determined by the position of the corresponding pole of the permanent magnet inside the body. The proper location for the pole designation S may be readily determined by holding an ordinary pocket compass over the top or magnet end of the marker.

In use the marker is driven into the ground in an upright condition, point lowermost, and with the pole designation on the exterior of the body facing in the direction corresponding to the designation. In the present case, since the marker is shown provided with the designation S, the marker is positioned with the designation facing south. This, of course, disposes the magnet with its north pole facing north, so that the needle of a pocket compass or other magnetically responsive instrument will reverse its position when carried by one seeking the location of the marker directly over the marker thereby indicating the exact location of the marker therebeneath despite its concealed condition.

In the embodiment of the invention illustrated in Figures 3 and 4, the magnet **20'** has a slightly elongated shape, with opposite flat sides **23** parallel to one another and spaced from the cylindrical inner wall of the tubular body **11**. In this embodiment of the invention the magnet **20'** is retained within the upper end of the body **11** by means of a brass pin or the like **24** driven into a suitable aperture in the side wall of the body to have its inner extremity abut flatwise against one of the flat sides **23** of the magnet.

Inasmuch as the opposite pole ends of the magnet **20'** have cylindrically shaped surfaces to fit the interior of the body **11**, it will be apparent that the pin **24** holds the magnet against rotational movement relative to the tubular body, on the axis thereof.

Axial movement of the marker is precluded by engagement of the inner extremity of the pin **24** under a shoulder **26** extending along the side of the magnet adjacent to the upper closed end of the body. It will be noted that the opposite sides of the magnet **20'** have such shoulders **26** thereon so that the magnet may be installed within the interior of the body **11** with either side facing the aperture through which the pin **24** is driven. Hence, in production, if the polarity of the magnets **20'** is known, the pins **24** enable proper disposition of the magnets in the interiors of bodies that have been previously stamped with the desired pole designation.

Still another manner of mounting the magnet within the interior of the marker at the upper end thereof is illustrated in Figure 5. As here shown the point **15'** has its reduced shank **14'** unthreaded and press fit into the lower end of the tubular body to effect a permanent closure sealing the lower end of the marker. The upper end of the body of the marker is open and provided with a counterbore **28** to receive the permanent

magnet **20''** therein. The magnet **20''** seats on the bottom of the counterbore which defines a shoulder at its junction with the smaller diameter interior of the body **11**, and a cap or plug **29** threaded into the upper open end of the body is provided to effectively close and seal the interior of the marker.

If desired, a suitable lock washer **30** or other compression device may be interposed between the inner end of the cap **29** and the top side of the permanent magnet to restrain the magnet against rotational movement on the axis of the tubular body **11**.

In all of the embodiments of the invention illustrated the tubular body **11** has a length such as to provide a receptacle **32** of substantial proportions within the marker, between the magnet and the point. This receptacle is adapted to accommodate any desired article, document, or photograph which those placing the marker may wish to enclose within it.

The provision of the receptacle **32** renders the marker particularly well suited for the marking of burial sites and the like, where various personal articles of the interred may be enclosed within the marker, if desired.

From the foregoing description it will be readily apparent that this invention provides a marking device which is admirably suited for the marking of burial sites and the like, and the location of which may be readily and accurately ascertained despite the concealed condition of the marker.

We claim:

1. A marker of the type adapted to be concealed from view, comprising: an elongated sleeve of non-magnetic material having a counterbore at one end; means closing the other end of the sleeve and projecting axially therefrom to define a point enabling the marker to be driven into the ground; a permanent magnet disposed in said counterbore; and means readily detachably secured to the counterbored end of the sleeve for closing the sleeve and for retaining the magnet in place in said counterbore.

2. The marker set forth in claim 1 further characterized by the provision of expansible means confined between said cap means and the magnet for firmly clamping the magnet against said shoulder thereby locking the magnet against motion within the body of the marker.

3. A marker of the type adapted to be concealed from view, comprising: an elongated tubular body of non-magnetic material permanently closed at one end; a readily detachable point closing the opposite end of the body and enabling access to be had to the hollow interior thereof, said point facilitating driving the body axially into the ground to a depth beneath ground level for concealment of the marker; a permanent magnet inside the hollow interior of the body adjacent to its permanently closed end which is disposed uppermost in the concealed position of the marker; and a plug pressed into the hollow interior of the body beneath the magnet for holding the magnet in place at said permanently closed end of the body.

4. A marker of the type adapted to be concealed from view comprising: an elongated hollow body adapted to be driven axially into the ground; a permanent magnet inside said hollow body at one end thereof; and means for retaining said magnet in place in said end of the body and against rotational and axial motion relative to the body, said means including a shoulder inside the hollow body adjacent to, but spaced in-

wardly from and facing said end thereof, and means closing said end of the body and retaining said permanent magnet in place against said shoulder.

5. A marker of the type adapted to be concealed underground comprising: an elongated, substantially tubular body of non-magnetic material; closure means for each end of the body, one of said closure means being readily detachable to enable access to be had to the interior of the body; a permanent magnet disposed inside the hollow interior of the body at one end thereof; cooperating means on the magnet and the body for retaining said magnet in position inside the hollow interior of the body against axial and rotational movement relative to the body; and a point on one of said closure means to enable the body to be driven endwise into the ground.

6. The marker set forth in claim 5 wherein said cooperating means on the magnet and the body of the marker for retaining the magnet in place within the hollow interior of the body comprises a pin of non-magnetic material projecting substantially radially inwardly from a side

wall portion of the body toward the adjacent side of the permanent magnet, and a shoulder on the adjacent side of the permanent magnet beneath which the pin engages so that said shoulder is confined between the permanently closed end of the body and the pin to retain the magnet in place within the body.

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