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Davis

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[54] **MARKING FLOAT**

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[52] **U.S. Cl.** ..... **9/8 R,** 9/9

[51] **Int. Cl.** **B63b 21/52**

[58] **Field of Search** ..... 9/9, 8 R; 242/156.1, 172, 242/85.1, 99, 96, 95, 125.2

[56] **References Cited**

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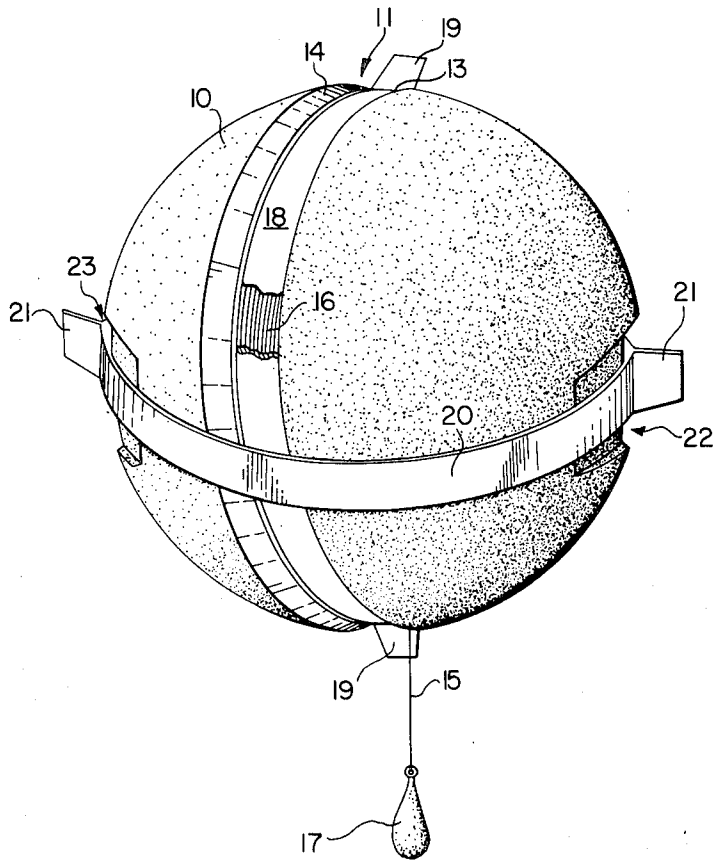
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[57] **ABSTRACT**

A rigid foamed synthetic plastic in a generally spherical shape is provided with a groove around its entire periphery fixedly receiving one end of a line having its intermediate portion generally uniformly wound within the groove. The wound line is covered and securely held within the groove by means of one or more encircling resilient bands, with the opposite end of the line extending between the bands or from underneath one band to its connection with a weight. When marking a spot in the water, the weight will pull the line from beneath the rubber band or bands, which act as an unwinding brake, until the weight strikes the bottom of the body of water with the foamed plastic sphere floating on top of the water; thereafter, the band will resist or prevent further unwinding of the line. To prevent unwinding of the line, a second resilient band may be provided in a plane perpendicular to and encircling the first band. Tabs on the bands will facilitate their removal, when desired.

10 Claims, 4 Drawing Figures



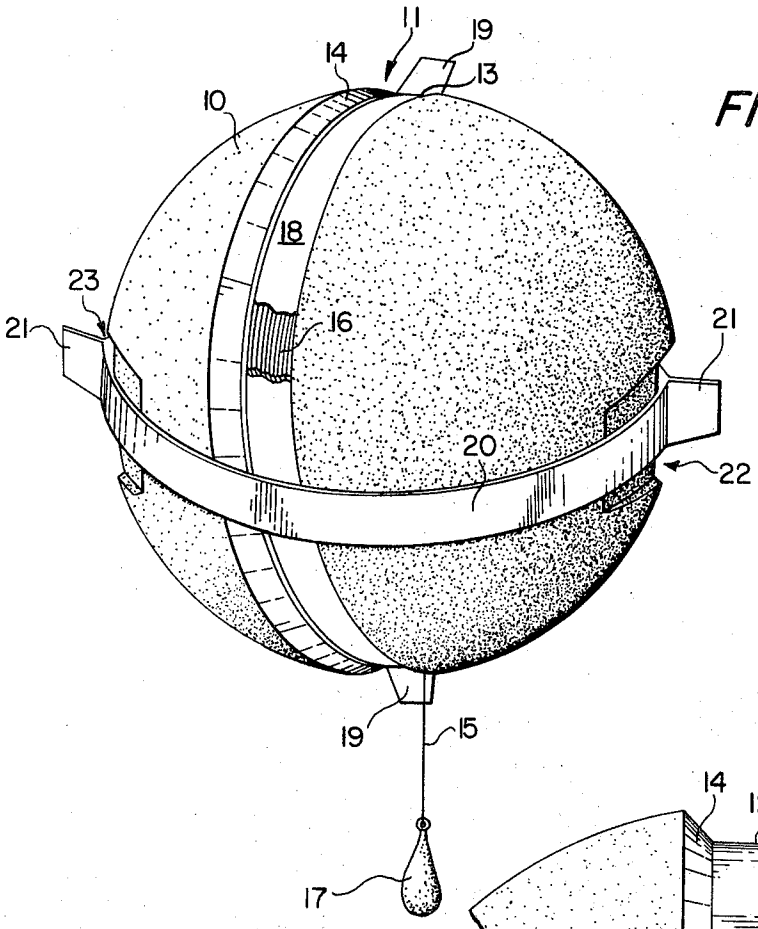


FIG. 1

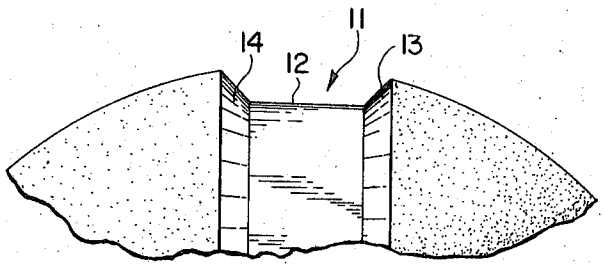


FIG. 2

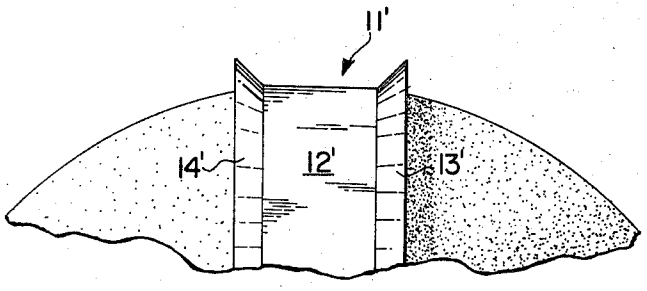


FIG. 3

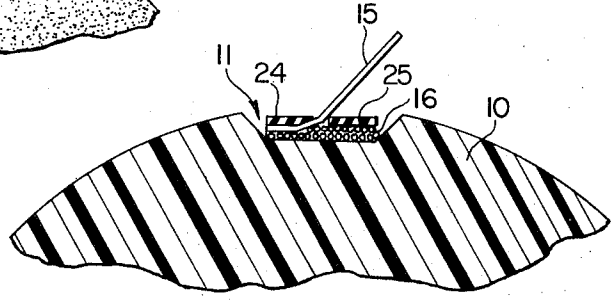


FIG. 4

MARKING FLOAT

BACKGROUND OF THE INVENTION

Braking devices are known to control the unwinding of a weighted line wound about a float, for marking purposes. However, such tensioning devices or breaking devices are usually quite complicated, expensive, or constructed of cheaper materials that may be easily fouled with corrosion and the like.

It is desirable to mark a particular spot in open water for many reasons. It may be desirable to mark the location of fish, when a strike occurs while drift fishing, trolling, or still fishing. Further, a temporary ski course may be set up with such markers. Warning markers may be set up by scuba divers to show their presence, or warning markers may be set up for dangerous areas in lakes, streams and other bodies of water. Further, there are many accidents where equipment is lost overboard, and it is desirable to immediately mark the location of the lost equipment so that the area may be found later for recovery purposes.

SUMMARY OF THE DISCLOSURE

The main body of the marker is generally of a spherical shape and preferably constructed of rigid foamed synthetic plastic, for example polystyrene. Also, the body may be constructed of a hollow rigid or semi-rigid plastic shell, for example which may be polyethylene formed in a centrifugal mold.

An annular groove is formed around the periphery of the body, preferably in a plane that passes through the center of the sphere. One end of a suitable line of appropriate length is secured, preferably by tieing, within the groove so that the line may be wound about the groove in successive layers by hand or machine. The opposite end of the line is provided with a weight, which may be of the lead weight fishing type. To prevent the undesired unwinding of the line and to control the unwinding of the line when in use, a braking device is formed by one or more resilient, preferably rubber, bands encircling the wound line and generally closing the outer portion of the groove. When two rubber bands are employed, the line is preferably fed between the rubber bands for attachment to the weight.

To prevent unwinding of the line, for example when the device is being stored, it is desirable to provide a second resilient, preferably rubber, band encircling the body, first band and wound line, and within a plane through the center of the spherical body and perpendicular to the first mentioned plane.

When the device is to be used, the locking or second band is removed, with the aid of integral gripping tabs on the exterior of the rubber bands. When the device is thrown into the water, the weight will sink to the bottom of the body of water, provided the line is long enough, with unwinding of the line being tensioned and controlled by the rubber band or bands, which will allow unwinding of only enough line to allow the body to float on the top of the water and the weight to engage the bottom of the body of water, with allowance for deflection caused by currents and the like. When the device is retrieved, the rubber band within the groove may be removed, with the aid of the integral tabs, to facilitate the rewinding of the line within the groove; after this, the bands may be replaced.

BRIEF DESCRIPTION OF THE DRAWING

Further objects, features and advantages of the present invention will become more clear from the following detailed description of the drawing, wherein:

FIG. **1** is a perspective view of a preferred embodiment of the present invention;

FIG. **2** is a partial view of the marker body of FIG. **1**;

FIG. **3** is a view similar to FIG. **2**, but of a modified construction for the marker body; and

FIG. **4** is a cross sectional view of a modified form of band tensioning device usable with the body of FIGS. **2** or **3**.

DETAILED DESCRIPTION OF THE DRAWING

As shown in FIG. **1**, a preferred embodiment of the floating marker of the present invention is shown in perspective in its storage condition, immediately prior to use.

The body **10** or float portion of the marker is generally spherical in shape and constructed preferably of a rigid foamed synthetic plastic, for example foam polystyrene. However, the body may also be constructed of a dense plastic material of generally uniform wall construction forming a hollow shell, which would be water tight. The shell may be formed by centrifugal molding of a synthetic plastic, for example polyethylene. Further, the exterior surface of the body may be brightly colored by coating or coloring the material from which it is molded so that it may be readily seen while floating upon the water. As a specific example, the body may be approximately **6** inches in diameter.

With reference to FIGS. **1** and **2**, the body **10** is provided with a groove **11**, which extends around the entire periphery of the spherical body **10**, preferably in a plane that passes through the center of the spherical body. The groove is formed by a recess within the body defined by a cylindrical bottom surface **12**, and side walls **13**, **14**. The side walls are oppositely angled and preferably form an angle of 45° with the above-mentioned plane. As a specific example, the width of the groove may be three-fourth inches with one-fourth inch depth, or most preferably of a width one-half inch and with a three-eighth inch depth.

The weighted line is attached and wound within the groove. The inner end of the line is preferably wrapped once around the groove and knotted so that it is securely held in position. Thereafter, most of the remaining portion of the line **15** is wound around the body **10** within the groove **11** in overlying layers **16**. This tieing and winding may be manually accomplished or performed with machines. The outermost end of the line **15** will extend from the groove **11** and is secured, preferably by tieing, to a weight **17**. Most preferably, the weight **17** is constructed of lead and generally of the type employed in fishing.

To control the unwinding of the line **15**, when unwinding is desired, and to generally prevent unintentional unwinding of the line **15** from the groove **11**, a single flat rubber band **18** is employed in the embodiment of FIG. **1** to substantially completely overlie the bottom surface **12** of the groove **11** to clamp therebetween the line winding **16**. The band **18** is resilient, and preferably it is constructed of natural or synthetic rubber. Suitable tabs **19**, two being shown, are provided on the band **18** to assist in gripping the band **18**, preferably

for its removal. The tabs **19** may be homogeneously formed with the band **18.**

Further as shown in FIG. **1,** a second band **20** may be provided generally in a plane passing through the center of the spherical body **10** and perpendicular to the first mentioned plane of the band **18** to encircle the body **10,** the band **18,** and the winding **16** of line **15.** Thus, the band **20** functions as a locking device to prevent unwinding of the line **15.** It is desirable to employ the band **20** during storage of the marking device, and the band **20** is removed prior to using the marker. Preferably, the band **20** is identical in structure to the band **18** to reduce manufacturing costs, although it may take on many different forms. Tabs **21** are provided on the band **20** to assist in its removal. To retain the band **20** in its desired position, the body **10** is provided with two diametrically opposed notches **22, 23** to receive diametrically opposed portions of the band **20.**

The groove structure **11** of the preferred embodiment according to FIG. **1** may be modified as shown at **11'** in FIG. **3,** by providing the bottom surface **12'** of the groove generally coextensive with the major outer portion of the body surface, with the groove side walls **13', 14',** being formed by upstanding annular ridges. This groove construction may be used for the foam plastic body, although it is particularly well suited to the shell construction. Otherwise, the embodiment of FIG. **3** is identical to the body construction of FIG. **1.**

With either the body construction of FIG. **2** or FIG. **3,** FIG. **2** being employed as an example, the band **18** may be replaced by two bands **24, 25,** as shown in FIG. **4.** Otherwise, the construction of the embodiment partially shown in FIG. **4** would be identical to that of FIG. **1,** except with the possibility of modification as shown in FIG. **3.** With the employment of two rubber bands **24, 25** that overlie the line winding **16,** the line would be fed between the rubber bands as shown in FIG. **4** for connection to the weight, not shown. Further, it is contemplated that the bands **24, 25** may be wider than shown so that they will overlap each other to further grip the line as it is being unwound. Each of the rubber bands **24, 25,** which are separate, may be provided with one or more tabs, such as shown at **19** in FIG. **1.**

OPERATION

Although the operation will be described with respect to the embodiment of FIG. **1,** it is to be understood that the operation is substantially the same for all of the modifications, with the exceptions previously noted.

When it is desired to mark a particular location in a body of water for the reasons previously mentioned, the marking device of FIG. **1** is removed from storage and the band **20** is removed from the body **10,** with the assistance of the integral tabs **21** that are grasped between the fingers. Thereafter, the remaining portion of the device may simply be thrown into the water. Thereafter, the weight **17** will pull the line **15** from beneath the tensioning or braking band **18** as the body **10** floats or spins on the top of the water. In this manner, the band **18** will control the unwinding of the line until the weight **17** strikes the bottom of the body of water, provided that sufficient line has been provided for the particular depth. Thereafter, further unwinding of the line will be prevented or greatly limited by the braking action of the band **18.** If the device is subsequently retrieved, the band **18** may be removed, with the assistance of the tabs **19,** and the line **15** reqwound within the groove **11.** Thereafter, the band **20,** with the assistance of the tabs **21,** may be replaced and the marking device is ready to be returned to storage.

While a preferred embodiment of the present invention, with variations, has been specifically described above with the specific details being of advantage, further modifications, embodiments, and variations according to the broader aspects of the present invention are contemplated as defined by the spirit and scope of the following claims.

What is claimed is:

1. A marking float, comprising: a float body having an average specific gravity substantially less than that of water; a peripheral groove about the exterior of said float body; means for attaching a weight having an average specific gravity substantially greater than that of water; a line having said means for attaching a weight at one end and being wound within said groove about the periphery of said float body; and line unwinding braking means comprising an annular substantially flat resilient band having a width substantially equal to that of said groove, said band overlying said groove and generally covering the wound line for braking and controlling unwinding of the line as the body rotatably floats on water and an attached weight sinks within the water.

2. The marking float of claim **1** wherein said annular resilient band comprises two annular resilient bands extending generally side by side within said groove, and together completely overlying the wound line, with said line extending between said bands to a weight.

3. The marking float of claim **1,** including at least one homogeneously integral outwardly projecting tab on said resilient band to constitute gripping means for assisting in the removal of the band from the float body.

4. The marking float of claim **1,** including a resilient locking band extending around the periphery of said float body generally perpendicular to said first-mentioned band, and overlying said first-mentioned band and wound line to constitute means for preventing the unwinding of the line.

5. The marking float of claim **4,** wherein said locking band includes at least one outwardly projecting homogeneously integral tab means for grasping between fingers to assist in the removal of the locking band immediately prior to using the marking float.

6. The marking float of claim **4,** wherein said body includes two diametrically opposed separate notches separate from said groove, each receiving therein diametrically opposed portions of said locking band.

7. The marking device of claim **1,** wherein said float body is generally spherical.

8. The marking float of claim **7,** wherein said groove is defined by a bottom surface and connecting side surfaces leading outwardly from the bottom surface to the outer surface of the float body.

9. The marking float of claim **7,** wherein said body includes two generally parallel annular outwardly formed ribs defining therebetween said groove.

10. The marking device of claim **1,** wherein said float body is constructed entirely of rigid foamed synthetic plastic.

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