(No Model.)

A. F. WARD.

WRECK INDICATING DEVICE.

No. 457,174. Patented Aug. 4, 1891.

Fig. 1.

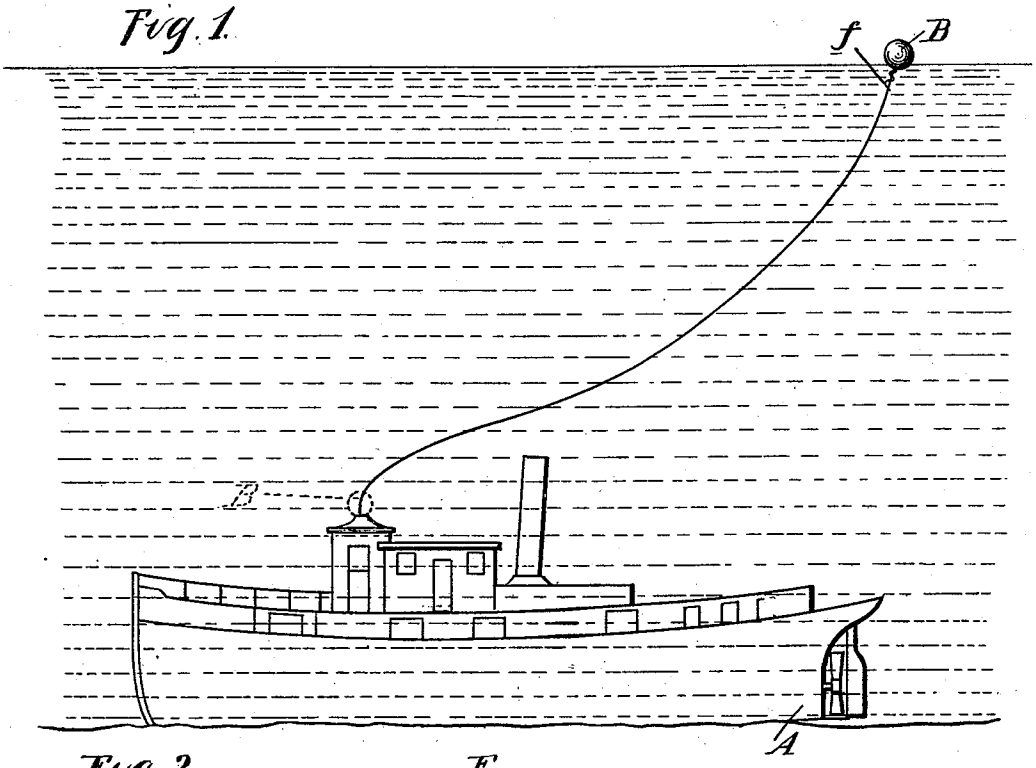


Fig. 2.

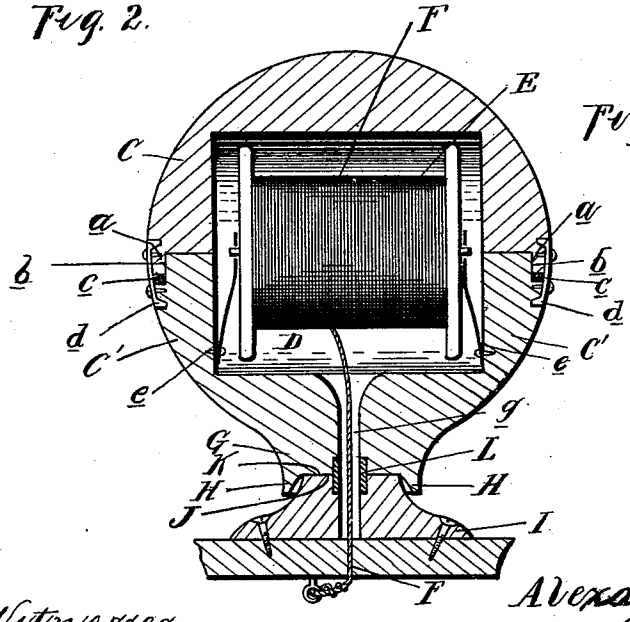
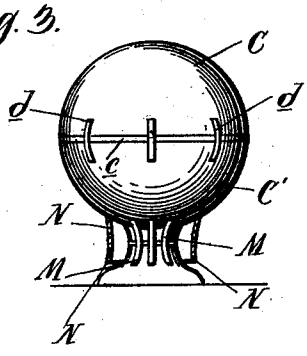


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALEXANDER F. WARD, OF DETROIT, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO THOS. S. CHRISTIE AND JOHN GEORGE DIETZ, BOTH OF SAME PLACE.

WRECK-INDICATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 457,174, dated August 4, 1891.

Application filed November 20, 1890. Serial No. 372,097. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER F. WARD, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Wreck-Indicating Devices for Vessels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in a device for locating sunken vessels; and the invention consists, first, in a buoy and means for securing it to a vessel, whereby in case of the foundering of the boat said buoy will be liberated from its attachment by the action of the water and rise to the surface, where it will locate the vessel to which it is still attached by an extensible connection.

My invention further consists in the peculiar means employed for attaching the buoy to the vessel, whereby its rising is delayed, (preferably for a number of hours,) thus avoiding the danger of its entanglement with loose pieces of wreck which might occur were it immediately liberated on the sinking of the vessel; further, in the peculiar construction of the buoy itself, which is adapted to carry its own line preferably on a reel in a chamber within said buoy, and still further in the peculiar construction, arrangement, and combination of parts, all as more fully hereinafter described.

In the drawings, Figure 1 is an elevation showing a sunken vessel to which my improvement is attached. Fig. 2 is an enlarged vertical central section of the buoy. Fig. 3 is a modification of my device shown in elevation.

A is a vessel to which my device is attached; B, a buoy, which is placed in any convenient place on the vessel where it will be out of the way—such, for instance, as the top of the pilot-house. It may be made of any suitable material and of any form which will give the necessary strength and buoyancy; but I preferably construct it as shown in Fig. 2, in which C C′ are two hemispheres, made of pine or other light wood, the part C being provided with a flange *a*, engaging in an annular groove *b* in the part C′.

c is a gasket in the groove *b*, by means of which the joint between the two hemispheres is rendered water-tight.

d are gibs for securing the parts together and at the same time firmly clasping the gasket in position.

D is a chamber formed within the sphere.

E is a reel journaled within the chamber D, preferably by means of the spring-arms *e*, which also serve as a tension device to prevent the too rapid unwinding of the reel.

F is a line wound upon the reel, which must be of a length equal to the greatest depth of water on which the vessel is intended to sail. The inner end of this line is preferably strengthened by being wound with small twine or wire, as shown at *f*, while the other end passes through the aperture *g* in the lower hemisphere, and is secured in any suitable manner to the vessel.

The attachment of the buoy B to the vessel so as to delay its rising (which forms an essential part of the invention) may be accomplished in a number of different ways, in all of which I employ a dissoluble connection to be broken by the action of the water.

In Fig. 2 I show the lower hemisphere C′ provided with the standard G, having the downwardly-projecting flange H. I is a base, on which the standard G rests and to which it is attached by gluing or cementing the adjacent faces J and K with an adhesive mixture soluble in water. L is a short piece of tubing placed in the aperture *g* to prevent the glue from clogging said aperture and to strenthen the connection without interfering with the subsequent separation of the buoy from its standard.

In Fig. 3 I show another method of attachment, in which M are connecting ties, (or tie,) the lower ends of which are attached to the base and the upper ends to the buoy, said ties being made of any suitable material, the dissolution of which will be accomplished after being immersed in the water for a certain length of time. N is a cover, made of rubber cloth or other water-proof material, protecting said tie from the rain.

In practice the operation of the device is as follows: Supposing the vessel to have foundered in such a depth of water as to be en-

tirely submerged, the buoy will at first be carried down with the vessel and remain down for a number of hours, thus giving ample time for all loose pieces of wreck to drift away. As soon, however, as the buoy is immersed the water will force its way to the dissoluble connection and in the course of a few hours so weaken it that the buoy will be liberated and will immediately rise to the surface, paying out its line as it rises, the tension device preventing the entanglement of the line by too rapid unwinding. When the surface is reached, if the reel is not entirely unwound, the buoy will naturally drift away from the wreck until the whole length of line is unwound. The re-enforced portion *f* will then pass through the aperture *g* and will be less liable to be cut by the chafing of the buoy. The liberation of the buoy will be accomplished in substantially the same way, whether the construction shown in Fig. 2 or Fig. 3 is used, (in case of one by softening the adhesive mixture and in the other by the dissolution of the connecting-tie;) and it is obvious that many other ways may be devised which would be equally efficient.

As the buoy must of necessity be placed in an exposed position on the vessel, the dissoluble connection needs to be protected from the rain and weather, which I accomplish by the protecting-flange H in the construction shown in Fig. 2, and by the cover N in the construction shown in Fig. 3.

It will be seen that my device may be readily placed in such part of the ship as to be out of the way, and that it will not be unsightly, as it may be made of such a design as to make an ornamental appearance. The gasket *c* will prevent the rain from beating into the chamber D and rotting the line F.

By adapting my buoy to carry its own line I gain a great advantage over other constructions where the line is reeled upon the vessel, as it is evident that in rising the buoy does not draw the line after it, but simply pays it out when necessary, thus more effectually avoiding danger of said line becoming entangled and the rising of the buoy prevented.

What I claim as my invention is—

1. The combination, with a buoy having a bearing thereon and formed with a chambered center, a reel in said chamber, a line on the reel, a base having a bearing in which said buoy rests, and a dissoluble body uniting the buoy to the base and to which the line is secured, substantially as described.

2. The combination, with a buoy having a bearing, of a base on which said buoy rests, a dissoluble connection between said buoy and the base, a reel on the buoy, and a line on the reel, having one end connected to the base, substantially as described.

3. The combination, with a buoy having a bearing, of a base on which said buoy is adapted to rest, a dissoluble body uniting the buoy and the base, and an extensible connection between the buoy and base, substantially as described.

4. The combination, with a buoy having a bearing, a base on which said buoy rests, a reel located within the buoy, spring-arms on the buoy, engaging with opposite ends of the reel, and a line wound on the reel, having its outer end connected to the base, substantially as described.

5. The combination, with the buoy having a bearing and a depending flange formed therearound, of a base having a corresponding bearing on which said buoy is adapted to rest, and a dissoluble body uniting said buoy to said base, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER F. WARD.

Witnesses:

M. B. O'DOGHERTY,

P. M. HULBERT.