No. 706,803. Patented Aug. 12, 1902.

W. S. CROUCH, JR.

BUOY.

(Application filed Apr. 30, 1901. Renewed Jan. 30, 1902.)

(No Model.)

Fig. 1

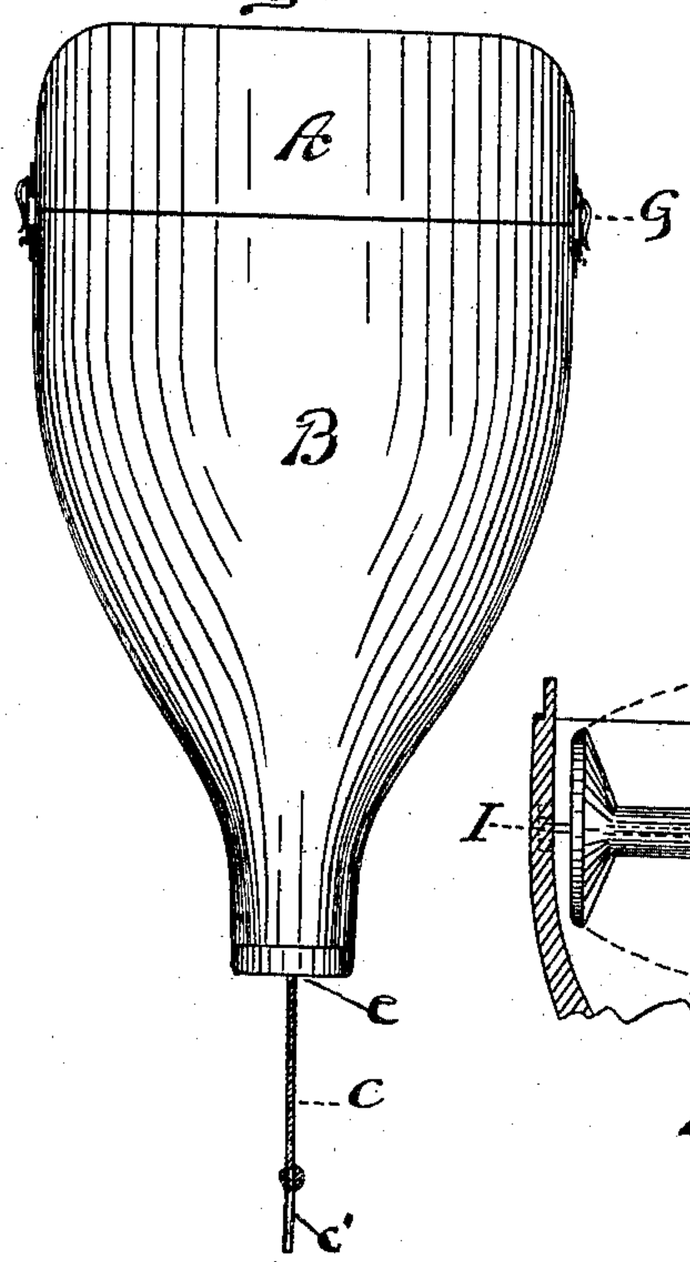


Fig. 2

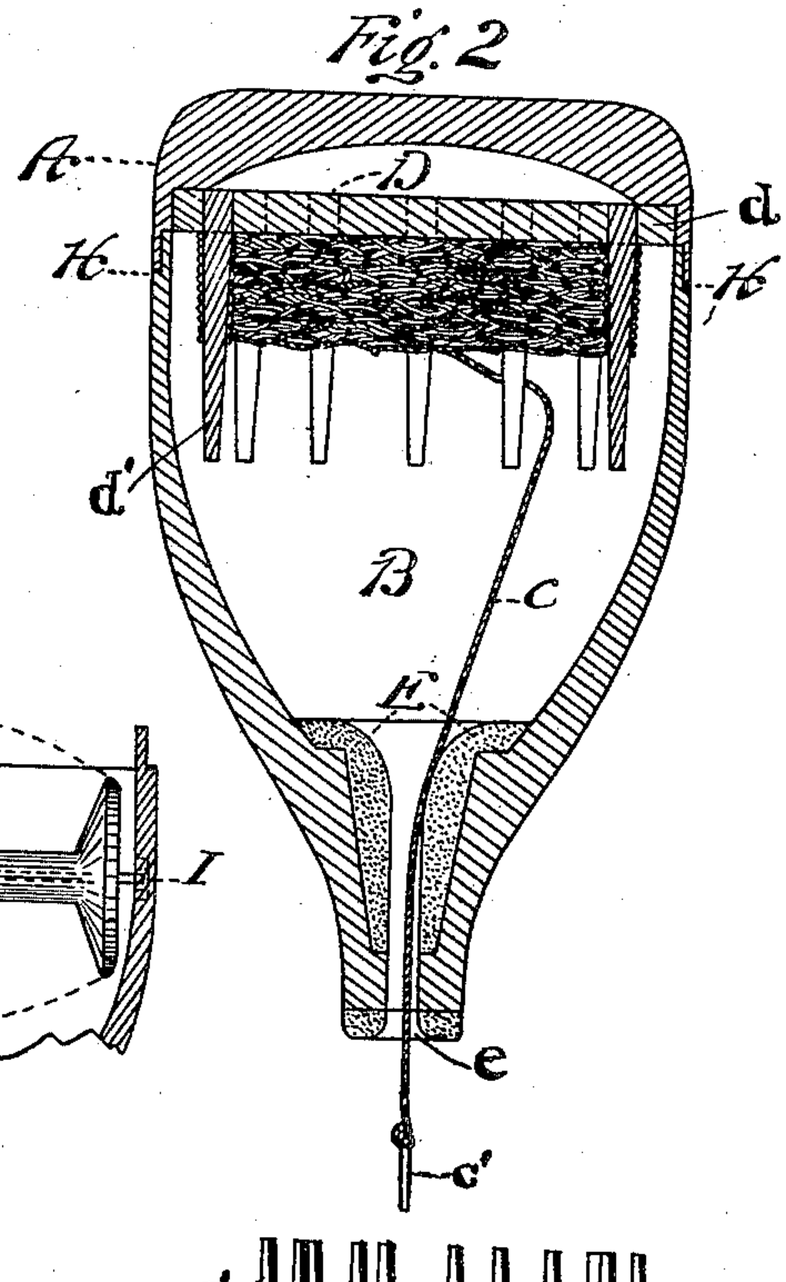


Fig. 4

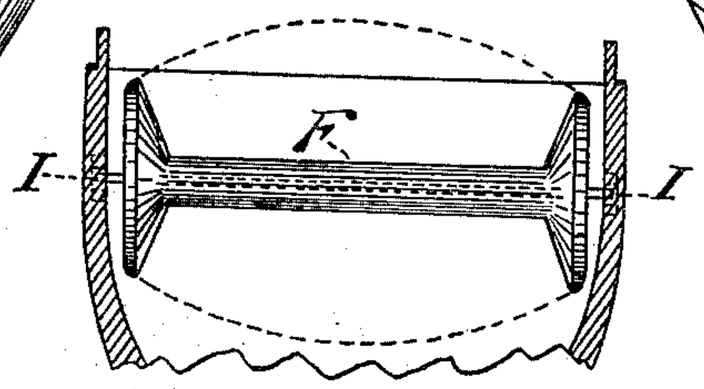
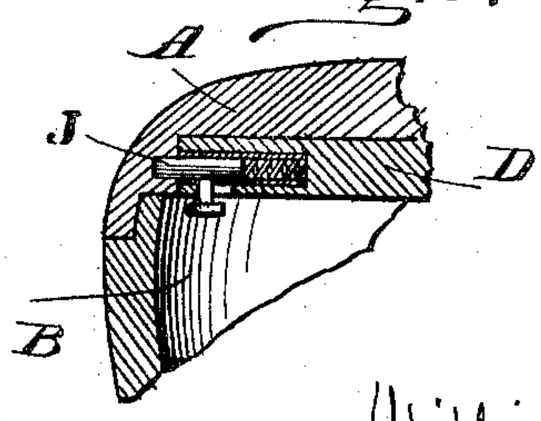


Fig. 5

Fig. 3

Fig. 6.



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UNITED STATES PATENT OFFICE.

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BUOY.

SPECIFICATION forming part of Letters Patent No. 706,803, dated August 12, 1902.

Application filed April 30, 1901. Renewed January 30, 1902. Serial No. 91,905. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. CROUCH, Jr., a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Buoys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to buoys, and is designed particularly for use in sending a line from a wrecked vessel above water to another vessel, or from one vessel to the wrecked vessel, or from the wrecked vessel to land, thus enabling communication to be had with persons on the wrecked vessel.

Another object of the invention is to provide means for indicating a lost anchor by being attached to the anchor when the latter is thrown overboard, so that the location of the anchor will always be indicated in the event of it becoming detached from the vessel.

There are other objects which may be accomplished by the use of my invention.

The invention consists of a hollow buoy constructed of suitable material and approximately of novel or bullet shape and having a weighted lower end and a movable cover and provided in its interior with means for "paying out" a line through an aperture in its lower weighted pointed end.

The invention also consists in other novel constructions and arrangements of parts, as will be hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 is a side elevation of buoy constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a detail view, in an inverted condition, of the pin construction for holding and paying out a line. Fig. 4 is a detail sectional view of a modified means for holding and paying out the line. Fig. 5 is an inverted view of the movable cover or top; and Fig. 6 is a detail sectional view through a portion of the buoy, showing the manner of securing the line-holding device within the buoy and at the same time admitting of its removal.

As heretofore stated, the buoy is made hollow and constructed of any suitable material, but preferably wood, and approximately of oval or bullet shape, the lower or pointed end of the buoy being leaded or otherwise suitably weighted, as at E, in order to maintain the buoy in an upright or vertical position with the small end downward. By this construction and arrangement the buoy will automatically right itself in the event of being momentarily turned to one side by heavy winds or heavy seas, so that comparatively little, if any, water will be permitted to enter the interior of the buoy, and thereby cause the line *c*, arranged within said buoy, to be soaked and swelled before passing out from the buoy.

The buoy is provided with a movable cover A, which is secured to the lower section B in any suitable manner, but so as to be water-tight, and held in place by any suitable fastening means, as G.

I secure the buoy water-tight at the joint between the upper and lower sections by providing the lower section with an annular seat or recess, in which the reduced lower edge of the upper section A rests, as clearly shown in Fig. 2, and providing a suitable packing between the joint.

Within the buoy is arranged a device D for holding and paying out a line, which device is preferably of the construction shown in Figs. 2 and 3. This device consists of a base portion *d*, which fits snugly the cap or cover A and within which operates a plurality of spring-actuated bolts J, as clearly shown in Fig. 6, each bolt being provided with an operating handle or knob for actuating the same. With this construction and arrangement by withdrawing the bolts—that is, moving them inwardly—the line-holding device can be removed for the purpose of inserting another similar device and to facilitate the winding of the line onto the same.

From the base portion *d* projects a series of pins or pegs *d'*, preferably arranged in circular manner and upon which the line *c* is wound, as clearly shown in Figs. 2 and 3. With this construction and arrangement the line can be readily wound upon the pins or pegs; but the particular advantage of the construction is that it facilitates the unwinding of the line therefrom, as very little friction occurs in the unwinding. This is particularly

desirable when it is necessary for the line to be paid out very rapidly, as occurs when the buoy is attached to an anchor which is thrown overboard. In this instance the anchor sinks very rapidly, and with this construction and arrangement of pegs or pins and manner of winding the line the latter can be paid out about as fast as the anchor sinks, which would not be the case with a line wound upon a reel, such as is illustrated at F in Fig. 4, although the latter construction might be employed under other conditions. In said Fig. 4 the reel or spool 5 rests in or on journal-bearings I. To the free end of the line *c* is secured a needle *c'*, which assists in passing or threading the line through the eye or bore *e* at the small or weighted end of the buoy.

The buoy may be made of any desired size; but, as an example, would say that a buoy from twelve to twenty-four inches in diameter on the inside could be used with good effect for practical purposes. The line may be of great length, so as to enable the buoy to be either sent from a ship in distress to the shore, or from the shore to the distressed ship, or from a distressed ship to another ship at a great distance away, or to indicate an anchor lost in very deep water.

I regard the shape of the buoy, that is substantially oval or bullet shape, with its reduced end weighted, and the manner of constructing the line-holding device and arranging the line thereon as very important features of my invention and superior to spheroidal buoys or those not weighted at their lower ends or those which require to be connected with an object beneath the water in order to be held in an upright position, so that water will not enter the interior of the buoy.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A buoy for sending a line to or from a distressed vessel, comprising in its construction a body portion of substantially oval shape, said buoy being hollow and having its lower end weighted, a device for holding a line loosely in position, suspended within the hollow buoy and having fixed depending projections for loosely engaging a line, the said line being adapted to pass therefrom through an aperture in the lower end of the buoy, substantially as described.

2. A floating buoy for sending a line to or from a vessel, comprising a divided body portion, the main part of which is hollow and weighted at its lower end, a line-holding device suspended in the upper part of the buoy and having fixed projections depending into the lower part thereof, a line loosely disposed on said fixed projections so that it may be easily drawn therefrom and passed out through the hole in the bottom of the buoy, the buoy being so constructed that the line-holding device may be removed and the line replaced, substantially as described.

3. A floating buoy for sending a line to or from a distressed vessel, comprising in its construction a suitable body portion of substantially oval shape, said buoy being hollow and having a reduced, weighted lower end, a device for holding and paying out a line arranged within the buoy, said device comprising a plurality of pins or pegs upon which the line is wound, the line being adapted to be passed through an aperture in the lower weighted end of the buoy, and means for affording access to the interior of the buoy for the insertion or removal of the line, substantially as described.

4. A floating buoy for sending a line to or from a distressed vessel, comprising in its construction a suitable body portion of substantially oval shape, said buoy being hollow and having a reduced, weighted lower end, and a movable cover, a device for holding and paying out a line arranged within the cover, and adapted to be removed therefrom for the insertion of another line-holding device, the line being adapted to be passed through an aperture in the lower end of the buoy, means for temporarily locking the line-holding device within the cover, and means for locking the cover in position on the lower section of the buoy, substantially as described.

5. A buoy comprising a hollow casing having a suitable cover fitting upon its upper end and being provided with an outlet or aperture at its lower end, a weight disposed at the lower end of the buoy to hold the aperture normally at the bottom of the buoy, a plate or board secured within the removable top of the buoy and provided with a series of depending, tapering pins upon which a suitable line may be wound, the arrangement being such that when the buoy is released the line will easily pay out through the aperture in the bottom of the buoy, substantially as described.

6. A buoy comprising a hollow casing larger at the top than at the bottom, a weight for maintaining the small lower end in the lowest position when the buoy is floating, a removable cover closing the upper end of the buoy, a removable plate or board secured to the inner surface of the cover, a series of latches carried by the plate or board and engaging detents on the cover so that the said board can be easily removed or replaced, a series of depending pins projecting from the under surface of the said plate or board upon which a line is loosely wound, the structure being such that the line can be easily drawn out of the buoy through the bottom aperture thereof, and the plate can be removed from the cover for rewinding the line upon the pins at any time, substantially as described.

7. A buoy for sending a line to or from a distressed vessel, or for indicating the location of an anchor, comprising in its construction a suitable hollow body portion, and provided with an aperture or outlet at its lower end, and also with a suitable cover which fits upon

the upper end of the buoy, a weight disposed at the lower end of the buoy for holding the latter in an upright position, a device for holding and paying out a line arranged within the buoy, said device comprising a plate or board provided with a series of depending tapering pins upon which the line is adapted to be wound, means for temporarily locking the device within the buoy, the arrangement being such that when the buoy is released the line will readily pay out through the aperture in the bottom of the buoy, substantially as described.

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

WILLIAM S. CROUCH, JR.

Witnesses:
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