No. 706,804. Patented Aug. 12, 1902.

W. S. CROUCH, Jr.

BUOY.

(Application filed Jan. 30, 1902.)

(No Model.) 2 Sheets—Sheet 1.

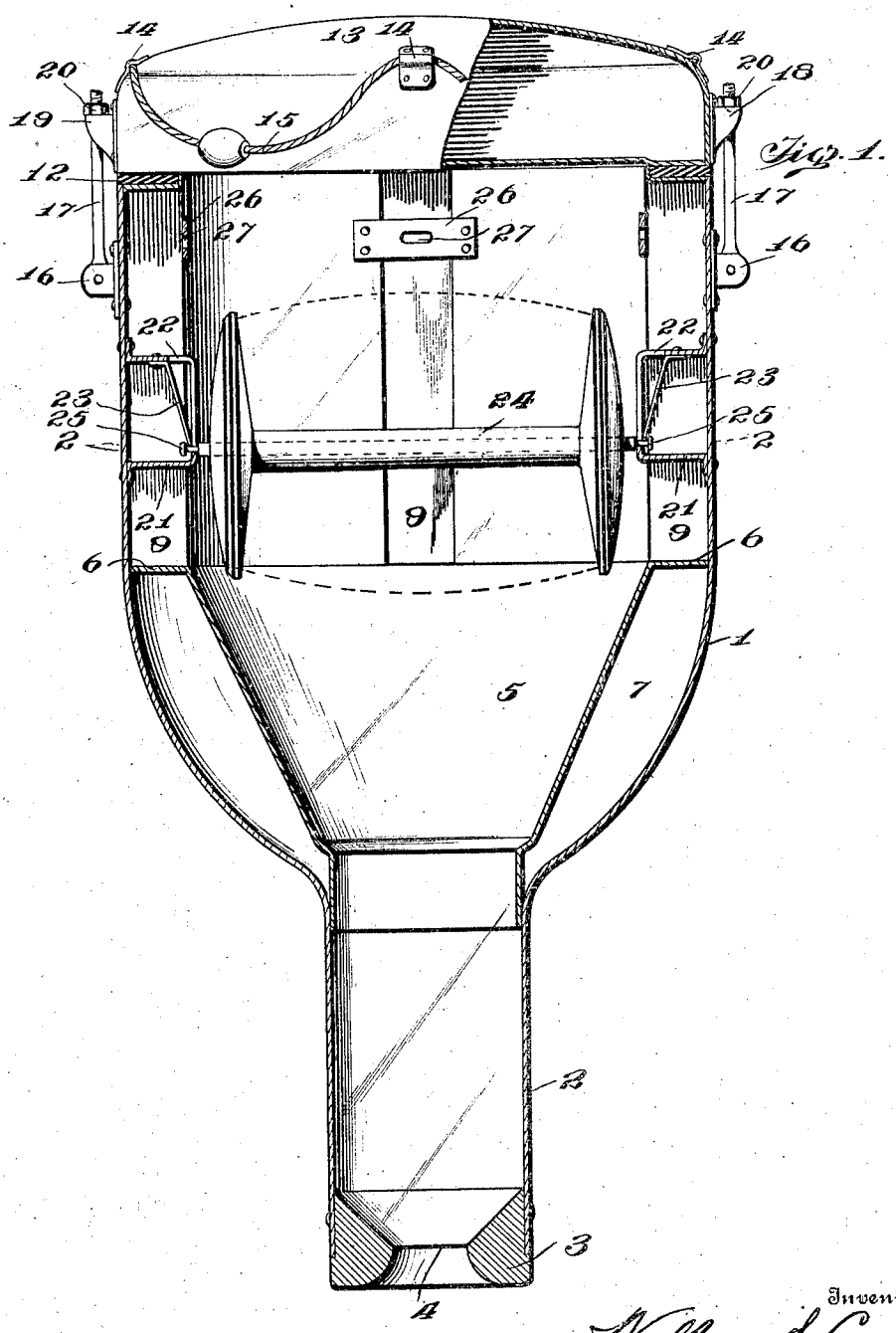


Fig. 1.

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Fig. 2.

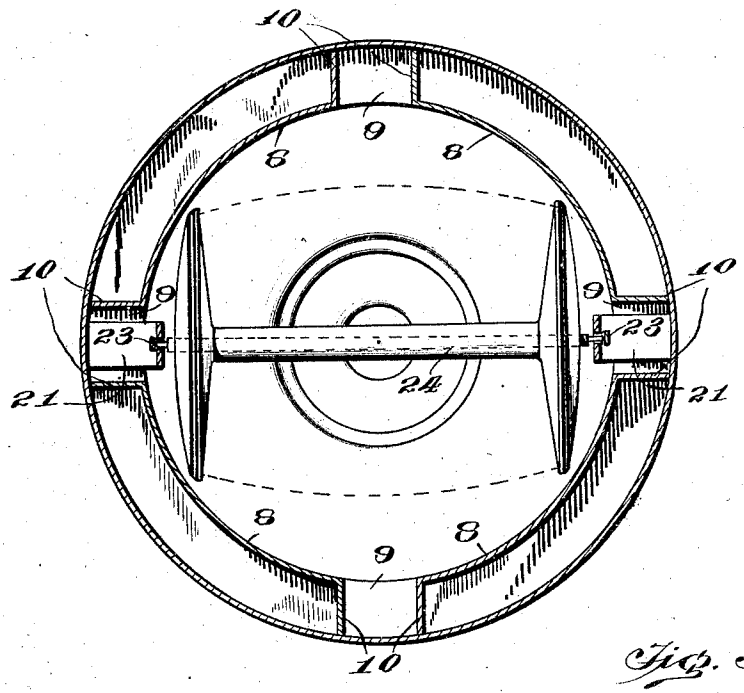
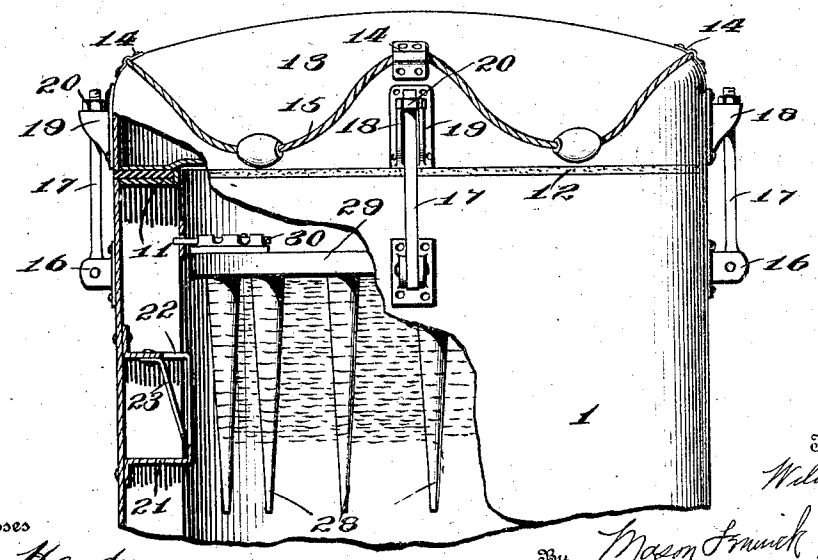


Fig. 3.



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UNITED STATES PATENT OFFICE.

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BUOY.

SPECIFICATION forming part of Letters Patent No. 706,804, dated August 12, 1902

Application filed January 30, 1902. Serial No. 91,897. (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.

This invention relates to improvements in buoys, and more particularly to that form of such devices designed to carry a cord or cable and provided with means for permitting said cable to be paid out according to the movement of the buoy.

The object in view is the production of a buoy designed for sending a line from one vessel to another, from a vessel to a man overboard, from a vessel to shore, or from shore to a vessel, or for indicating the position of an anchor, the results being attained by providing a suitable floating body carrying a supply of cable designed to have its free end secured at the point from which the body starts and to be paid out as the body moves with the wind upon the water.

With this and other objects in view the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 represents a longitudinal vertical central section through a buoy embodying the features of the present invention, the cable-carrying spool and a portion of the cover being shown in elevation. Fig. 2 represents a transverse horizontal section taken on a plane of line 2 2 of Fig. 1. Fig. 3 represents a view in side elevation of a portion of a buoy, parts being broken away for illustrating a modification in the cable-carrying means.

It is well known that objects floating on the surface of a body of water will move in the direction of the movement of the wind at a more or less rapid rate, and my device is contemplated to be employed in such a manner as to take advantage of this fact, and a vessel in distress by the use of my improved buoy may readily establish communication with any point at a distance therefrom in the direction of the movement of the wind. In order to accomplish this result to the best advantage, I employ, as seen in the accompanying drawings, an outer casing or shell, as 1, made of suitable material and preferably cylindrical in contour, reduced at its lower end and extending in the form of a smaller cylinder for a suitable distance from the point of reduction, as at 2. Secured to the lower end of the reduced cylinder 2 is a weight of lead or other suitable material, as 3, which is preferably circular in form and designed to close the lower end of said cylinder 2, said weight being apertured centrally, as at 4, for purposes hereinafter mentioned. A preferably frusto-conical shell, as 5, is secured within casing 1 and has its lower end attached to the reduced portion of said casing and its upper end provided with an annular outwardly-extending flange, as 6, attached to the casing 1, the said flange 6 and the lower portion of the shell 5 being hermetically sealed to the shell 1, whereby an air-tight annular compartment, as 7, is formed. Mounted upon and secured to the flange 6 are inner casings, as 8 8, preferably four in number, spaced from each other, as at 9 9, and each provided at its ends with flanges, as 10 10, contacting with and hermetically secured to the outer casing 1. Each of the casings 8 extends upwardly for a short distance above the upper edge of the casing 1, and an annular ring, as 11, having its upper face flush with and extending in the horizontal plane of the upper edge of casing 1, secures said casing and each of the casings 8 together, whereby an air-space is formed for each casing 8.

A rubber or other suitable packing-gasket 12, equal in thickness to the distance casings 8 extend above ring 11, is placed upon said ring, the said projecting portions of the casings preventing lateral movement of the said gasket. A cover or cap, as 13, is usually placed upon the gasket 12 for closing the upper end of the casing 1. This cover 13 is circular in form and is provided with inner and outer walls forming an air-space therebetween and having a vertical wall connecting the inner and outer walls. Any desired number of eyes, as 14, may be attached to the

cover 13 for carrying a suitable cable 15, designed to be provided with any number and preferred form of suitable floats.

Projecting laterally from casing 1, on the outside thereof, are lugs, as 16 16, each carrying a pivotally-attached bolt, as 17. Projecting radially from the vertical portion of cover 13 are suitable lugs, as 18 and 19, spaced apart a distance approximately the same or a little greater than the diameter of bolt 17. The number of lugs 18 and 19 correspond to the number of bolts 17, preferably, and in operation when the cover 13 rests upon gasket 12 the said bolts 17 are swung to a vertical plane between their respective lugs 18 and 19, and a nut, as 20, is threaded upon each of said bolts downwardly until it engages the upper edges of lugs 18 and 19, whereby the cover 13 will be securely locked in its place, the gasket 12 serving to seal the joint, so as to prevent the entrance of water at the upper end of the buoy.

Within diametrically opposite spaces 9 and preferably secured to casing 1 are brackets, as 21 21, each provided in its inner wall with a slot 22, and carries any suitable form of spring, as 23, arranged in a diagonal plane in the rear of said slot. A suitable spool, as 24, may be mounted in the present improved buoy by having the ends of its axis, which are preferably provided with heads, as 25, passed through slots 22 and moved downwardly until the springs 23 have been sprung past the said heads 25, as clearly seen in Fig. 1 of the drawings, whereby the spool 24 will be journaled in said brackets 21 and locked therein against accidental removal. Any suitable cable may be wound upon the spool 24 and is designed to be paid out through aperture 4 when the buoy is in operation.

Extending across each of the spaces 9, preferably in a higher horizontal plane than brackets 21, is arranged a strip of any suitable material, as 26, secured in any suitable manner to the opposite casings 8 and provided with a horizontal slot 27. As seen in Fig. 3 of the drawings, I contemplate employing suitable pegs, as 28 28, carried upon any preferred form of support 29, provided with bolts 30, designed in operation to be passed into slots 27 for being supported in operative position, said pegs 28 being designed to be substituted for the spool 24, any preferred form of cable being wound upon the pegs 28 in any preferred and well-known manner. It will, of course, be apparent that either the spool or the pegs may be inserted or removed at will by simply removing the cover 13.

Although I have enumerated some of the particular functions of my device, yet I do not mean to limit myself to the exact operation stated; but it will be apparent that my improved buoy may be employed upon any body of water for establishing communication between two points. It will also be apparent that the buoy is constructed in such manner as to permit the feeding of the cable carried thereby without danger of the water entering the chamber carrying said cable, and in addition to this feature of the device it will be observed that I have provided means whereby the buoy will continue to float should the cover accidentally become dislocated and the chamber carrying the cable become filled or partially filled with water.

In order that a full understanding of the present invention may be had, I have given a disclosure of one embodiment of specific elements, but do not desire to be understood as limiting myself to every detail disclosed and shall feel at liberty to deviate therefrom to a degree within the spirit and scope of the present invention.

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, 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, said cover being formed with an air-compartment, a weight disposed at the lower end of the buoy for holding the latter in an upright position, and a device for holding and paying out a line arranged within the buoy, substantially as described.

2. 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 hollow cover which fits upon the upper end of the buoy, means disposed at the lower end of the buoy for retaining the latter in an upright position, 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 designed to be passed through the aperture in the lower end of the buoy, substantially as described.

3. 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 which is weighted at its lower end and provided with an aperture at said lower end which communicates with the interior of the buoy, a device within said buoy for holding and paying out a line, means for temporarily locking the line-holding device within the buoy, a cover for said buoy, means for locking the cover in position on the body of the buoy against the entrance of water, independent air-compartments arranged within the buoy, and also an air-compartment in the cover, substantially as described.

4. A buoy for sending a line to or from a distressed vessel, or for indicating the location of an anchor, comprising a hollow body

portion, the buoy being weighted at its lower end and provided with an aperture at said lower end which communicates with the interior of the buoy, a device arranged within the buoy for holding and paying out a line, independent air-compartments within the buoy with spaces between said compartments for the reception of means for holding the line-holding device, and a cover for said buoy, means for locking the cover in position on the buoy against the entrance of water, and a rope carrying corks or floats secured around the buoy, substantially as described.

5. A buoy comprising a hollow body portion having its lower end weighted and apertured, a device arranged within said body portion for holding and paying out a line, and independent air-compartments within said body portion arranged with spaces therebetween for the reception of means for retaining the line-holding device, substantially as described.

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

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Witnesses:

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