July 6, 1926. 1,591,751

G. A. EBERT

BELL BUOY

Filed Feb. 3, 1926

Fig. 1.

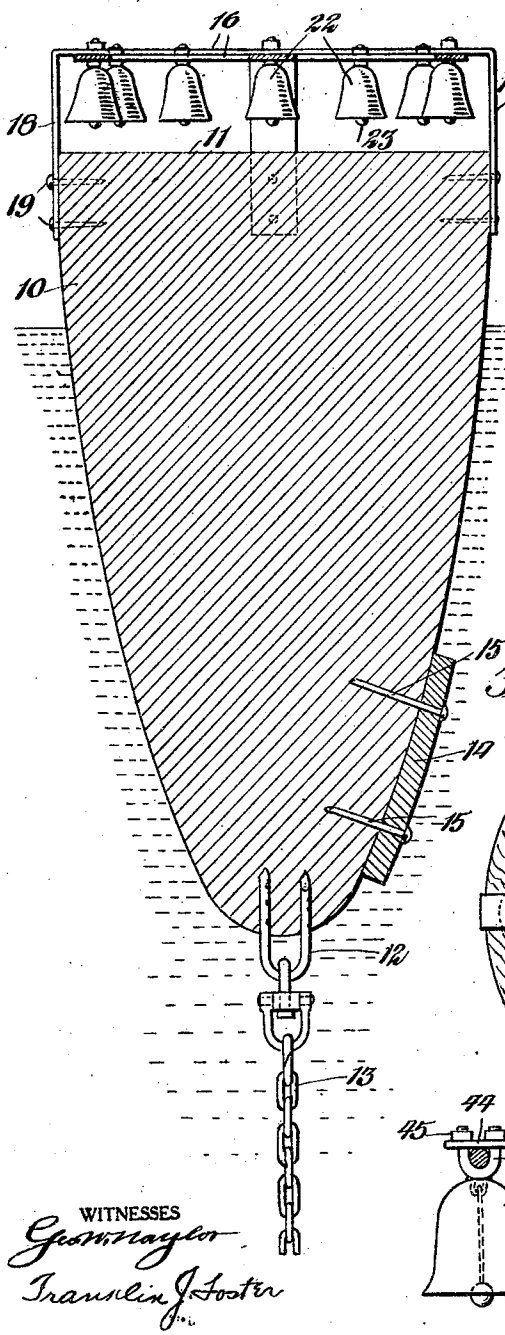


Fig. 2.

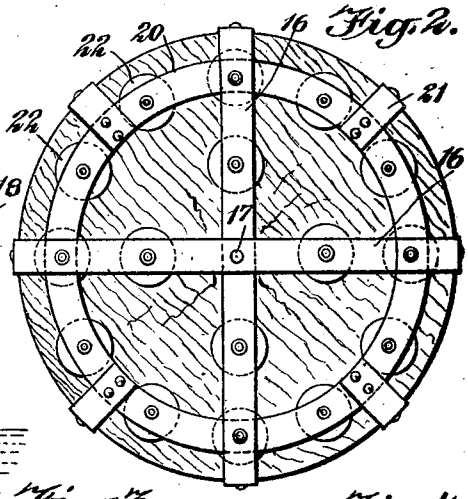


Fig. 3.

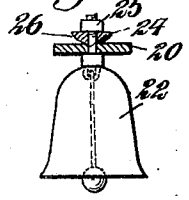


Fig. 4.

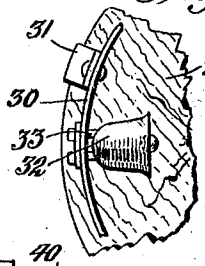


Fig. 5.

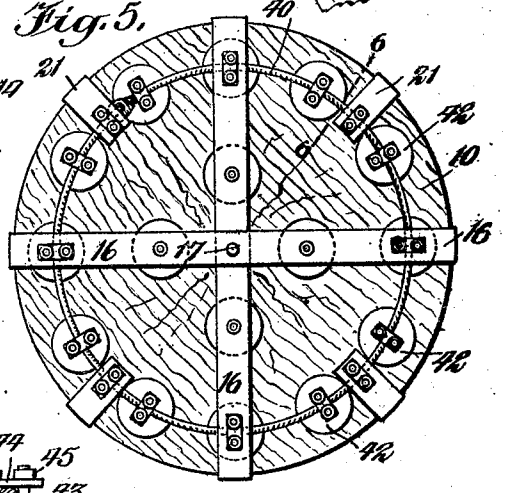


Fig. 6.

WITNESSES

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Patented July 6, 1926. 1,591,751

UNITED STATES PATENT OFFICE.

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BELL BUOY.

Application filed February 3, 1926. Serial No. 85,749.

The device of the present invention is primarily intended for giving an audible warning to mariners of the presence of shoals near shore. As opposed to the usual relatively massive bell buoys commonly used in or adjacent the channels for ships drawing an appreciable amount of water, the present invention is in the nature of a relatively light device in the nature of a spar buoy carrying bells, and is primarily intended for the convenience of navigators of relatively small craft.

One object of the invention is to provide a device of this character which will permit the conversion of an ordinary wooden spar buoy into a bell buoy.

Further objects of the invention are to provide a device of this character, of simple, practical construction, which will be rugged, durable and efficient in use, which may be manufactured with comparative economy, and which may be readily transported, anchored and replaced.

With the above noted and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter set forth and pointed out in the claims. The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein—

Fig. 1 is a view in vertical section through a buoy embodying the present invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a sectional detail indicating a slightly modified method of mounting one of the bells.

Fig. 4 is a fragmentary top plan view of a modified type of buoy.

Fig. 5 is a plan view of a buoy embodying further modifications.

Fig. 6 is an enlarged sectional detail on the line 6—6 of Fig. 5.

In the drawings I have used the reference character 10 to designate a wooden float which may be in the nature of a spar buoy, formed with a flat top 11 of appreciable width, and gradually tapered and rounded toward its submerged lower end. The member 10 is anchored in any convenient or conventional manner. Many expedients might be resorted to in this connection. For purposes of illustration, I have shown a heavy staple 12 driven into the bottom of the member 10, and to which is attached an anchor chain 13. For assuring the flotation of the member 10 in an upright position with the flat top thereof out of water, I may in some instances secure a relatively heavy counter-balancing plate 14 adjacent the lower end of the member 10 by the use of nails or bolts 15.

Spaced above the flat top of the member 10 are a pair of diametrically disposed metal straps 16 which cross each other at right angles and are bolted together as at 17. The straps are turned downwardly at their ends providing portions 18 which straddle the member 10 and are suitably secured thereto as at 19. Carried by the straps 16, is an annular bell supporting frame 20 secured to the under faces of the straps, and additionally supported by annular bracing members 21 of general L-shape.

The bells which may be of any suitable character, are indicated by the reference numerals 22 and are rigidly secured to the annular supporting frame, and the cross frames in any appropriate manner with the clappers 23 swinging free. As shown in Figs. 1 to 3, the bells may be integral with or carry bolts 24 projecting upwardly through the annular member 20 or the transverse members 16, as the case may be, and secured in place by a nut 25. In Fig. 3 there has also been indicated a washer 26 interposed between the nut 25 and the member 20.

As the buoy is tossed about by the waves, it will be apparent that the numerous bells which it carries will set up a continuous ringing, and that even small bells such as those shown, will adequately serve the purpose of warning the pilots of small craft.

In Fig. 4, I have illustrated a modification in which the annular member 30 is disposed in a vertical plane rather than a horizontal plane, and is held by braces 31. The bells 32 rigidly secured to annular member 30 in any suitable manner as by U-bolts 33 project radially inwardly from the member 30.

In Figs. 5 and 6, I have indicated a bell buoy generally similar to that disclosed in Fig. 1, except that a heavy cable 40, preferably of copper is substituted for the annular element 20. It will be noted that the bells 42 in this instance are carried by U-bolts 43 which straddle the cable 40 and coact with plates 44 retained in place by nuts 45. Where the cable crosses the braces 21, or the transverse members 16, the U-bolts 43 also

serve to couple the cable to the braces or transverse members as well as to mount the bells on the cable.

While I have illustrated certain of the preferred embodiments of the invention, it will be understood that various changes and alterations might be made in the general form and arrangement of parts described without departing from the invention. Hence I do not wish to limit myself to the details set forth, but shall consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:—

1. A bell buoy including an anchored wooden float formed with a flat top disposed above the water line, frame members secured upon said top and a plurality of bells mounted on the frame members.

2. A buoy of the class described including a flat topped floating spar, an annular member supported above the flat top of the spar, and a plurality of bells rigidly fixed to said annular member.

3. A buoy of the class described including a flat topped floating spar, an annular member supported above the flat top of the spar, and a plurality of bells rigidly fixed to said annular member, the means for supporting said annular member including a pair of crossed U-frames, the legs of which straddle and are secured to the spar, and the intermediate portions of which are connected to the annular member.

4. A buoy of the class described including a flat topped floating spar, an annular member supported above the flat top of the spar, and a plurality of bells rigidly fixed to said annular member, means for supporting the annular member, including a series of approximately L-shaped braces, one leg of each brace being secured to the side of the spar near the top thereof, and the other leg of each brace being connected to the annular member.

5. A device of the class described in claim 2, and wherein the annular member is in the nature of a metal cable.

6. A buoy of the class described including a wooden spar formed with a flat top and rounded and tapered toward its lower end, a weight secured to the lower end of the spar and maintaining the same in vertical position, a skeleton frame work secured to the sides of the spar and including portions disposed above the flat top thereof, and bells mounted on said frame work.

7. A buoy of the class described including a wooden spar formed with a flat top and rounded and tapered toward its lower end, a weight secured to the lower end of the spar and maintaining the same in vertical position, a skeleton frame work secured to the sides of the spar and including portions disposed above the flat top thereof, and bells mounted on said frame work, said frame work including an annular bell supporting element.

8. A buoy of the class described including a wooden spar formed with a flat top and rounded and tapered toward its lower end, a weight secured to the lower end of the spar and maintaining the same in vertical position, a skeleton frame work secured to the sides of the spar and including portions disposed above the flat top thereof, and bells mounted on said frame work, said frame work including an annular bell supporting element comprising a wire cable and U-bolts connecting the bells to the cable.

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