May 15, 1934. H. P. ELLIOTT 1,958,535

BUOY

Filed May 28, 1932

Fig. 1.

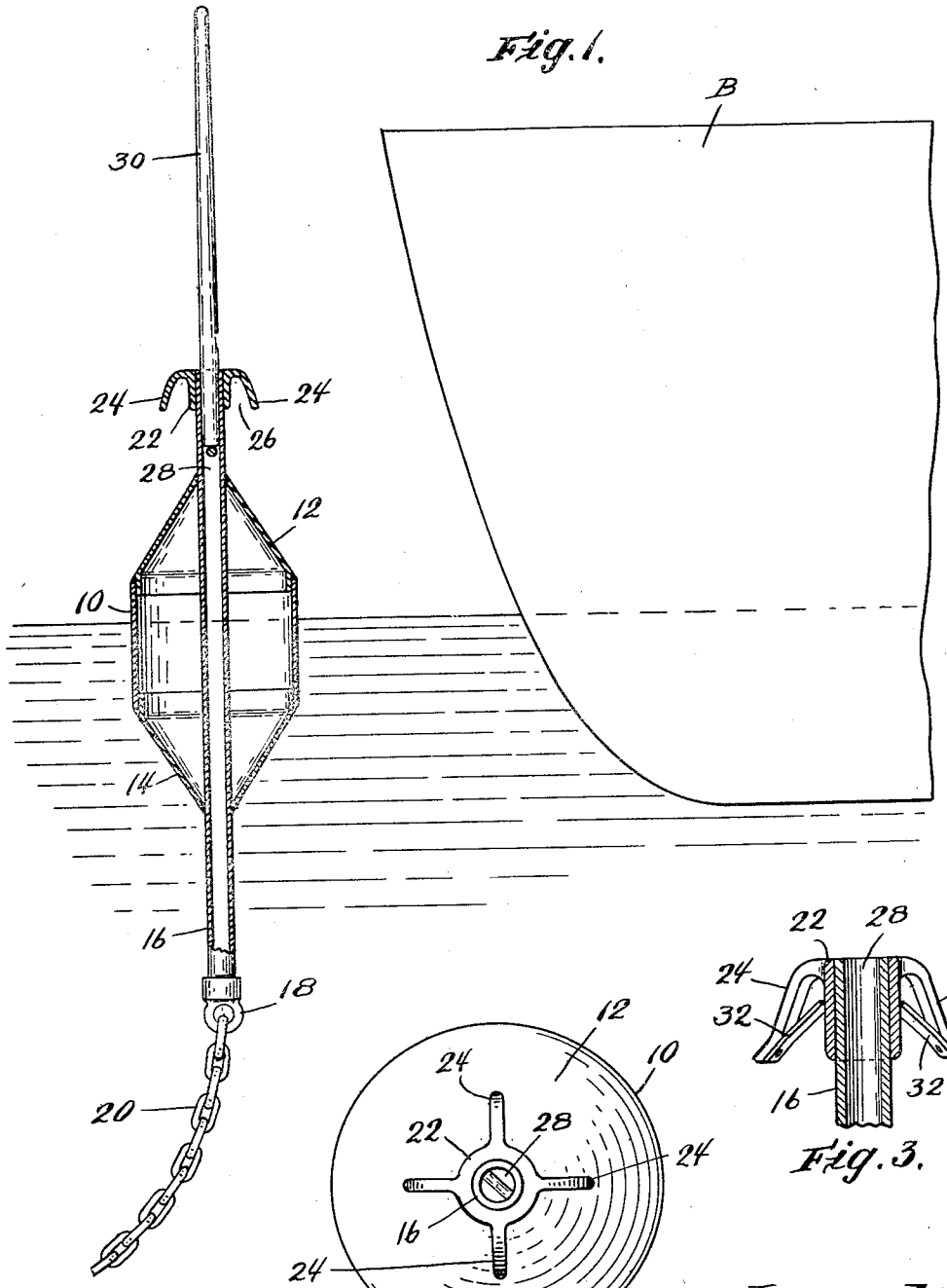


Fig. 2.

Fig. 3.

Inventor,
Herman P. Elliott
by T. Summerhill
atty

Patented May 15, 1934

1,958,535

UNITED STATES PATENT OFFICE

1,958,535

BUOY

Harmon P. Elliott, Watertown, Mass.

Application May 28, 1932, Serial No. 614,151

9 Claims. (Cl. 9—8)

This invention relates to mooring buoys for boats and particularly to "pick-up" buoys that are attached to the anchor cable and are adapted to be raised out of the water onto the deck of the boat along with the end of the anchor cable so that the mooring cable of the boat can be connected directly to the end of the anchor cable.

One of the objects of the present invention is the provision of an improved form of mooring or pick-up buoy that can be engaged readily by a rope from the deck of a boat using the buoy regardless of the direction from which the boat approaches the buoy.

Another object is the provision of a buoy having a rod or spindle extended through the vertical axis thereof, the lower end of the rod being connected with the anchor cable and the upper end of the spindle having a plurality of inverted hooks which project outwardly from the spindle in different directions so that at least one of the hooks is always in position to be engaged by the bight of a rope when it is pulled upwardly on the spindle, so that the rope becomes automatically connected with the buoy, the buoyant member also being so shaped that the bight of the rope is guided thereby into the hooks.

The buoy embodying the present invention has its hooks located close above the top of the buoy while the deck of the boat using the buoy may be high above the hooks so that it may involve some little skill to cast the bight of the pick-up rope over the spindle. Thus, a further object of the invention is the provision of a buoy of the type above set forth having a guide pole which extends above the hooks sufficiently high so that the bight of the pick-up rope can easily be placed over the pole from the deck of the boat using the buoy, the pole guiding the bight to fall around the spindle under the hooks and in position to enter one or more of the hooks when the rope is pulled, the pole being light in weight so that it will not unbalance the buoyant member and being readily detachable from the spindle so that it can be removed after the buoy has been engaged with the rope or brought aboard.

A further object is the provision of a pick-up buoy of the type above set forth that is light in weight and relatively inexpensive.

Another object is generally to improve the construction of buoys.

Fig. 1 is a sectional elevation of the buoy embodying the present invention.

Fig. 2 is a plan view of the buoy of Fig. 1.

Fig. 3 is a sectional detail of the upper end of the spindle with a modified form of hook thereat.

The buoy herein illustrated in Fig. 1 as embodying the present invention is what is specifically known as a pick-up buoy and is adapted to be raised out of the water with the anchor cable attached thereto so that the mooring cable of the boat can be attached directly to the anchor cable.

The buoy comprises a hollow buoyant body consisting of the cylindrical sheet metal shell 10 and the opposed conical sheet metal heads 12 and 14 which are attached to the opposite ends of the cylindrical shell in a water tight manner by welding or otherwise. A straight rod or spindle 16 is passed through the vertical axis of the buoyant body and through and beyond the apexes of the conical heads, the spindle being secured by welding or otherwise to the apexes of the heads. An anchoring eye 18 is secured to the lower end of the spindle and is adapted to be connected with the upper end of an anchor cable or chain 20, the weight of the cable, and the weight of that portion of the spindle below the buoyant member, holding the floating buoy upright in the water with the upper conical head 12 and the upper portion of the cylindrical section 10 above the water level. A hook-member 22 is secured to the upper end of the spindle 16 and is provided with a plurality of inverted hooks 24 which project outwardly in different directions from the top of the spindle. The entrances 26 to the hooks confront the body of the buoy so that the bight of a pick-up rope sliding upwardly on the spindle is caused to enter the hooks. The hooks are so disposed around the spindle that the bight of the rope cannot fail to enter at least one of the hooks regardless of the direction of the pull on the rope. While it is preferred to employ three or more hooks equally spaced about the spindle it is found that two diametrically-opposed hooks are sufficient to ensure certain engagement with the rope.

Preferably the length of the spindle under the buoyant body is greater than that above the body so that the buoy is caused to float vertically in the water without the necessity for weighting the lower portion of the buoyant body. The distance from the apex of the upper head 12 to the hooks is adapted to be relatively short so as to keep down the leverage of the weight that is above the water line. When the bight of a rope is cast over the spindle it settles onto the water around the buoyant body of the buoy and is guided by the conical head 12 onto the spindle and thence into a hook when the rope is pulled upwardly.

Inasmuch as the hooks are not high above water and the deck of a boat B that uses the buoy may

be high above the hooks, it requires some skill, and involves a certain amount of hazard, to cast the bight of the rope over the spindle. Hence, to facilitate placing the rope over the spindle, the spindle is made tubular or at least is provided with an axial socket 28 in its upper end in which the butt of a light slender guide pole 30 is detachably inserted, the pole being high enough so that its top is readily accessible to one on the deck of the boat using the buoy and, preferably, is at least a foot above the deck of the boat. The bight of the rope easily can be dropped over the end of the pole without danger, and the pole guides the bight onto the spindle under the hooks. The pole can be pulled out of its socket in the top of the spindle readily when the buoy is brought inboard and reinserted in the spindle at the time the buoy is again dropped.

The hooks 24 of the buoy of Fig. 1 can be provided with spring latches 32 as illustrated in Fig. 3 so that the bight of a mooring rope can spring the latches and enter the hooks and be retained therein by the latches. The buoy can then be used as a mooring buoy to which the boat can be moored and connected to the anchor cable 20 through the spindle 16.

I claim:

1. A buoy comprising a buoyant member, and a spindle extended through said member and having at the bottom means for attachment with an anchor cable and at its upper end above said member a plurality of inverted hooks which outstand from the spindle in different directions and wherein the entrances to said inverted hooks are closed by latches which releasably retain a rope in the hooks.

2. A buoy comprising a buoyant member having a spindle rising thereabove and provided with a hook, said spindle having a guide pole that is extended upwardly above said hook to such a height that the bight of a rope can be conveniently placed over the top of the pole from the deck of a boat using the buoy and be guided by the pole to fall downwardly onto the spindle under said hook.

3. A buoy comprising a buoyant member having a spindle rising thereabove and provided with a hook and a socket at its upper end, and a guide pole removably retained in said socket and upstanding above said spindle and disposed to guide the bight of a rope downwardly onto the spindle under said hook.

4. A buoy comprising a buoyant member having a spindle upstanding thereabove and provided with a socket at its upper end which is in line with the axis of said spindle, said spindle also having a hook which outstands therefrom, and a guide pole located in said socket and upstanding above said hook and disposed to guide the bight of a rope downwardly onto said spindle and under said hook, said pole being detachably received in said socket.

5. A buoy comprising a buoyant member, a spindle rising above said buoyant member and having a hook at its upper end, and a guide pole constituting an extension of said spindle above said hook being free from lateral obstruction and providing means for guiding the bight of a rope downwardly onto said spindle under said hook.

6. A buoy comprising a buoyant member, and a straight spindle extended through the vertical axis of said member having an anchorage connection at its lower end and a plurality of outstanding inverted hooks at its upper end, said spindle having an axially-directed passage open at the top thereof providing a guide-pole receiving socket.

7. A buoy comprising a buoyant member, a straight spindle extended through the vertical axis of said member having an anchorage connection at its lower end and a plurality of outstanding inverted hooks at its upper end, said spindle having an axially-directed passage open at the top thereof providing a guide-pole receiving socket, and a guide pole removably located in said socket and extended upwardly above said hooks.

8. A buoy comprising a buoyant member, a spindle extended through said member having an anchorage connection at its lower end and a plurality of inverted hooks at its upper end that extend outwardly from said spindle in different directions, said spindle having receiving means for a guide pole located between said hooks, and a guide pole having a readily detachable connection with said means and extended above said hooks in line with said spindle and constituting means for guiding the bight of a rope to pass downwardly thereover and onto said spindle below said hooks.

9. A buoy comprising a buoyant member, and a tubular spindle extended through and projected at both ends beyond said member and secured to the top and bottom walls thereof in a water tight manner and having at its bottom ends means for attachment with an anchor cable and at its upper end a plurality of inverted hooks which outstand from the spindle in different directions, whereby the spindle can be caught by the bight of a rope encircling and pulled laterally in any direction away from the spindle, and whereby the pull of the rope is transmitted directly through the tubular spindle to the mooring cable and excludes the buoyant member.

HARMON P. ELLIOTT.