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AUTOMATIC MOORING CATCH

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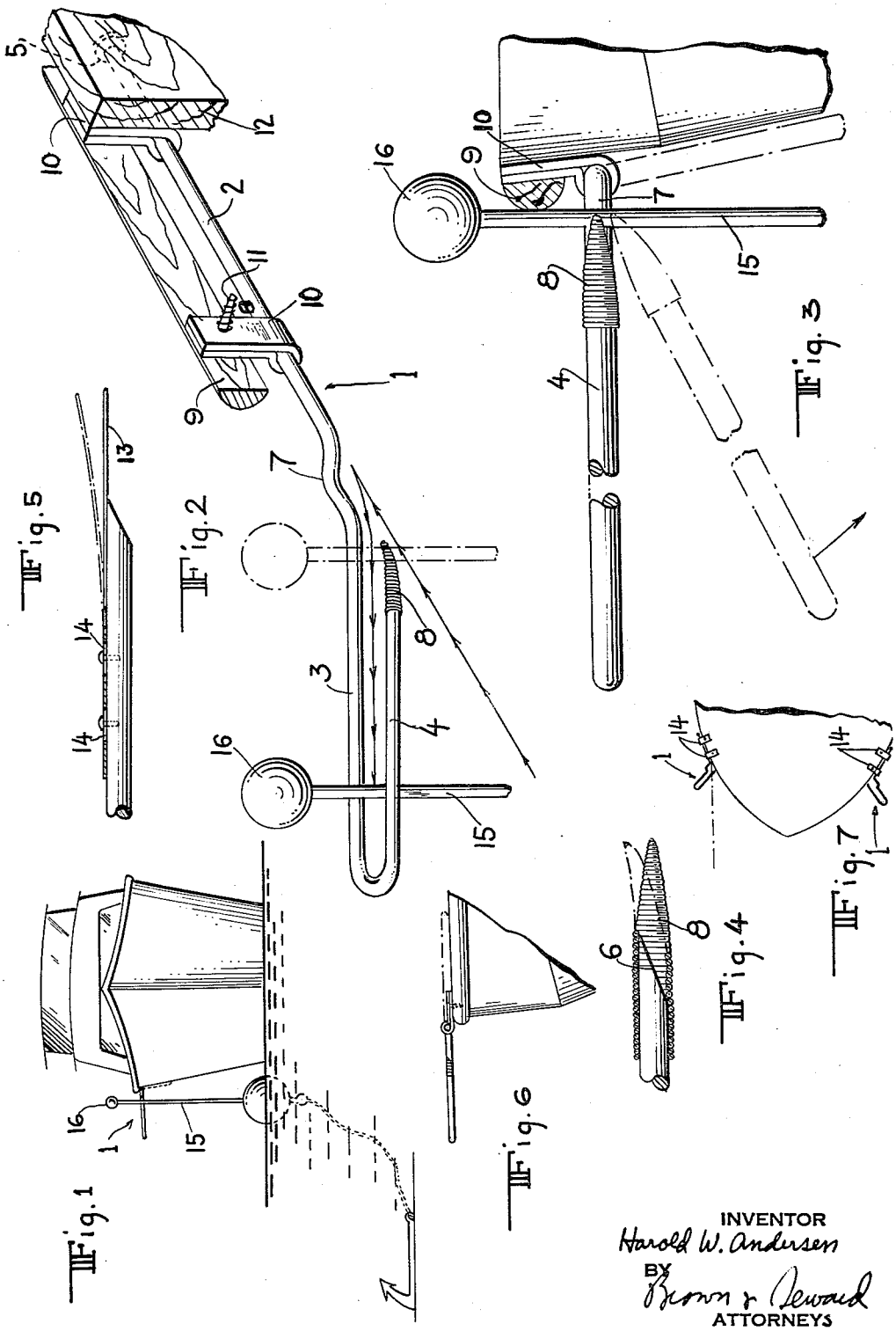


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

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AUTOMATIC MOORING CATCH

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This invention relates to an automatic mooring catch, designed to be mounted on a boat for facilitating the initial pick-up of a mooring float.

An object of the invention is to provide means whereby a vertical rod projecting up from the top of a mooring float can be firmly caught and engaged by a catch fixed on the hull of the boat merely by maneuvering the boat in a suitable simple manner. From this statement it will be understood that the operator of the boat need not leave his normal position (e.g., in the cockpit) until the engagement of the rod by the catch has been completed. When that has been done the operator can go forward to pull up the mooring float and make fast the boat to its mooring with the assurance that no further maneuvering of the boat will be needed.

A further object is to provide a mooring catch which is permanently fixed to the boat adjacent the rub rail and is adjustable between a horizontally projecting operating position and a pushed down "off" or retracted position.

Another object is to provide various improvements in the form, construction and arrangement of the several parts whereby the above-named and other objects may effectively be attained.

A practical embodiment of the invention as applied, for example, to a power boat of the cruiser type, is shown in the accompanying drawings, in which:

FIG. 1 represents a bow view of a boat equipped with the mooring catch approaching a mooring float in a manner to cause engagement of the catch with a rod on the float.

FIG. 2 represents a perspective view of the catch from forward and above, parts of the hull being broken away and the float rod being in broken lines as it starts to be engaged by the catch and in full lines as it is substantially fully engaged.

FIG. 3 represents a front elevation of the catch and part of the float rod in their initial engaged position, "off" positions of the catch being indicated in broken lines.

FIG. 4 represents a detail horizontal section showing the construction of the flexible tip on the catch.

FIG. 5 represents a detail plan view of an alternative form of flexible tip.

FIG. 6 represents a front elevation of a catch, showing a possible alternative manner of installation.

FIG. 7 represents a diagrammatic plan view of the bow of a boat showing mooring catches installed at suitable points on both sides.

Referring to the drawings, the catch **1** is shown as being formed from a strong metal rod (e.g., stainless steel) and has a straight shank portion **2**, an outwardly slanted portion **3** and an inwardly projecting return portion **4** parallel to the portion **3**, the portions **3** and **4** constituting an elongated hook. The aft end of the shank portion **2** is headed as indicated at **5** and the tip of the portion **4** is beveled in a vertical plane lying at about 30° from the axis of the portion **4**, as shown at **6**. Between the forward end of the shank portion **2** and the inner end of the portion **3** there is preferably provided a short outwardly offset portion **7**. The beveled tip **6** is enclosed within a tapered helical spring **8**, preferably of stainless steel, which spring fits tightly but adjustably on the end of the portion **4** and projects inward a substantial distance beyond the tip of said portion. An alternative form of spring is shown in FIG. 5 where a flat leaf spring **13** is screwed or riveted to the portion **4**, the screws or rivets passing through slots **14** in the spring to permit adjustment of the distance by which the spring **13** projects beyond the tip **6**.

The catch just described is designed to be mounted adjacent the rub rail **9** (or in an equivalent position) and spaced a convenient distance from the bow, this distance depending somewhat on the size and shape of the boat and its foredeck. The position may also be determined so that the angle of the portions **3** and **4** forward and outward from a fore-and-aft line corresponds at least roughly to the angle of the adjacent part of the rail forward and inward from the same line, as indicated in FIG. 7. The catch may conveniently be secured to the boat hull as shown in FIG. 2 by inserting between the rub rail **9** and the adjacent planking a pair of pinch clamp bearings **10**, each having a cylindrical eye of a size to grip the catch shank **2** tightly when the clamp legs are drawn together as by a screw **11** passing through the rub rail and the clamp and into the planking **12**. One side of the clamp is preferably made flat and the clamp eye is off center, so that the clamp can lie flat against the planking. Endwise sliding of the catch is prevented by the provision of a fillister head screw in the portion **2** immediately back of the first clamp. While installation of the mooring catch under the rub rail is generally desirable, there may be cases where it is more convenient to screw the clamp bearings down to the edge of the deck in a horizontal position, as indicated in FIG. 6; this permits the catch to swing from its operation position through 180° inboard to its "off" position flat on the deck. In the normal installation (FIGS. 1, 2 and 3) the catch swings only 90° or slightly more between tis horizontally projecting operating position and its "off" position, down against the side of the hull.

The catch described above is designed to cooperate effectively with a special form of mooring float, particularly a light-weight float, ballasted to ride with a predetermined side upward and having a strong fiberglass rod **15** projecting upward to a height above the water greater that the height of the boat's fore-deck when the boat is under slow way. At the top of the rod **15** is firmly fixed a retaining ball **16**, the diameter of which should be substantially greater than the spacing between the parallel portions **3** and **4** of the catch.

It will be observed that engagement of the rod by the catch is ensured by the fact that the projecting end of the spring **8** lies normally almost directly below the outer edge of the rub rail (see FIG. 3). Thus the rod **15**, standing practically vertical, can enter the catch only by bending the spring back out of the way (FIGS. 2, 4 and 5) and after the rod has cleared the end of the spring the latter snaps back to its normal position and guides the rod easily into the slot between portions **3** and **4** upon reversal of the direction of movement of the boat. The beveling of the end **6** of portion **4** permits the spring **8** to bend easily inward, while outward bending is strongly resisted. In the case of the flat spring **13** a similar result is achieved by spacing the screws or rivets some distance from the tip end of the portion **4**.

In operation, the boat operator desiring to pick up his mooring swings the mooring catch (or catches, if the boat has two) out into operative position, this being done at any convenient time during the boat's approach to its mooring. The operator then has only to maneuver the boat in such a way that the float rod will be engaged in the angle between the catch and the edge of the foredeck as the boat slowly advances. The rod is automatically guided into the catch past the tapered spring **8**, along the path indicated by arrows in FIG. 2. When the operator is satisfied that the rod has moved into the catch he can stop,

or briefly reverse, the motion of the boat and then go forward to pick up his mooring with the assurance that it is within easy reach. He need merely release the rod from the catch, lift up the float and make fast his boat to the mooring in any manner for which the mooring may be rigged.

While the mooring catch is designed more particularly for use on power boats, it could also be used advantageously on some types of sail-boats, particularly those which are small and light enough to lose headway quickly when headed into the wind, or larger ones with auxiliary power.

It will be understood that various changes may be made in the form, construction and arrangement of the several parts without departing from the spirit and scope of the invention.

What I claim is:

1. Boat mooring apparatus comprising a float, a rod extending substantially vertically from said float to a height above the level of the foredeck of a boat to be moored, an enlarged retaining member fixed to the top of said rod, a mooring catch comprising a strong metal rod shaped to form a straight shank portion, a portion extending in operative position substantially horizontally outward and forward and a portion extending substantially horizontally inward and rearward from the outer end of said second named portion and lying substantially parallel

thereto at a distance greater than the diameter of said first named rod but less than the diameter of the retaininng member, and fastening means cooperating with said shank portion to secure the catch adjustably to a boat hull.

2. Boat mooring apparatus according to claim 1 in which the fastening means includes clamp bearings adapted to embrace the said shank portion and to be firmly fixed to a boat hull adjacent an edge of its foredeck.

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