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F. E. STUART, SR
BOAT ANCHOR MECHANISM

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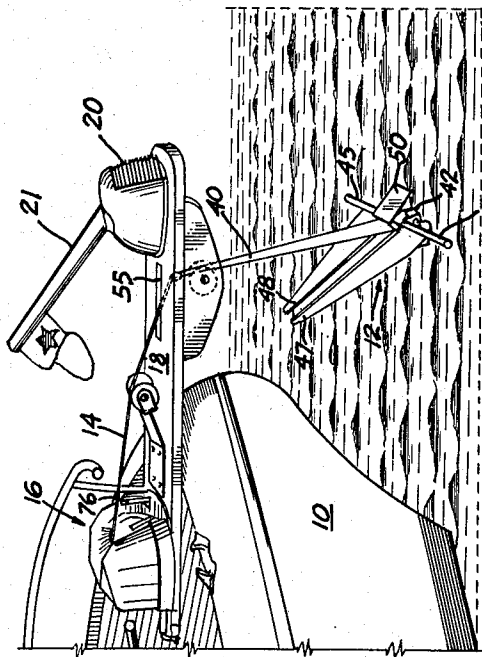


Fig. 1

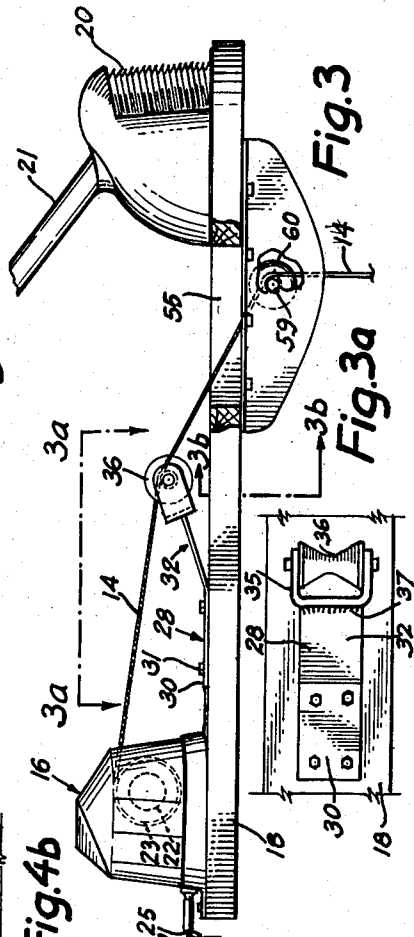


Fig. 2

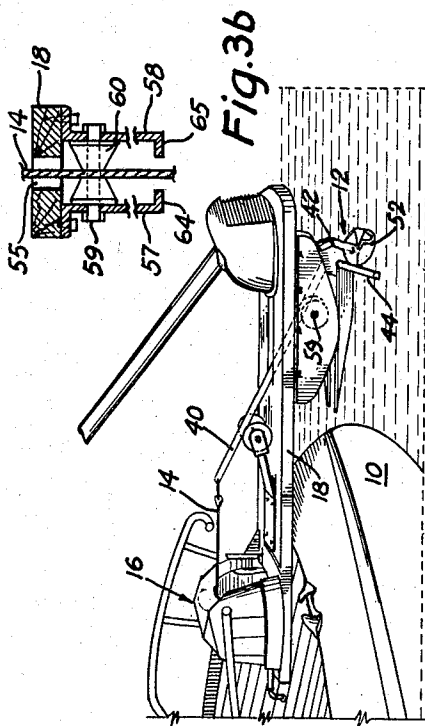


Fig. 3a

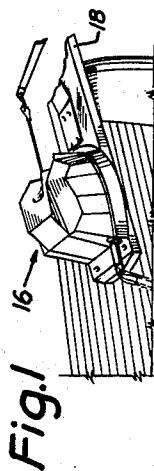


Fig. 3b

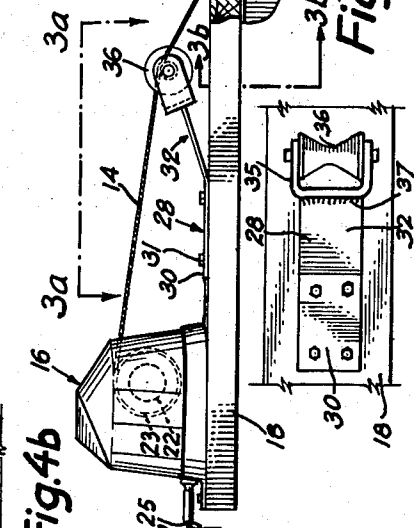


Fig. 4a

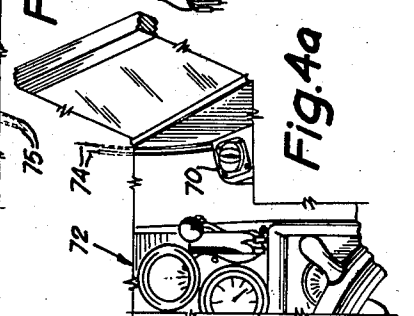


Fig. 4b

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1

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BOAT ANCHOR MECHANISM

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5 Claims. (Cl. 114—210)

This invention relates to boat anchors and more particularly to improved mechanism for manipulating the anchor to and from a housing or storing position.

It is an object of the invention to provide an anchor which is mounted on a bowsprit or supporting plank or beam extending from the deck of a boat, preferably at or near the bow. The anchor mechanism is adapted to be electrically operated by remote control means whereby the anchor is cast or hauled in from a storage position beneath the bowsprit.

Further objects and advantages of the invention will become apparent from the following description taken in conjunction with the drawings illustrating a preferred embodiment thereof.

In the drawings—

FIGURE 1 is a view in perspective of an anchor constructed in accordance with this invention, and shown mounted on a bowsprit positioned at the bow of a boat, the latter being shown partly broken away, and the anchor depicted in its raised or storage position;

FIGURE 2 is a similar view as in FIGURE 1, and drawn on a somewhat larger scale, illustrating the anchor in a lowered position;

FIGURE 3 is a detail view in elevation of the bowsprit and associated elements mounted thereon, and including a winch and cable mechanism for positioning the anchor;

FIGURE 3a is a detail plan view taken of the spring plate mounted roller for guiding the anchor cable and yieldably clamping the anchor in its storage position against the underside of the bowsprit;

FIGURE 3b is a fragmentary detail view taken on FIGURE 1 as at 3b—3b, and looking in the direction of the arrows;

FIGURE 4a is a fragmentary perspective view of a portion of the helmsman's cockpit and illustrating the remote switch control means which is electrically connected to the driving motor for actuating the power winch; and

FIGURE 4b is a fragmentary perspective view of the power winch for handling the anchor cable, and illustrating how it is electrically connected to the remote switch control means.

Referring to the drawings in detail, there is illustrated in FIGURES 1 and 2, a boat 10 equipped with an electrically operated anchor generally designated 12 constructed in accordance with my invention. A cable 14 attached to the anchor is played out and reeled in by a power driven winch, generally designated 16, which is mounted on the in-board end of a bowsprit 18. Suitably positioned on the outer end of the bowsprit 18 is a light 20 and flagstaff 21, as shown in FIGURES 1, 2 and 3.

The power winch 16 comprises a motor 22 which drives a reel 23 of the level winding type, and which is adapted to hold 125 feet of steel cable which is fastened to the anchor 12. Electrical connection to the motor 22 for operating the reel 23 is made through the cable or wires 25 of a storage battery or the like source of electrical power. Secured to the bowsprit 18 forward of the winch 16 is an L-shaped spring plate 28. One end portion 30 of the spring plate 28 is fixed, as by bolts 31, to the bowsprit leaving the remaining portion 32 free to be flexed about the fixed portion 30, as a leaf spring.

Mounted on the outer end of the spring plate portion 32 is a shackle 35 and roller cable guide 36. The U-shaped shackle 35 is preferably welded, as at 37, to the

2

end of the spring plate portion 32, as illustrated in FIGURE 3a to provide a sturdy cable roller guide.

The anchor 12 comprises an elongated shank 40 which is fastened at its upper end to the cable 14. The lower end of the shank 40 is pivotably secured to a header block 42 on which is mounted the stub axles 44 and 45 of the flukes 47 and 48.

The elongated triangular shaped flukes 47 and 48 are fixedly secured to the stub axles 44 and 45, respectively, the weight of the flukes being counterbalanced by metal weight 50. This counterweight consists of a lead or iron casting, suitably fastened to the block 42, the counterweight being of a size and weight to maintain the flukes normally in a nearly horizontal position, as illustrated in FIGURE 2. A lower weight 52 is also secured to the block 42 and is of sufficient size and weight to prevent the anchor from swinging about with the current of the stream or body of water during casting or hauling in of the anchor, and such as might interfere with the proper handling of the boat.

The bowsprit 18 comprises an elongated opening or slot 55 which is located centrally of the bowsprit adjacent the light 20. Slot 55, as shown in FIGURES 1, 2 and 3, accommodates passage of the anchor cable 14 and permits casting and hauling in of the anchor without the anchor striking or scraping against the gunwale of the boat.

For receiving and storing the anchor against the underside of the bowsprit 18, as illustrated in FIGURE 1, a pair of depending abutments or plates 57 and 58 are bolted or otherwise secured to the underside of the bowsprit 18, the plates being spaced laterally and adjacent the opening as illustrated in FIGURE 3b. Mounted centrally of the plates 57 and 58 is a shaft 59 on which is rotatably mounted a cable roller 60 for supporting and guiding the anchor cable 14. The cable passes over the spring plate mounted roller guide 36 and through the opening 55 and over roller 60 which supports and guides the anchor during casting and hauling of the same.

The spring mounted roller 36 functions as a snubber and yieldable fulcrum for the lever or shank 40 of the anchor when the shank is advanced over the roller as illustrated in FIGURE 1. Upon hauling in of the anchor to its storage position, as shown in FIGURE 1, the anchor is dislodged and raised out of the water and yieldably clamped against the arcuate flange surfaces 64 and 65 of the plates 57 and 58. In the storage position, as shown in FIGURE 1, the anchor header block 42 engages the arcuate forward flange surfaces of the plates 57 and 58 and is yieldably clamped thereagainst by the lever action created by the force of the winch on the cable 14 and lever action of the roller guide 60 and spring mounted roller cable guide 36 on the elongated rigid shank 40 of the anchor. In the raised storage position, the anchor flukes 47 and 48 rest against the lower central portion of the flanges 64 and 65 of plates 57 and 58 so that the flukes lie approximately horizontally and parallel to the bowsprit 18. The anchor is retained in its storage position while the boat is being operated.

The foregoing structural features of my anchor mechanism makes it possible to quickly cast and haul in the anchor from a storage position without interfering with the boat or its operation. By reason of the novel construction of the mechanism for manipulating the anchor and its operation, the improved results of the invention are attained. An important and essential improvement of my anchor mechanism consists in the provision of the spring mounted roller 36 which functions as a fulcrum on the rigid shank 40 to clamp or pinch the anchor mechanism against the plates 57 and 58 of the bowsprit 18 when the anchor cable 14 is drawn taut as illustrated in FIGURE 1. The pinching action developed causes the

forward part of the whole anchor mechanism to be firmly clamped to the bowsprit so that the whole unit including the bowsprit rises and the resultant force is balanced by movement of the spring mounted roller 36 forwardly, as shown in FIGURE 3. This yieldable force maintains the anchor secure and free of contact with the boat deck while allowing the anchor to be quickly released and cast by remote control actuating means.

A remote control switch 70 is provided in the helmsman's cockpit 72, which permits operation of the winch to cast or haul in the anchor without going out on the boat deck. Electrical connections are made through the wires 74 and 75 to the motor 22 of winch 16, as shown in FIGURES 4a and 4b. Where desired, manual operation of the anchor from the deck is provided as by a lever 76 which releases the anchor cable. Suitable means, such as a hand crank, not shown, may be provided for operating the winch to permit the anchor to be hauled to its storage position and the anchor cable secured.

It will be understood that various changes and modifications in the size and shape of the anchor and associated mechanism may be made by those skilled in the art without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. A boat anchor mechanism comprising an anchor and cable means secured thereto for hauling and hoisting said anchor, a bowsprit which is adapted to be secured at its inner end to a boat deck, a winch for said cable means mounted on said bowsprit and adjacent the inner end thereof, an anchor storing station disposed beneath the outer end of the bowsprit and spaced from the deck and gunwale of the boat, a pulley roller cable guide mounted on said bowsprit adjacent said anchor storing station, said pulley roller being arranged to support and guide said cable and attached anchor to and from said storing station, and means yieldingly mounting a roller guide on said bowsprit intermediate said winch and said pulley roller cable guide for yieldably engaging said anchor cable, said means comprising a spring plate having one end secured to the upper side of the bowsprit and the other end carrying said roller guide.

2. A boat anchor mechanism comprising an anchor and cable means secured thereto for hauling and hoisting said anchor, a bowsprit which is adapted to be secured at its inner end to a boat deck, a winch for said cable means mounted on said bowsprit and adjacent the inner end thereof, an anchor storing station disposed beneath the outer end of the bowsprit and spaced from the deck and gunwale of the boat, a pulley roller cable guide mounted on said bowsprit adjacent said anchor storing station, said pulley roller being arranged to support and guide said cable and attached anchor to and from said storing station, a spring mounted roller guide positioned on the upper side of said bowsprit intermediate said winch and said pulley roller cable guide for yieldably engaging said

anchor cable, and means for electrically driving said winch for hauling and hoisting the anchor cable.

3. A boat anchor mechanism comprising an anchor and cable means secured thereto for hauling and hoisting said anchor, a bowsprit which is adapted to be secured at its inner end to a boat deck, an electric motor driven winch for said cable means mounted on said bowsprit and adjacent the inner end thereof, an anchor storing station disposed beneath the outer end of the bowsprit and spaced from the deck and gunwale of the boat, a pulley roller cable guide mounted on said bowsprit adjacent said anchor storing station, said pulley roller being arranged to support and guide said cable and attached anchor to and from said storing station, a spring mounted roller guide positioned on and above the upper side of said bowsprit intermediate said winch and said pulley roller cable guide for yieldably engaging said anchor cable, and remote control electrical switch mechanism for controlling the actuation of said motor driven winch.

4. A boat anchor mechanism comprising an anchor having counterbalanced flukes, a bowsprit adapted for attachment at its boat end to the deck of a boat, a winch mounted on the deck end of said bowsprit, said winch comprising cable means which is fastened to said anchor, a pulley roller cable guide mounted beneath the outer end of said bowsprit, a spring plate positioned on said bowsprit between said winch and said roller cable guide, a roller cable guide mounted on and secured to the upper side of said spring plate for yieldably supporting and guiding the anchor cable, and means for electrically driving said winch reel for casting and hauling in said anchor.

5. A boat anchor mechanism comprising an anchor, said anchor comprising an elongated shank member, a bowsprit which is adapted to be secured at its inner end to a boat deck, a winch and cable which is connected to said elongated shank of said anchor, said winch being mounted on said bowsprit, an anchor storing station arranged beneath the outer end of the bowsprit and spaced from the deck and gunwale of the boat, a pulley roller cable guide mounted on said bowsprit adjacent said station and adapted for supporting and guiding said cable and attached anchor to and from said storing station and while spaced outwardly of the boat, a spring mounted roller guide positioned on the upper side of said bowsprit intermediate said pulley cable guide and said winch engaging and supporting said elongated shank of said anchor and yieldably clamping said anchor to said storing station when the anchor is hoisted into storing position.

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