March 21, 1961 W. UEBELHOER 2,975,748

ANCHOR DAVIT

Filed May 15, 1959 2 Sheets-Sheet 1

FIG. 1

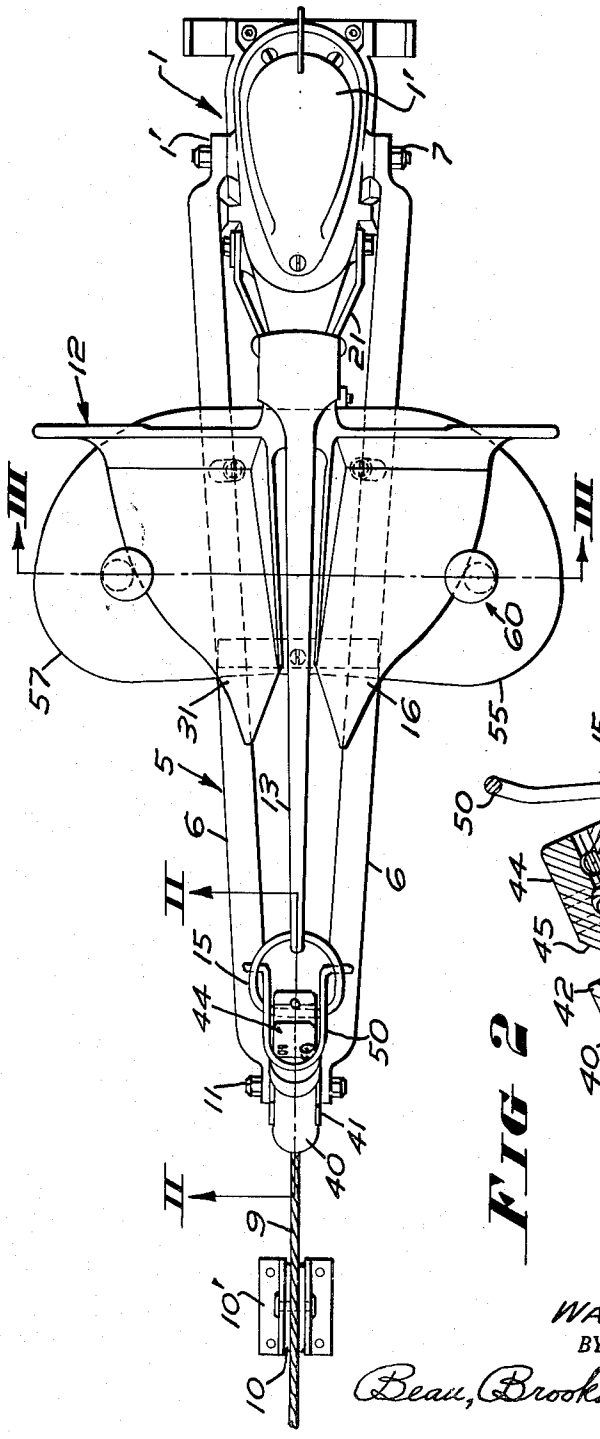


FIG. 3

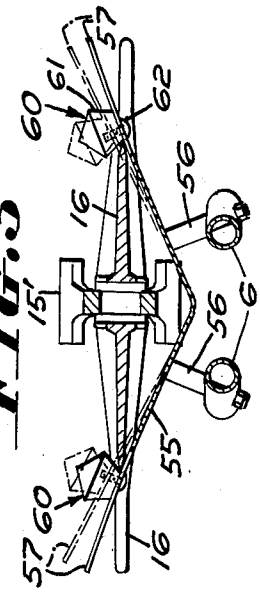
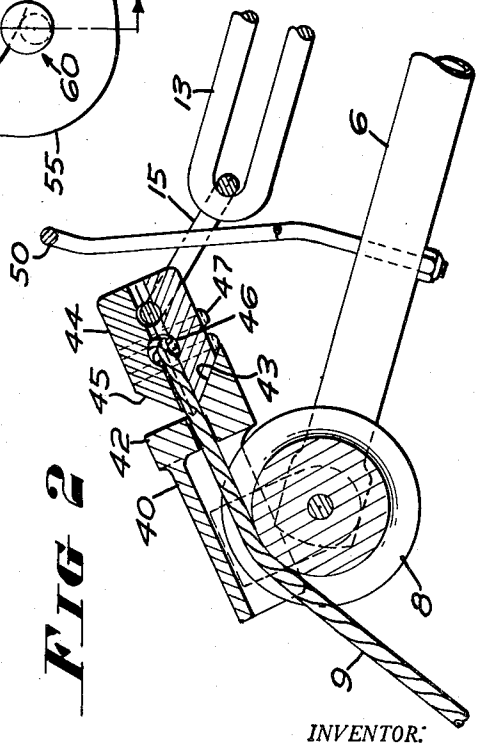


FIG 2



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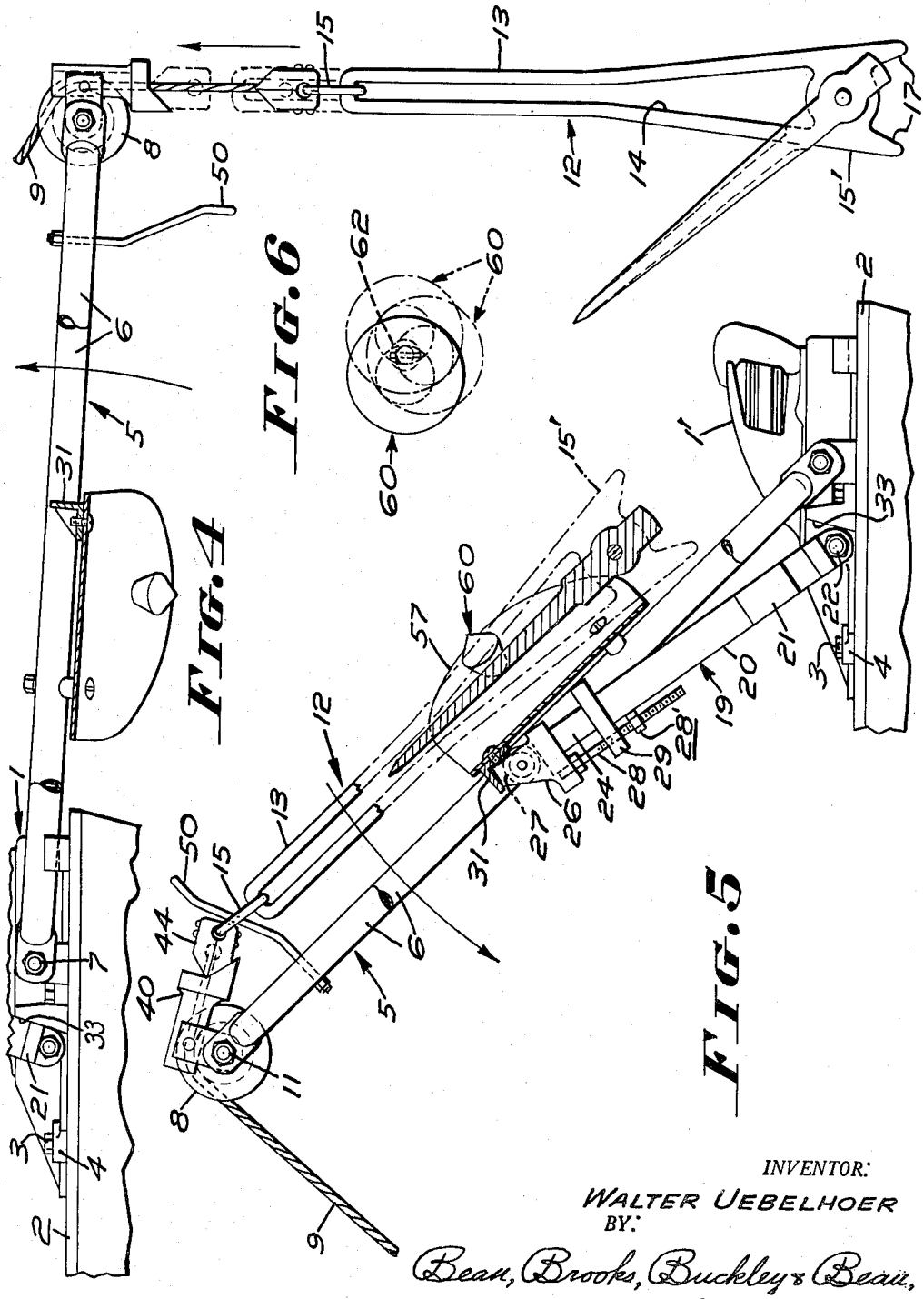


FIG. 4

FIG. 6

FIG. 5

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ANCHOR DAVIT

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Filed May 15, 1959, Ser. No. 813,531

8 Claims. (Cl. 114—210)

This invention relates generally to the anchor handling art, particularly in relation to small and medium sized boats, and more specifically to a new and useful anchor davit for that purpose. This application is a continuation-in-part of my pending application Serial No. 712,231, filed January 30, 1958, now Patent No. 2,931,331, dated April 5, 1960.

It is a particular object of this invention to provide a simplified arrangement for holding the anchor against dropping as the davit moves to stowed position, and for chocking the anchor in stowed position.

An anchor davit constructed in accord with my invention is characterized in one aspect thereof by the provision of a support mounted on a base for swinging about a normally generally horizontal axis, a pulley carried by the support, a rope trained over the pulley, and an anchor carried by the rope, wherein ring means are interposed between the rope and the anchor, and the support carries ring receiving hook means extending forwardly and upwardly therefrom when the support is in a substantially straight vertical position to receive the ring means and thereby support the anchor against dropping onto the deck.

In another aspect thereof, an anchor davit constructed in accord with my invention is characterized by the provision of a support mounted adjacent one end on a base for swinging movement between anchor lowered and anchor stowed positions, a pulley mounted on the support adjacent its other end, a rope trained over the pulley, and an anchor carried by the rope, the anchor having a shank and a pair of flukes, and the support carrying plate means having lateral wing members for receiving the anchor flukes generally flatwise thereagainst, together with guide means operable automatically to align the anchor flukes with the wing members, and chocking members carried by the wing members and wedging the anchor flukes thereagainst as the support moves into anchor stowed position.

The foregoing and other objects, advantages and characterizing features of an anchor davit constructed in accord with my invention will become clearly apparent from the ensuing detailed description of a presently preferred embodiment thereof, in conjunction with the accompanying drawings illustrating said embodiment wherein like reference numerals denote like parts throughout the various views and wherein:

Fig. 1 is a top plan view showing an anchor davit of my invention in anchor stowed position;

Fig. 2 is a fragmentary, longitudinal sectional view thereof taken about on line II—II of Fig. 1;

Fig. 3 is a transverse sectional view thereof taken about on line III—III of Fig. 1;

Fig. 4 is a side elevational view thereof, showing the davit in anchor lowered position, with certain parts broken away for ease of illustration and greater clarity;

Fig. 5 is a side elevational view thereof in a position intermediate its anchor stowed and anchor lowered positions; and

Fig. 6 is a fragmentary detail view of one of the anchor chocking posts, illustrating some of the possible variations in position thereof.

The illustrated anchor davit of my invention comprises a base, generally designated 1, adapted to be secured to the deck 2 of a boat as by means of bolts 3 or the like extending through ears 4. Base 1 also can function as a support for a housing for running lights, and the like, as indicated at 1', as will be readily apparent to those skilled in the art.

It is contemplated that base 1 will be secured to deck 2 at a central position in the bow, thereby enabling a support, generally designated 5, to project forwardly of the boat when in its anchor lowered position illustrated in Fig. 4. Support 5 comprises a pair of struts 6 pivotally mounted adjacent the lower or inner ends thereof on base 1, as by means of a bolt 7 passing through ears 7'.

A pulley 8 is journaled on struts 6 at the upper or outer ends thereof, by a bolt 11, and is grooved in the usual manner to receive an anchor rope 9 trained thereover. Rope 9 also is trained over a grooved pulley 10 carried by a bracket 10' adapted to be attached to a convenient portion of the boat, between the anchor davit and a reel, not illustrated.

The drawings show an anchor, generally designated 12, of a known construction which is no part of my invention, although I believe that an anchor of the illustrated construction is particularly well suited to use with the davit of my invention. Such an anchor comprises a shank 13 slotted from one end substantially to the other end thereof, as illustrated at 14, to enable sliding movement therealong of a ring 15 to which the anchor rope is connected. At its other end, the anchor shank 13 is tapered and enlarged, to provide a body portion 15' on which a pair of flukes 16 are supported for pivoting movement relative thereto limited by opposed shoulders 17 on the body 15'. Of course, the davit of my invention is readily adapted for use with other anchor constructions, although the one illustrated is particularly advantageous for reasons set forth in my aforesaid pending application.

Anchor 12 is adapted to be raised, and the anchor and davit are adapted to be moved to the stowed position illustrated in Fig. 1, by pulling upon anchor rope 9, as will be described in greater detail hereafter.

For swinging support 5 and anchor 12 from the anchor stowed position of Fig. 1 to the anchor lowered position of Fig. 4, I provide means in the form of a spring motor, generally designated 19, comprising a housing 20 carried by a clevis bracket 21 pivotally mounted on base 1 as by a bolt 22 and containing a compression type spring, not illustrated. A plunger rod 24 projects from housing 20 and carries a washer or like piston part, not illustrated, within housing 20. Rod 24 is provided at its outer end with a generally U-shaped bracket 26 mounting a pulley 27. The upper end of housing 20 is closed, and plunger rod 24 normally is urged by the compression spring to its fully projected position relative to the housing 20, which projected position is limited, in accord with this invention, by a length-adjustable tie rod 28 extending between bracket 26 and a flange 29 on housing 20, and having a positionally adjustable lock nut 28' to selectively vary the permitted projection of rod 24 from housing 20.

Spring motor 19 and support 5 are provided with cooperating shoulders, for cocking the motor upon movement of the support to anchor stowed position, and whereby release of this support will initiate movement thereof by the spring motor toward anchor lowered position. To this end, plunger bracket 26 is adapted to engage beneath a cooperating shoulder in the form of an angle 31 carried by the support struts 6 and spanning the same intermediate the opposite ends thereof. Thus, upon rear-

ward movement of support 5 from the position of Fig. 4 toward that illustrated in Fig. 1, the outer end of the motor plunger 24 will engage beneath the support bracket 31, whereby continued rearward movement of support 5 will telescope plunger rod 24 into motor housing 20, as illustrated in Fig. 5, compressing the motor spring and thereby storing up potential energy for subsequently swinging the support 5 up and over, past its dead-center point, when the anchor rope 9 is released. The weight of anchor 12 will continue the forward, anchor lowering movement of the davit. Also, to insure movement of support 5 past its dead-center position a torsion spring, not illustrated, can be provided to swing motor 19 past its dead-center position to a forward position determined by stops 33, as illustrated in Fig. 4. When in this position, the anchor rope 9 trains over the pulley 27, whereby the spring motor 19 holds the anchor rope 9 well off the deck in a substantially elevated condition relative to the support pulley 8 to provide a lever arm which is effective and fully operative when the support 5 is in a generally horizontal position.

All of the foregoing is more fully set forth in my pending application Serial No. 712,231 to which reference is hereby made for further explanation and missing details.

It is a particular feature of this invention that upon predetermined anchor stowing movement of the davit, as when it reaches a position midway between those illustrated in Figs. 4 and 5, the anchor is automatically held against lowering movement relative to the davit support 5, so that there is no danger of the anchor suddenly dropping and damaging the boat deck, and upon further anchor stowing movement the anchor is chocked against support 5, and against movement relative thereto, all in a greatly simplified manner which avoids clamping the anchor rope.

To this end, a guide member 40 is journaled on the bolt 11 holding support pulley 8, having a pair of arms 41 for this purpose. Guide member 40 has an enlarged head 42 formed with an opening through which the anchor rope 9 passes, and said head is provided on its undersurface with an inclined cam surface 43 forming a plug receiving seat.

The anchor rope 9 carries at its outer end a plug 44 having an inverted V-shaped upper surface 45 complementing and adapted to coact with the guide member cam surface seat 43. The plug 44 is conveniently formed of matched, paired sections recessed to accommodate both a ball shaped knot 46 on the end of anchor rope 9 and the ring 15, being held together as by fastenings 47.

A generally U-shaped hook member 50 has its opposite ends secured to struts 6 to extend forwardly and upwardly therefrom, much like a tongue, to receive the ring 15, whereby upon raising anchor 12 and swinging the davit support 5 to anchor stowed position, the ring 15 slips over hook 50 as the support approaches its dead center position so that thereafter the anchor will be carried by hook 50 and will not drop to the deck, even if the anchor rope 9 is released. This is accomplished without clamping the anchor rope, and in a manner characterized by its extreme simplicity and dependability.

Continued rearward swinging of the davit support to anchor stowed position swings the anchor 12 toward anchor receiving means in the form of a bed comprising a plate 55 bolted or otherwise secured to the support struts 6, as indicated at 56, and having outwardly diverging wings 57 at opposite sides thereof, the plate 55 being adapted to receive the anchor flukes thereagainst when the anchor is in its stowed position.

To insure that the anchor moves into stowed position on the plate 55 in proper alignment therewith, the plug surface 45 engages the guide member surface 43 and is cammed into proper position. Even if, under unusual circumstances, this camming action should not occur then ring 15 will bear against the curved outer end of hook 50 and be cammed into position to be received thereon, which will swing the anchor into position for movement flatwise against the plate 55 because ring 15 is permitted only partial rotation relative to the anchor shank 13. Also, the width of hook 50 is substantially in excess of the radius of ring 15 whereby rotation of the latter is severely restricted once it engages on the tongue 50.

Each wing 57 of plate 55 is provided with anchor chocking members 60, which are generally circular in transverse section and are provided with a diverging side wall formation on the body 61 thereof, the members 60 being fastened to the wings 57, as by screws 62, eccentrically positioned so that, as illustrated, in Fig. 6, the chocking members can be rotated about the fastenings 62 to vary the relative spacing between the members and thereby provide a final adjustment and accommodate anchors of different size.

As support 5 is swung rearwardly anchor 12 is brought into chocked position against plate 55, as illustrated in Fig. 5, at which point the anchor flukes 16 engage beneath the chocking members 60 and are wedged by the side walls 61 toward the plate wings 57, to be tightly engaged thereagainst. In addition, plate 55 preferably is formed of a thin sheet metal material, such as stainless steel, having a degree of resilient flexibility such that as the anchor is wedged into chocked position, the plate 55 is stressed with the wings 57 resiliently yielding and shifting from the position thereof illustrated in phantom to that illustrated in full lines in Fig. 3.

Accordingly, it is seen that my invention fully accomplishes its intended objects, and while only one embodiment thereof has been disclosed herein, that has been done by way of illustration, and not by way of limitation. Also, it will be appreciated that various of the davit parts can be cast, to reduce the overall cost.

Having fully disclosed and completely described my invention, and its mode of operation, what I claim as new is:

1. An anchor davit comprising, a base, a support mounted on said base for swinging movement relative thereto between anchor stowed and anchor lowered positions about a normally generally horizontal axis, a pulley carried by said support, a rope trained over said pulley, an anchor carried by said rope, ring means interposed between said rope and said anchor, and ring receiving hook means carried by said support, said hook means extending forwardly and upwardly from said support when said support is in a substantially straight vertical position relative to said base, said ring means slipping over said hook means upon predetermined movement of said support from said anchor lowered position toward said anchor stowed position, said hook means thereby supporting said anchor against lowering movement relative to said support when the latter is in said substantially vertical position.

2. An anchor davit as set forth in claim 1, wherein said ring means comprise a ring member permitted only partial rotation relative to said anchor, and said hook means comprise a tongue rounded at its outer end and of a width substantially in excess of the radius of said ring member, whereby as said tongue receives said ring member said anchor is brought into predetermined alinement with said support.

3. An anchor davit as set forth in claim 2, wherein said support comprises a pair of strut members, and said tongue is generally U-shaped in plan view with its opposite ends secured to said strut members.

4. An anchor davit comprising, a base, an elongated support mounted adjacent one end thereof on said base for swinging movement relative thereto between anchor stowed and anchor lowered positions, a pulley mounted

on said support adjacent the other end thereof, a rope trained over said pulley, an anchor carried by said rope, said anchor comprising a shank and a pair of flukes carried thereby, said support being swung from said anchor lowered position to said anchor stowed position by pulling upon said rope, plate means mounted on said support intermediate its ends and having lateral wing members for receiving said anchor flukes generally flatwise thereagainst as said support is moved into its anchor stowed position, guide means carried by said support and by said rope and operable automatically upon pulling said rope and raising said anchor at the beginning of movement of said support out of said anchor lowered position to aline said flukes for movement generally flatwise against said wing members, and chocking members carried by said wing members and subsequently operable automatically to wedge said anchor flukes in stowed position against said wing members upon continued pulling on said rope.

5. An anchor davit as set forth in claim 4, wherein said chocking members are mounted on said wing members for rotation relative thereto about axes eccentrically positioned relative to said chocking members, thereby to enable selective variation in the spacing between said chocking members.

6. An anchor davit as set forth in claim 4, wherein said wing members are resiliently yieldable and are stressed as said anchor flukes are wedged thereagainst.

7. An anchor davit as set forth in claim 4, wherein said chocking members are generally circular in transverse section and provided with an outwardly diverging side wall formation.

8. An anchor davit comprising, a base, an elongated support mounted adjacent one end thereof on said base for swinging movement relative thereto between anchor stowed and anchor lowered positions, a pulley mounted

on said support adjacent the other end thereof, a rope trained over said pulley, an anchor carried by said rope, said anchor comprising a shank and a pair of flukes carried thereby, said support being swung from said anchor lowered position to said anchor stowed position by pulling upon said rope, plate means mounted on said support intermediate its ends and having lateral wing members for receiving said anchor flukes generally flatwise thereagainst as said support is moved into its anchor stowed position, guide means carried by said support and said rope and operable automatically upon pulling said rope and raising said anchor at the beginning of movement of said support out of said anchor lowered position to aline said flukes for movement generally flatwise against said wing members, and chocking members carried by said wing members and subsequently operable automatically to wedge said anchor flukes in stowed position against said wing members upon continued pulling on said rope, said chocking members being generally circular in transverse section and being provided with outwardly diverging side wall formations for wedging said anchor flukes against said wing members and said wing members being resiliently yieldable and therefore stressed as said anchor flukes are wedged thereagainst, and said chocking members being mounted on said wing members for rotation relative thereto about axes eccentrically positioned relative to said chocking members, thereby to enable selective variation of the spacing between said chocking members.

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