United States Patent [19]

Van Tuyl

[11] **3,752,107**

[45] **Aug. 14, 1973**

[54] **MOUNT FOR A TWIN-FLUKE TYPE ANCHOR**

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[21] Appl. No.: **190,924**

[52] **U.S. Cl.** **114/210**

[51] **Int. Cl.** **B63b 21/22**

[58] **Field of Search** 114/206, 207, 208, 114/210; 248/311, 310, 40, 41

[56] **References Cited**

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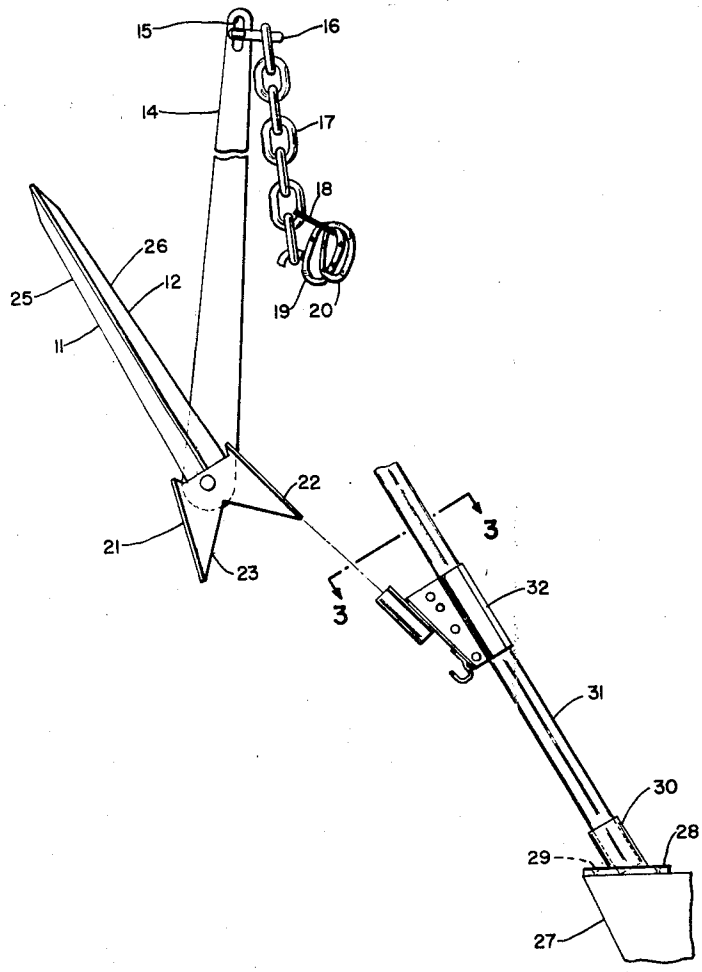
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[57] **ABSTRACT**

A mount for an anchor of the twin-fluke type disclosed wherein the anchor includes an elongated stock integrally connected to the flukes and an elongated shank pivotally connected to the stock between the flukes. The anchor further includes a pair of flat crown plates, each plate connected to the stock between the flukes and spaced outwardly on opposite sides of the plane of the flukes and sloping inwardly toward the plane of the flukes so as to permit bottom to flow freely between the flukes and the underside of the respective crown plates when the anchor is resting on the bottom of a body of water. The mount is mounted on an upstanding portion of a vessel, such as a stanchion, with the stanchion extending upwardly at an angle of about 90° or less from the horizontal. The mount includes a crown plate support thereon for receiving one of the crown plates of the anchor therein and retaining the plate at an angle such that the plane of the flukes is generally parallel to the longitudinal axis of the stanchion when one of the crown plates of the anchor is mounted in the crown plate support.

4 Claims, 8 Drawing Figures



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SHEET 1 OF 3

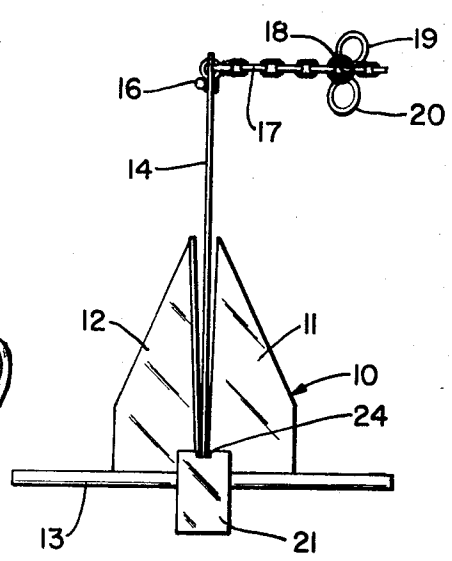


FIG_1

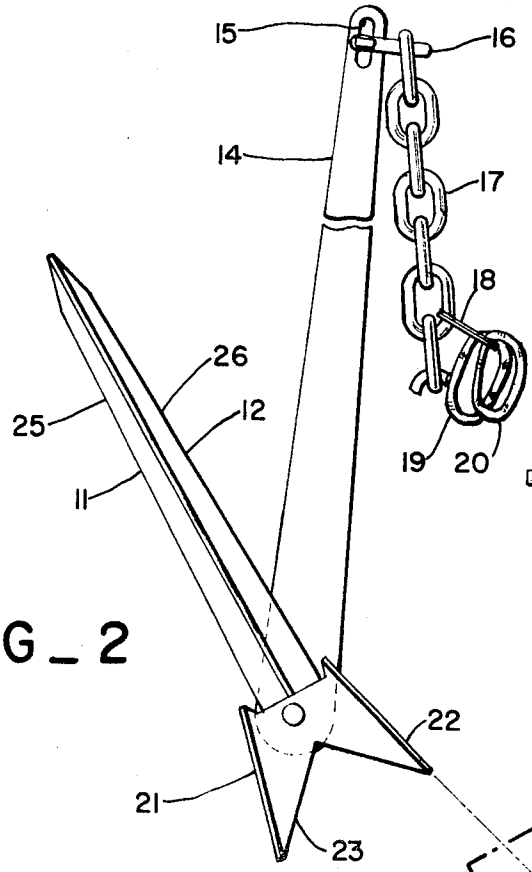


FIG_2

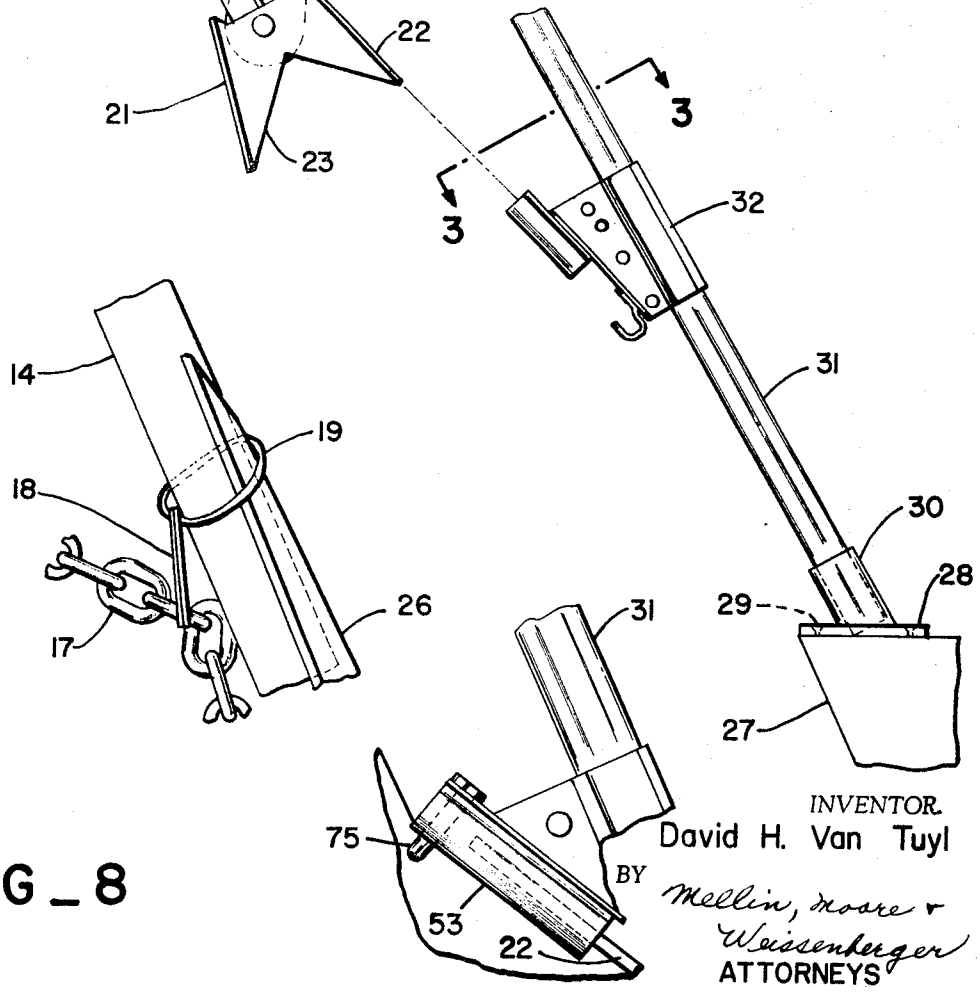
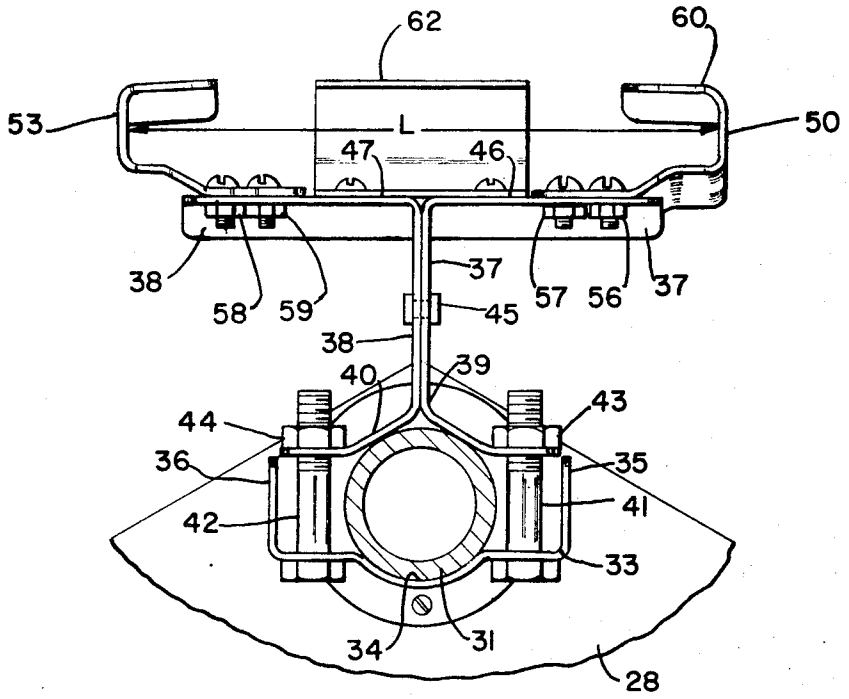


FIG_8

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FIG_3



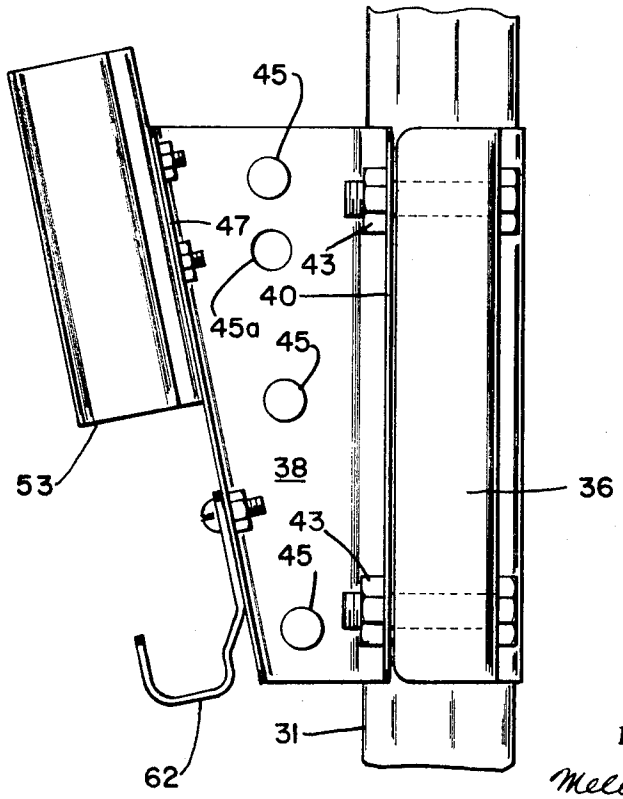


FIG_4

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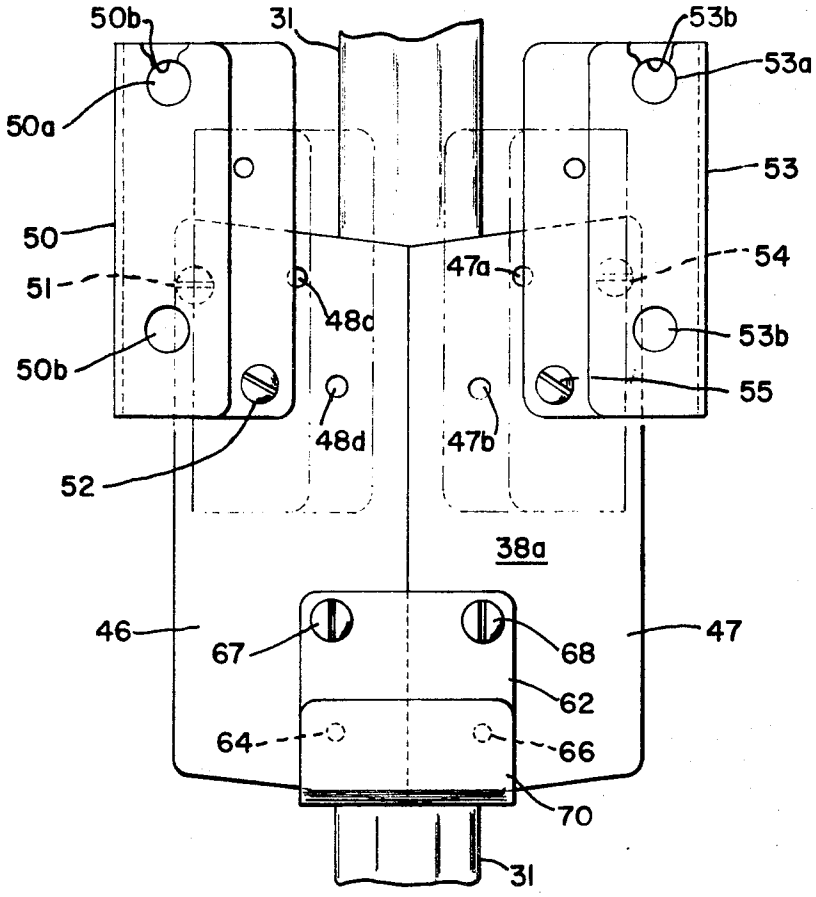


FIG_5

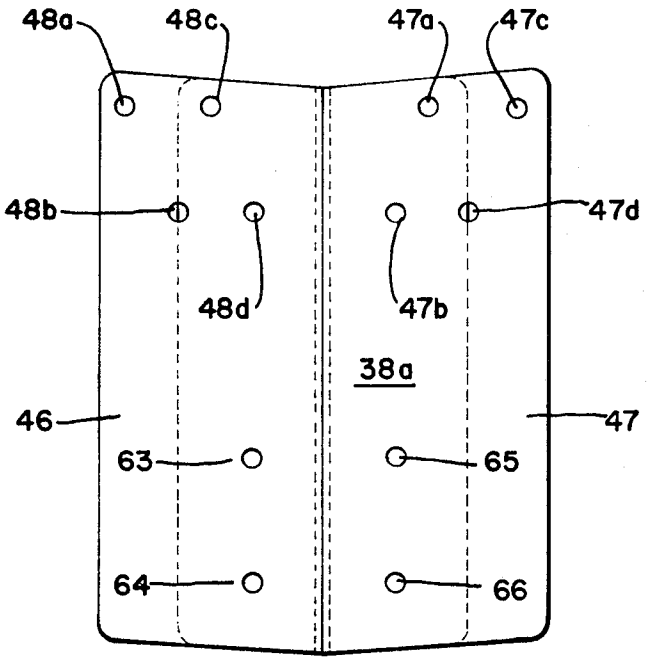


FIG_6

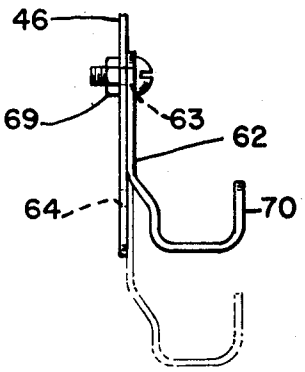


FIG_7

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MOUNT FOR A TWIN-FLUKE TYPE ANCHOR

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to anchor mounts; and, more particularly to a mount for an anchor of the twin-fluke type.

2. Description of the Prior Art

The use of anchors is of course essential with all types of vessels. Generally, such anchors are sold by the pound and are thus relatively expensive, particularly where a large amount of holding power is required. In recent years, a twin-fluke type anchor has been developed which gives a considerable amount of holding power under all conditions, yet does not weigh as much (and thus cost as much) as conventional anchors of similar holding power. This same efficient distribution of weight, however, makes storage of such anchors below decks inconvenient on most vessels.

One such twin-fluke type anchor, for example, is disclosed in a U. S. Pat. No. 2,641,215 to Danforth. Over the years, various types of mounts have been suggested for anchors in general. One such mount suggested for the twin-fluke type anchor is disclosed in a U. S. Pat. to Ogg et al., No. 2,705,467. However, in this type of mount, the flukes of the anchor are generally parallel and close to the ship's deck. Thus, mud or the like drips from the anchor directly onto the deck. Further, the mount is such that it must take up a considerable area of the deck. On certain vessels, such deck space may be at a premium. Finally, the mooring rode coupled to the shank of the anchor would merely stretch across the deck, resulting in a safety hazard.

SUMMARY OF THE INVENTION

It is an object of this invention to provide a mount for a twin-fluke type anchor which takes up relatively little space on the deck of a vessel.

It is a further object of this invention to provide a mount for a twin-fluke type anchor which enables mud or the like to drip off the anchor but not onto the deck of the vessel.

It is a still further object of this invention to provide such a mount which includes means thereon for storing the mooring rode coupled to the anchor.

It is an even further object of this invention to provide such a mount which can be readily accommodated to various sizes of such anchors.

It is still another object of this invention to provide a mount for such an anchor having maximum accessibility for use of the anchor when required.

These and other objects are preferably accomplished by providing a mount for an anchor wherein the anchor includes an elongated stock integrally connected to the flukes and an elongated shank pivotally connected to the stock between the flukes. The anchor further includes a pair of flat crown plates, each plate connected to the stock between the flukes and spaced outwardly on opposite sides of the plane of the flukes and sloping inwardly toward the plane of the fluke so as to permit bottom to flow freely between the flukes and the underside of the respective crown plates when the anchor is resting on the bottom of a body of water. The mount is mounted on an upstanding portion of a vessel, such as a stanchion, with the stanchion extending upwardly at an angle of about 90° or less from the horizontal. The mount includes a crown plate support thereon for receiving one of the crown plates of the anchor therein and retaining the plate at an angle such that the plane of the flukes is generally parallel to the longitudinal axis of the stanchion when one of the crown plates of the anchor is mounted in the crown plate support.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a vertical view of a twin-fluke type anchor having a mooring rode coupled thereto which is to be used with the mount of my invention;

FIG. 2 is a side view of the anchor of FIG. 1 adapted to be inserted into the mount of my invention;

FIG. 3 is a view taken along line 3—3 of FIG. 2 of the stanchion and mounting bracket of my invention prior to insertion of the anchor thereon;

FIG. 4 is a side view of a portion of the mount of FIG. 2;

FIG. 5 is a front view of the mount of my invention;

FIG. 6 is a front view of the branch portions of the bracket members forming the mount of FIG. 5 with parts connected thereto omitted for convenience of illustration;

FIG. 7 is a side view of a portion of the mount of FIG. 5; and

FIG. 8 is a side view of the anchor of FIG. 1 mounted on the mount of my invention with parts thereof broken away for convenience of illustration.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing, FIG. 1 shows a conventional anchor 10 of the twin-fluke type. Thus, anchor 10 includes a pair of generally triangular flukes 11 and 12 rigidly secured at their bases to a stock 13, generally in the form of a cylindrical rod or the like, which stock 13 extends in a direction normal to the planes of flukes 11 and 12 and for a short distance on both sides thereof. An elongated shank 14 is pivotally connected at generally the midpoint of stock 13 and between flukes 11 and 12. Shank 14 extends beyond the apices of flukes 11 and 12 and includes an aperture 15 (see FIG. 2) at its free end for receiving a selectively closable hook 16 or the like. Hook 16 is coupled to a mooring or anchor rode in the preferred form of a chain 17 or the like. At a particular location along chain 17, to be explained more fully hereinbelow, a preferably rigid ring 18 is threaded through one of the links forming chain 17. Ring 18 has a pair of resilient rings 19 and 20 or the like threaded therethrough.

A pair of generally flat crown plates 21 and 22 (see also FIG. 2) are spaced from and integrally connected to stock 13 at generally the midpoint thereof. Preferably, stock 13 passes through suitable apertures in one or more brackets 23 (only one shown in FIG. 2) connecting plates 21 and 22 to stock 13 and is secured therein, as by welding or the like. As can be seen in FIG. 2, each side of each bracket 23 is generally symmetrical about the center axis of stock 13 with shank 14 pivoting between the brackets securing crown plates 21 and 22 to stock 13. Plates 21 and 22 include notches 24 which impede the pivotal movement of shank 14 (only one such notch 24 shown in FIG. 1 — the position of shank 14 in FIG. 2 shows the function of notches 24).

As can be seen in FIG. 2, flukes 11 and 12 preferably include flanges 25 and 26 extending along their inner

sides and in a direction opposite to each other for reasons well known in the art of this type of anchor. Also, crown plates 21 and 22, as can be seen in FIG. 2, are sloped or tilted inwardly toward the plane of flukes 11 and 12. Preferably, each crown plate 21 and 22 is spaced from the plane of flukes 11 and 12 a distance, measured outwardly from the centerline of stock 13 and at substantially 90° to the plane of the flukes 11 and 12, of between about 3 percent and about 16 percent of the shank length with the slope of the plates 21 and 22 such that bottom is permitted to flow freely betwen the flukes 11 and 12 and the underside of plates 21 and 22 when the anchor 10 rests on the bottom of a body of water. Further, each crown plate 21 and 22 preferably has a width greater than about 5 percent of the length of shank 14 and a length from about 10 percent to about 28 percent of the length of the shank 14 and is positioned with between about 20 percent and about 50 percent of its area forward of the point of pivot of shank 14 on stock 13.

All of the foregoing, with the exception of rings 18 through 20, has described an anchor that is conventional in the art and forms no particular part of my invention. Further, the action and use of such an anchor is also well known in the art and no further discussion thereof is deemed necessary. Finally, although a particular type of anchor has been described, the techniques of my invention are applicable to any anchor of the twin-fluke type having components which adapt themselves to the structure of my unique mount.

Thus, referring once again to FIG. 2, a portion of a gunwale 27 of a vessel (not shown) is shown having a mounting bracket 28 secured thereto, as by screws 29 or the like. Bracket 28 includes an upstanding sleeve portion 30 which may be inclined from the vertical as is conventional on a vessel. A stanchion 31 in the general form of a cylindrical tube telescopingly fits into sleeve portion 30. Such an arrangement is usual on a vessel and a railing or the like (not shown) is generally carried at the top of the stanchion 31 about portions of the deck of the vessel. Thus, as will be explained, my invention is adaptable to a previously existing arrangement on a vessel. Of course, although the device of my invention will be discussed as mounted on stanchion 31, it could be mounted elsewhere on the vessel, such as on the transom thereof or on any suitable upstanding portion thereof.

A crown plate support 32 in accordance with my invention is mounted on stanchion 31. As shown in FIG. 3, crown plate support 32 includes a generally U-shaped bracket member 33 having an elongated cavity 34 for receiving stanchion 31 therein. Flanges 35 and 36 extend on each side of stanchion 31. A pair of generally U-shaped members 37 and 38 are interconnected, as by rivets 45 or the like, and are adapted to receive the other side of stanchion 31 at the intersection of their branch portions 39 and 40, respectively. An aperture 45*a* may extend through members 37 and 38 for reasons to be discussed further hereinbelow. A plurality of bolts 41 and 42 extend through suitable apertures in bracket members 33, 37 and 38 and include nuts 43 and 44, respectively, for securing bracket members 33, 37 and 38 together and thus clamping stanchion 31 therebetween (only the upper nuts and bolts being visible in FIG. 3).

Referring to FIG. 4, bracket 38 is shown in side view. It can be seen that the configuration of the portion of bracket 38 joining the legs forming the U of the bracket is generally trapezoidal with the wide base portion at the top thereof. Bracket 37 is of course symmetrical to bracket 38. This configuration imparts a particular degree of angularity to the sleeve members which receive the crown plate 22, as will now be described.

Thus, the faces of branch portions 46 and 47 of bracket members 37 and 38, respectively, include a plurality of spaced apertures on their planar faces 38*a* (see FIGS. 5 and 6). For example, branch portion 46 includes a plurality of spaced apertures 48*a* through 48*d* (FIG. 6) adapted to receive suitable nuts and bolts (not shown), which apertures are aligned with a like pair of apertures on a first sleeve member 50 (FIG. 5). Sleeve member 50 is shown in FIG. 5 is mounted, through bolts 51 and 52, in a solid line position on branch portion 46 in apertures 48*a* and 48*b* respectively. Alternatively, sleeve member 50 may be reversed and mounted in the dotted line position on branch portion 47 by means of apertures 47*a* and 47*b*. In like manner, branch portion 47 includes a plurality of spaced apertures 47*a* through 47*d* (FIG. 6) adapted to receive suitable nuts and bolts, which apertures are aligned with a like pair of apertures on second sleeve member 53. Sleeve member 53 is shown in FIG. 5 as mounted, through bolts 54 and 55, in apertures 47*c* and 47*d* respectively in branch portion 47. Spaced apertures 48*c* and 48*d* on the face of branch portion 46 permit sleeve member 53 to be reversed and mounted in the dotted line position on portion 46. Of course, sleeve members 50 and 53 may be bolted in apertures 47*c*, 47*d* and 48*a*, 48*b*, respectively.

As shown in FIG. 3, suitable nuts 56 through 59 are secured to bolts 51, 52, 54 and 55, respectively. In this manner, sleeve members 50 and 53 can be quickly moved between solid and dotted line positions as shown with respect to sleeve members 50 and 53 of FIG. 5 and discussed hereinabove. In addition, each sleeve member is generally hook-shaped in cross-section as shown in FIG. 3; thus, the hook portions 60 and 61, respectively, of sleeve members 50 and 53 serve to retain the sides of crown plate 22 from lateral movement as will be discussed more fully herinbelow. The portions of sleeve members 50, 53 that extend from branch portions 46, 47 to hook portions 60, 61 are bridging portions of the U-shaped sleeve members 50, 53. Also, the apertures on the faces of branch portions 46 and 47 permit the distance L between hook portions 60 and 61 (see FIG. 3) to be varied to accommodate crown plates of varying widths (and thus anchors of different sizes). This distance can be further varied in the manner discussed hereinabove with regard to the interchangeability of sleeve members 50, 53 on branch portions 46, 47.

A base plate 64 (FIG. 5) is mounted on the lower portion of the faces of branch portions 46 and 47 to prevent downward movement of the crown plate. Branch portion 46 includes a pair of generally vertically aligned apertures 63, 64 (FIG 6) while branch portion 47 includes a pair of generally vertically aligned apertures 65, 66 (aperatures 63 and 65 being generally horizontally aligned while apertures 64 and 66 are also generally horizontally aligned). Thus, as shown in FIG. 7, base plate 62 can be quickly moved between the solid and dotted line positions to accommodate crown plates of varying lengths. Bolts 67 and 68 (FIG. 5) secure plate 62 within apertures 63 and 65

and are retained therein by suitable nuts (only nut **69** being shown in FIG. **7**). Plate **62** also includes a hook portion **70**, similar to hook portions **60** and **61**, for preventing forward movement of a crown plate retained therein (and thus out of plate **62**), as will also be discussed further hereinbelow.

Finally, a pair of vertically aligned apertures **50**a and **50***b* are formed in the hook portion **60** of sleeve member **50** (i.e., extending from the front to the rear thereof — see FIG. **3**). Like apertures **53***a* and **53***b* are formed in hook portion **61** of member **53**. These apertures permit locking means such as a lock or pin **75** (FIG. **8**) to be inserted therein to prevent removal or undesired or accidental withdrawal of anchor **10** when crown plate **22** (not visible in FIG. **8**) is in place. Thus, as shown in FIG. **8**, these apertures are above the uppermost portion of crown plate **22** when it is inserted in sleeve members **50** and **53** (i.e., apertures **50***a* and **53***a* — apertures **50***b* and **53***b* would be above plate **22** if members **50** and **53** were on branch portions **46** and **47** in the manner indicated above). Pin **75** could of course be connected in some manner to the anchor mount and/or include some type of locking means associated therewith.

Referring now back to FIG. **2**, with particular reference to FIGS. **3** and **5**, the crown plate **22** of anchor **10** is inserted within the sleeve members **50** and **53** of crown plate support **32** until the bottom of crown plate **22** rests on base plate **62** while the hook portions **60** and **61** of sleeve members **50** and **53** retain crown plate **22** therein. The final position of the anchor **10** mounted on crown plate support **32** is shown in FIG. **8**. It can be seen that in this position the planes of flukes **11** and **12** are generally parallel to the longitudinal central axis of stanchion **31**. Thus, the stanchion **31** and any railing connected thereto can be any desired length or height and would not interfere with the flukes **11** and **12**. By mounting anchor **10** on gunwale **27** and over the side of the vessel, mud or the like would drip off into the body of water and not onto the deck of the vessel. Further, the anchor is out of the way and takes up no deck space.

On some vessels having no stanchion or decks for mounting anchors, as in open runabouts, or when desiring to mount a stern anchor on other types, the support **32** may be modified and bolted directly to the vessel's hull. The anchor secured in this way will lie in a plane parallel to the surface to which the bracket is attached.

As can also be seen in FIG. **8**, shank **14** can also be maintained in a generally parallel position with respect to flukes **11** and **12** (i.e., its longitudinal axis is also generally parallel to the central longitudinal axis of stanchion **31**). This is accomplished by means of rings **18** through **20** described hereinabove with respect to FIG. **1**. Thus, as shown, resilient rings **19** and **20** are placed about the apices of flukes **11** and **12**, respectively. Since such rings are resilient, they can be stretched a sufficient degree to firmly grasp the flukes **11** and **12** as these rings are carried on a rigid or coiled ring **18**, coupled, as by threading, for example, to a particular link of chain **17**, the chain **17** is held stationary between aperture **15** in shank **14** and its point of connection to ring **18**. This point of connection is preselected so that shank **14**, coupled to chain **17**, is retained in the position shown in FIG. **8**. The remaining portion of chain **17** may then be wrapped about stock **13**, and thus be out of the way of the deck of the vessel. The point of connection of ring **18** to chain **17** along chain **17** permits the ready location of the point for retaining shank **14** in its FIG. **8** position. When anchor **10** is lowered, rings **19** and **20** are automatically disengaged from flukes **11** and **12**, which prevents possible fouling of anchor **10**. If it is desired to store the anchor in the bracket without a chain attached, ring **18** may be attached to support **32** by means of a piece of line (not shown) in aperture **45***a* of FIG. **3** and the rings **19** and **20** looped over flukes **11** and **12** to maintain the shank parallel to the mount as described above.

It can be seen that I have described a mount for an anchor of the twin-fluke type which takes up no deck space and thus is desirable in all types of vessels, particularly sailboats where such space is necessary for working the vessel. The mount of my invention can be readily accommodated to anchors having crown plates of different widths and distance between the flukes. Of course, such a mount could be fixed, if desired, to accommodate a crown plate of one particular size and fluke distance. The angle imparted to the flukes and shanks by means of my mount enables mud or the like to drip off outside of the vessel deck. The use of my mount results in the anchor being mounted on a vessel without interference with the stanchion on which my mount is located or a railing or the like connected to the top of the stanchion. Finally, although the support **32** has been described in a particular orientation, obviously it could be reversed (i.e., turned upside down) with the anchor **10** held secure therein as long as the flukes were maintained generally parallel to a plane passing through the portion of the vessel to which support **32** is secured.

I claim as my invention:

1. A mount adapted to be mounted on a stanchion extending upwardly from the deck of a vessel or the like for an anchor of the twin-fluke type which anchor includes an elongated stock integrally connected to said flukes and an elongated shank pivotally connected at one end to said stock between said flukes, and a crown including a pair of substantially flat crown plates integrally connected to said stock between said flukes, said plates being supported in a position on said stock wherein each of said plates is spaced a short distance outwardly on opposite sides of the plane of said flukes with each crown plate sloping inwardly toward the plane of the flukes and being supported to permit bottom to flow freely between the flukes and the underside of the respective crown plates when said anchor is resting on the bottom of a body of water, said mount comprising:

a clamp having a plurality of mating flanges forming a generally elongated cavity therebetween for receiving the stanchion of said vessel within said cavity, said flanges including stanchion-clamping means for selectively opening said flanges to release said stanchion therefrom and clamp said stanchion within said cavity;

crown plate support means carried by said clamp for receiving one of said crown plates therein and retaining said plate at an angle such that the plane of said flukes, integrally connected thereto, when said crown plate is disposed in said crown plate support means and said clamp is secured to said stanchios, is generally parallel to a plane passing through the longitudinal axis of said stanchios, said crown plate support including bracket means coupled to said

clamp, the configuration of said bracket means imparting the angularity to the plate when said plate is mounted on said support means and sleeve means carried by said bracket means for retaining said plate therein, said sleeve means including a pair of generally U-shaped sleeve members secured to said bracket means along one side forming the U thereof, said sleeve members extending in a direction generally parallel to the length of said plate with said plate being retained therein and from movement away from said mount by the other sides forming the U's thereof with a bridging portion interconnecting one side forming the U with the remaining side forming the U of each of said sleeve members, and at least one generally U-shaped stop member extending in a direction generally normal to the length of said plate when said plate is disposed in said sleeve means mounted on said bracket means below said sleeve members for preventing downward movement of said plate when said plate is disposed in said sleeve means; said bracket means including means associated therewith for both varying the distance between the bridging portions of the sides forming the U's of said sleeve members and for varying the position of said stop member thereon to thereby vary the distance between the bridging portion of the sides forming the U of said stop member and the uppermost portion of said bracket means, all of said means for varying the distances between the bridging portions of said U-shaped sleeve members and said stop member are apertures in said bracket means, said apertures being aligned with like apertures in said stop member and said sleeve means.

2. The mount of claim 1 including crown plate locking means associated with said sleeve members for locking a crown plate disposed in said sleeve means from withdrawal therefrom.

3. The mount of claim 1 wherein the configuration of said bracket means is generally trapezoidal with the wide base thereof being at the top of said mount.

4. The mount of claim 1 wherein the angle imparted by said bracket means is substantially the same as the angular relationship of the crown plate adapted to be mounted on said support means to the flukes of the anchor integral with said crown plate.

* * * * *