Dec. 17, 1957 W. L. ROOT 2,816,522

BOAT ANCHOR

Filed Nov. 14, 1955

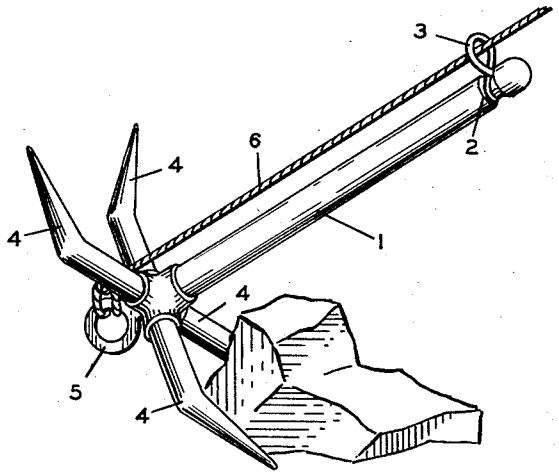


FIG_1

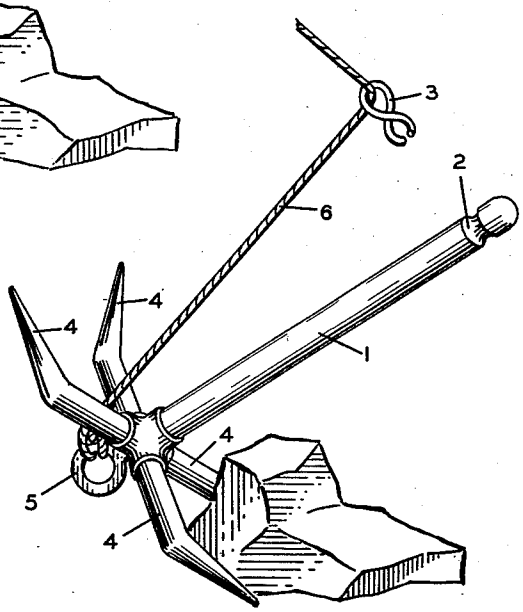


FIG_2

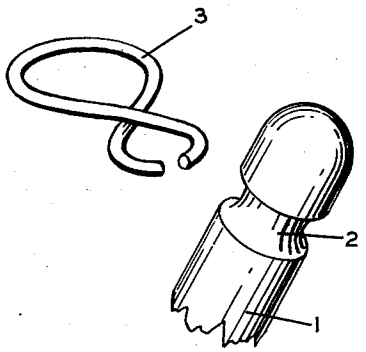


FIG_3

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BOAT ANCHOR

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3 Claims. (Cl. 114—210)

This invention relates to a new and improved boat anchor, and more particularly relates to improvements in an anchor adapted readily to be disengaged from contact with a sub-surface obstruction by tension applied to the anchor rope.

This is a continuation-in-part of my copending application Ser. No. 480,768 filed January 10, 1955.

Boat anchors of diverse types have heretofore been proposed and used as is well known. In many instances, prior anchors have been entirely satisfactory insofar as their ability to anchor a boat is concerned. However, prior anchors, especially those comprising a shank provided with a plurality of radially extending arms or flukes, generally have suffered the disability that when a sub-surface obstruction is engaged by one or more of said flukes, the anchor is only difficultly removable, if at all, without resort to time-consuming and often costly procedures.

In an effort to facilitate disengagement of such prior anchors from a sub-surface obstruction, it has heretofore been proposed to provide a non-rigid, hinged anchor shaft adapted to fold when tension is applied via the anchor rope. However, such a structure, involving a hinged joint susceptible to corrosion and mechanical failure, has not provided the desired solution.

Another prior proposal envisions an anchor provided with a U-shaped spring clip, slipped through an eye in the anchor shank and adapted to secure the anchor rope to the anchor shank and to the base of the anchor. However, this proposal, too, has failed completely to solve the problem. Not only has such a U-shaped clip caused difficulties by its non-rotatability about the anchor shaft, but, in many instances, has also failed properly to secure the anchor rope whereby under conditions of use, variation in anchor rope diameter results in loss of desired anchoring action by undesired disengagement of the anchor rope. Moreover, under such conditions, the U-shaped clip itself readily can slip out of its mounting entirely and sink, thus precluding further use of the anchor unless a replacement clip is available.

It is, therefore, a principal object of this invention, to provide a new and improved anchor readily disengageable from contact with sub-surface obstruction which anchor avoids the foregoing difficulties.

A further object of this invention is the provision of a new and improved anchor construction.

A still further object of this invention is to provide a new and improved boat anchor adapted to be readily disengaged from contact with an obstruction by tension applied to the anchor rope.

These and other objects and advantages of the invention will more fully appear from the following description thereof.

Referring to the accompanying drawing:

Fig. 1 is a perspective view of an anchor, embodying the invention, encountering a sub-surface obstruction;

Fig. 2 is a perspective view, similar to Fig. 1, illustrating the operation of an anchor of this invention; and

Fig. 3 is a perspective view of a rotatable, disengageable clip utilized in the practice of this invention.

This invention comprises, in combination, a rigid shank having anchor rope-securing means thereon adjacent one end thereof, a clamp rotatably and releasably secured to said shank adjacent the opposite end thereof, and at least one fluke secured to said shank adjacent said rope-securing means.

More particularly, this invention contemplates an anchor as described above wherein the clamp provided is an anchor rope-encircling clamp rotatably and releasably secured to the shank at or adjacent the end of the shank opposite the anchor rope-securing means.

In a preferred embodiment of the invention, an anchor of this invention comprises a rigid, non-jointed shank having anchor rope-securing means at or adjacent one end thereof, an anchor rope-encircling clamp rotatably and releasably secured to said shank at or adjacent the opposite end thereof, and a plurality of flukes extending outwardly in a radial direction generally toward the rope-encircling clamp at angles, with respect to the longitudinal axis of the shank, within the range from 0° to 90°. A particularly advantageous embodiment of this preferred type comprises an anchor having a rigid shank of length substantially greater than its diameter, anchor rope-securing means comprising a fixedly mounted ring at or adjacent one end thereof, an anchor rope-encircling clamp rotatably and releasably secured to the shank at or adjacent the opposite end thereof, preferably in a grooved portion of the shank, e. g., a groove produced by machining, grinding, or the like, and a plurality, e. g., four, of outwardly extending, and substantially equally spaced circumferentially, flukes secured to the shank adjacent the fixedly mounted ring. Optimum results generally are obtained when the plane defined by this ring substantially bisects the angle between two adjacent flukes. For example, with four flukes equally spaced circumferentially, the plane of the ring preferably bisects the right angle between two adjacent flukes.

An anchor of the preferred type is shown in the accompanying drawing, which drawing, it will be understood, is provided for illustrative purposes only and is not to be construed as limiting this invention.

Referring now to the drawing in some detail, Fig. 1 illustrates an anchor of this invention in contact with a subsurface obstruction. As shown, the anchor comprises a rigid shank **1**, provided with a circumferential groove **2** adjacent one end, and a fixedly mounted ring **5** at the opposite end thereof. Adjacent the ring **5** are provided four flukes **4** equally spaced circumferentially and curving generally toward the grooved end of the shank.

In operation, an anchor rope **6** is threaded through a rope-encircling clamp **3** and thence along the shank to the fixedly mounted ring **5** to which it is secured. The clamp **3** rotatably and releasably grips the shank **1** in the groove **2**.

Attention is now directed to Fig. 2 illustrating the action resulting, after preferably moving the boat to a position substantially directly over the anchor, when tension is applied to the anchor rope **6** of the anchor engaging a subsurface obstruction as shown in Fig. 1. Tension on the anchor rope **6** exerts a force sufficient to release the clamp **3** from engagement around the shank. In this connection, it will be appreciated that unlike prior anchors, by utilizing a freely rotatable clamp **3**, a preferred form of which is better shown in Fig. 3, the desired anchor disengagement is obtained by application of tension to the anchor rope regardless of the position of the anchor.

By thus transferring the effective situs of applied tension directly to a point at or adjacent the origin of the flukes engaging a sub-surface obstruction, the anchor is readily dislodged from engagement with such an obstruction and retrieved.

It will be understood, of course, that an anchor embodying the present invention may be fabricated by various metal-forming techniques, e. g., welding. Moreover, it will be appreciated that the materials of construction, typically cold rolled steel or the like, may be varied, depending on the particular application intended. Further, it will be realized that in many instances a corrosion resistant coating, e. g., chromium, is desirable.

Referring specifically now to the clamp shown in Fig. 3, which preferably is so dimensioned that its open fingers define a circumference smaller than that to which it is to be secured, it will be understood that while this clamp in many instances can advantageously be fabricated from steel wire in the anchor rope-encircling shape indicated, that at times such a clamp can be formed from bar stock, metal strip, or the like, and can embody variations of the shape illustrated although it is essential that a portion of the clamp encircle the anchor rope.

A clamp of the type shown in Fig. 3 or other rotatably and releasably mountable clamp adapted to encircle an anchor rope, grips a non-yielding shank surface and thus its effectiveness is not affected by variations in rope diameter. Moreover, by encircling the anchor rope, the clamp cannot be lost by slipping out of its mounting on the shank.

It is to be understood that although the invention has been described with specific reference to particular embodiments thereof, it is not to be so limited, since changes and alterations therein may be made which are within the full intended scope of this invention as defined by the appended claims.

I claim:

1. An anchor, comprising, in combination, a rigid shank having a plurality of flukes and anchor rope-securing means at one end thereof, the opposite end of said shank being provided with a groove therearound, and a resiliently-biased clamp rotatably and releasably gripping said shank in said groove, said clamp including a closed ring through which an anchor rope fixed to said rope-securing means can pass, whereby tension applied to said rope in a direction away from the longitudinal axis of said shank serves to disengage said clamp from said groove and thereby transfer said tension directly to said rope-securing means.

2. An anchor as in claim 1 wherein said clamp comprises a twisted U-shaped clamp, the free ends of which are curved toward each other thereby forming gripping fingers resiliently and rotatably to grip said shank in said groove.

3. In combination, an anchor rope and an anchor, said anchor comprising a rigid shank, fixedly mounted anchor rope-securing means at one end of said shank to which said rope is fixedly secured, a plurality of flukes at said end of said shank, a groove around said shank at the opposite end thereof and an anchor rope-encircling spring clamp having gripping fingers rotatably and releasably engaging said groove, whereby tension applied to said anchor rope in a direction away from the longitudinal axis of said shank when said anchor is not retrievable by tension applied in a direction along said longitudinal axis, serves to disengage said clamp from said groove thereby transferring tension directly to said rope-securing means.

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