

[54] ANCHOR FLUKE

[75] Inventor: Daniel Comstock Hungerford, North Palm Beach, Fla.

[73] Assignee: Brunswick Corporation, Skokie, Ill.

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[51] Int. Cl. B63b 21/26

[58] Field of Search..... 114/206, 207, 208; 52/155; 56/229, 8; 294/49

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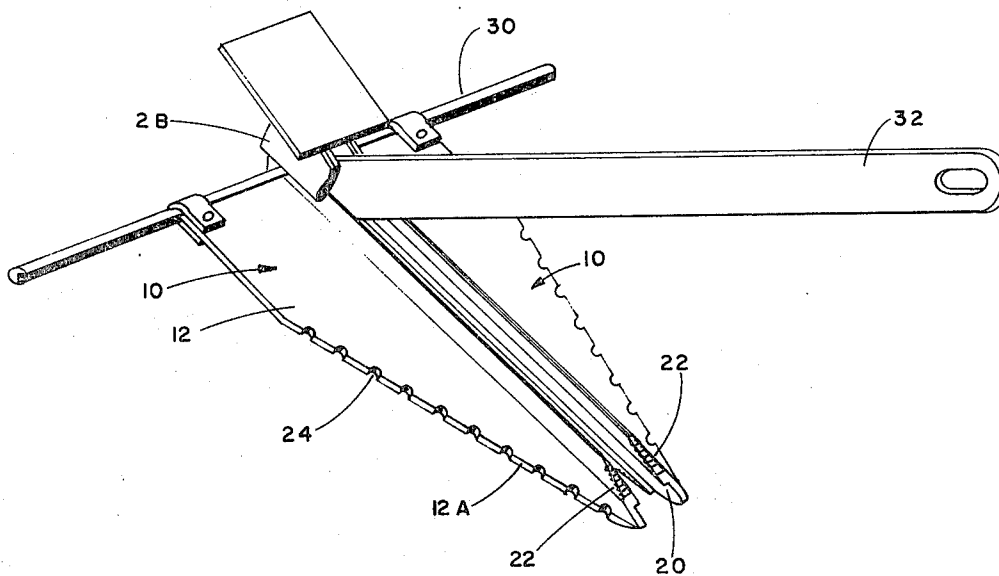
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Primary Examiner—Milton Buchler
 Assistant Examiner—Galen L. Barefoot
 Attorney—Barry L. Haley

[57] **ABSTRACT**

An anchor of the twin fluke type with increased penetrating ability for hard or vegetation covered under water bottoms wherein the fluke leading edges have a plurality of indentations and the fluke leading points have sharp edges and saw-like teeth adjacent the sharp edge portion.

3 Claims, 4 Drawing Figures



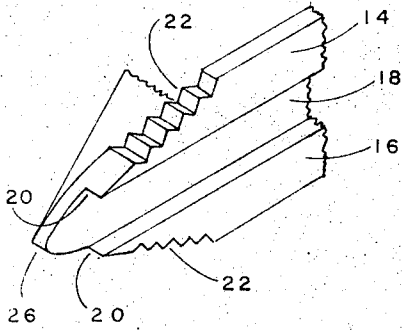


FIG. 3

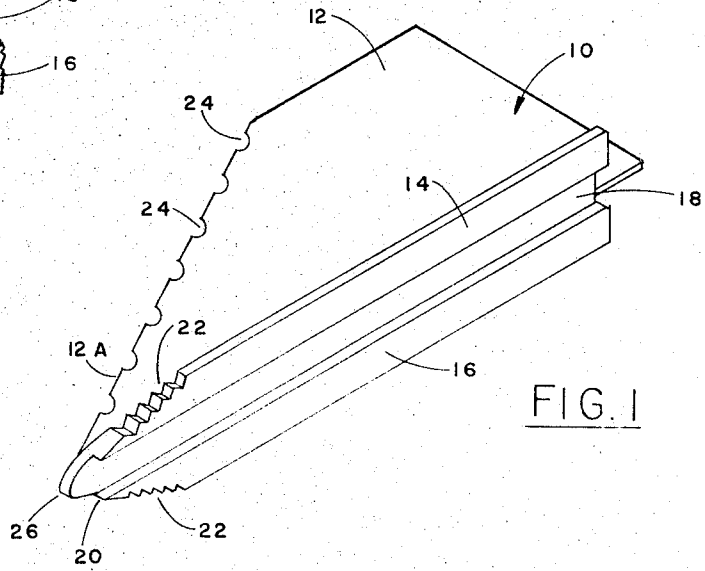


FIG. 1

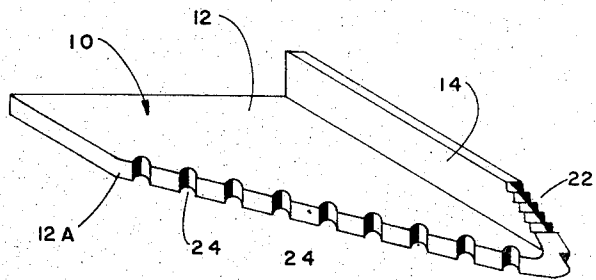


FIG. 2

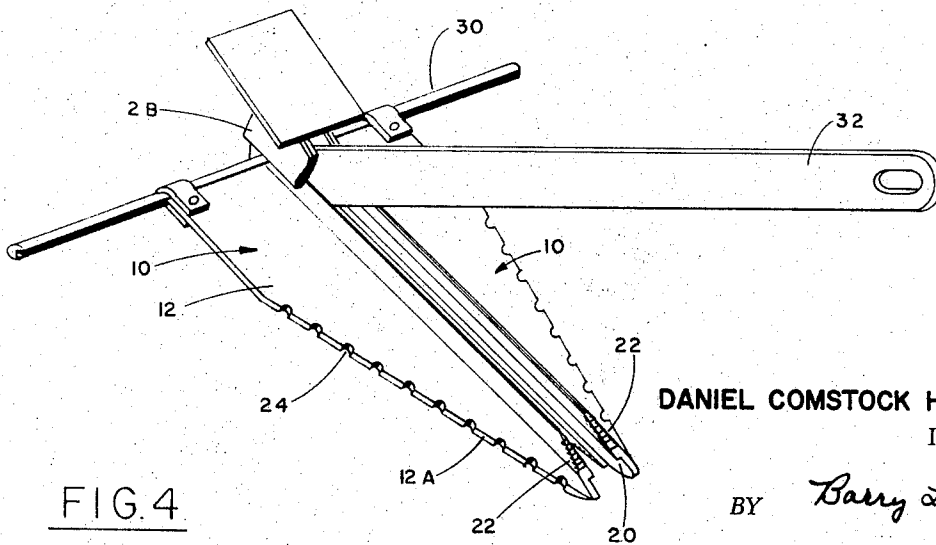


FIG. 4

DANIEL COMSTOCK HUNGERFORD
INVENTOR.

BY *Barry L. Haley*
ATTORNEY

ANCHOR FLUKE

BACKGROUND OF THE INVENTION

This invention relates generally to anchors for marine vessels and more specifically to a twin fluke anchor having improved penetrating characteristics for anchoring in very hard under water bottoms or in areas having dense vegetation covering the bottom. Twin fluke anchors are very good for penetration in mud or bottom areas that are not very hard. However penetration into a bottom having dense vegetation or hard mud or sand tends to make the anchor skip and slide over the bottom surface, thus not allowing the flukes to effectively penetrate the bottom and therefore reducing their holding power.

Applicant's invention provides for improved fluke penetration in hard or vegetation covered surfaces by providing grasping and cutting elements upon the fluke leading edges and near fluke points.

BRIEF DESCRIPTION OF THE INVENTION

An anchor of the twin fluke type having a stock, a pair of flukes coupled to the stock along their trailing edges, a crown, and a shank pivotally coupled to said crown, each fluke having a leading point, a sharp pointed surface junction adjacent and in the direction of said leading point, and a plurality of indentations disposed along the forward leading edge of said fluke. The fluke leading edge indentations may be half-cylindrical in shape with the cylindrical axis disposed perpendicular to the fluke plane.

It is an object of this invention to provide an anchor with an improved penetrating fluke.

It is another object of this invention to provide a twin fluke anchor that will penetrate an under water bottom having dense vegetation.

And yet another object of this invention is to provide a twin fluke anchor that will penetrate a relatively hard under water bottom.

And still yet another object of this invention is to provide an anchor with flukes having penetrating means.

In accordance with these and other objects which will be apparent hereinafter, the instant invention will now be described with particular reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a fluke in accordance with applicant's invention.

FIG. 2 is another perspective view of applicant's invention.

FIG. 3 shows a close-up view of a fluke point area in accordance with applicant's invention.

FIG. 4 is a perspective view of an anchor in accordance with applicant's invention.

PREFERRED EMBODIMENT OF THE INVENTION

Referring now to the drawings, and in particular to FIG. 1, a fluke 10 suitable for mounting on a twin fluke anchor is constructed as a planar surface 12, two lateral edge surfaces of which are joined at an acute angle to form a point that enables the fluke to penetrate the under water bottom. One edge of the surface 12 has perpendicular flanges 14 and 16 separated by groove 18. Near the fluke point 26 each flange has its upper and lower surface joined at an acute angle forming a sharp tooth-like, cutting edge 20 symmetrically on each

side of groove 18, the cutting edges 20 facing forward in the direction of the fluke point. Just behind each cutting edge 20, along each outer flange surface away from groove 18, the cutting edges 20 facing forward in the direction of the fluke point. Just behind each cutting edge 20, along each outer flange surface away from groove 18, are a plurality of angularly grooved segments forming a row of cutting teeth 22. The outer surfaces including teeth 22 of flanges 14 and 16 may be tapered inwardly toward fluke point 26.

Fluke leading edge 12A has a plurality of indentations 24 spaced along a portion of its length from fluke point 26 to the opposite side. The indentations are grooved portions extending through the entire planar thickness, and interrupt the otherwise flat leading edge surface 12A. The shape of each indentation 24 may be as a half-cylinder cut with a plane through the longitudinal axis. FIG. 2 shows the indentations spaced in approximately equal intervals along the leading edge surface 12A. The size of each indentation 24 will vary dependent upon anchor size but should be small enough to engage tubular and stem parts of under water vegetation. On a small to moderate anchor size, indentations with a one-quarter inch radius would be exemplary.

FIG. 3 shows a close-up of the fluke point 26 and adjacent cutting edges 20 formed from the joining of outer and inner surfaces of flanges 14 and 16 separated by flange groove 18. Saw teeth are disposed in the outer flange surface just behind cutting edges 20.

FIG. 4 shows a twin fluke anchor with each fluke having cutting edges 20, teeth 22 for penetrating hard sea or river bottoms and indentations 24 along each fluke leading edge for grasping sea or river bottom vegetation causing the anchor to penetrate through the vegetation to engage the bottom soil. The flukes 10 are joined symmetrically to stock 30 and crown 28. A shank 32 is pivotally coupled to the crown.

The standard twin fluke anchor without applicant's invention, when utilizing a standard fluke-shank angle of 32°, has been found to have difficulty penetrating very hard soil bottoms or vegetation laden bottoms. In the former case the fluke points drag along the hard surface, never really getting a first bite into the surface while in the latter situation the flukes slip over the vegetation again preventing fluke point penetration. In operation as the fluke point 26 is dragged over a hard surface, the cutting edges 20 (FIG. 3) serve to bite into the very hard bottom soil while the saw teeth 22 aid in chewing into the hard surface. Once the initial penetration is achieved, fluke-shank forces will drive the rest of the fluke into the bottom. Likewise if vegetation abounds, the flukes will slide over the leafy projections until the indentations 24 (FIG. 2) intercept and retard vegetation sliding on the leading edge 12A. This interaction will cut through the vegetation while forcing the flukes downward until the fluke points engage the bottom surface.

The cross-sectional shape of the indentations may be varied (e.g., triangular, elliptical) to provide equivalent interaction between the fluke leading edges and anticipated vegetation types.

The instant invention has been shown and described herein in what is considered to be the most practical and preferred embodiment. It is recognized, however, that departures may be made therefrom within the scope of the invention and that obvious modifications will occur to a person skilled in the art.

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What I claim is:

1. An anchor fluke for improving penetration of the bottom surface of a body of water comprising:
 a fluke body having a fluke point, said fluke point having a pointed cutting surface, for penetrating hard soil surfaces, 5
 said fluke body being essentially multiedged and planar shaped, one of said edges being the leading edge, said leading edge having a plurality of semi-cylindrical indentations which intercept and retard 10
 underwater vegetation sliding over said leading edge whereby said leading edge rips and cuts through the vegetation while forcing said fluke body downward until said fluke point engages said bottom surface. 15

2. A fluke as in claim 1, wherein:
 said fluke body is a planar shaped surface of relatively small thickness, the shaped edge surfaces forming a quadrilateral trapezoid, the longer parallel edge surface joining the longer non-parallel edge surface to form the fluke point, said longer non-parallel edge surface being the fluke leading edge surface.

3. A fluke as in claim 2, wherein:
 said fluke body has a flanged edge portion perpendicular to said planar surface, along the longer non-parallel edge surface, the flange end surface adjacent the fluke point having a pointed cutting surface, for penetrating hard soil surfaces.

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