

Aug. 27, 1963

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3,101,694

ANCHORS

Filed June 5, 1962

2 Sheets-Sheet 1

FIG. 1

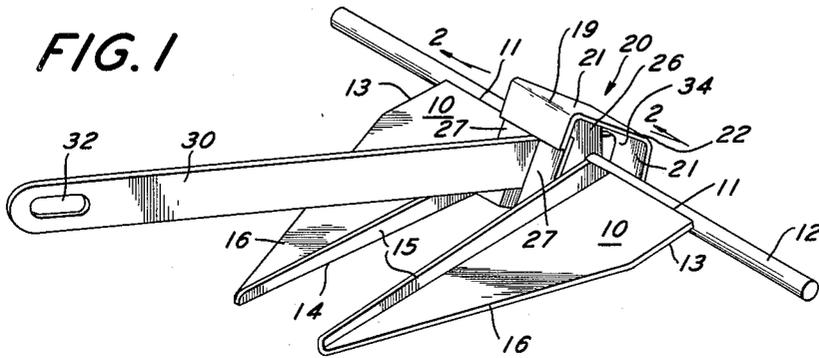


FIG. 2

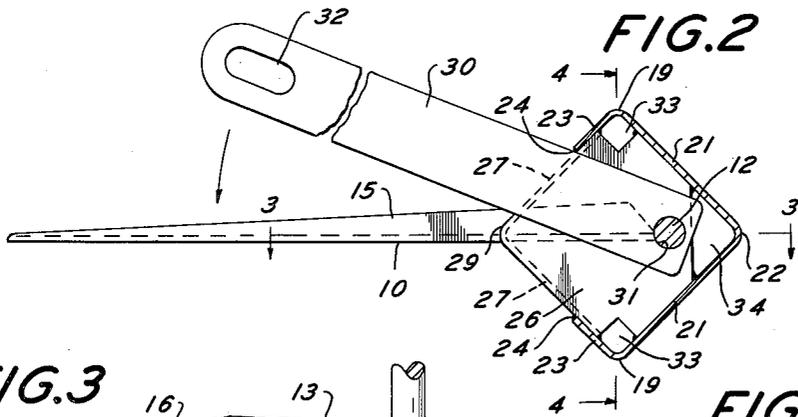


FIG. 3

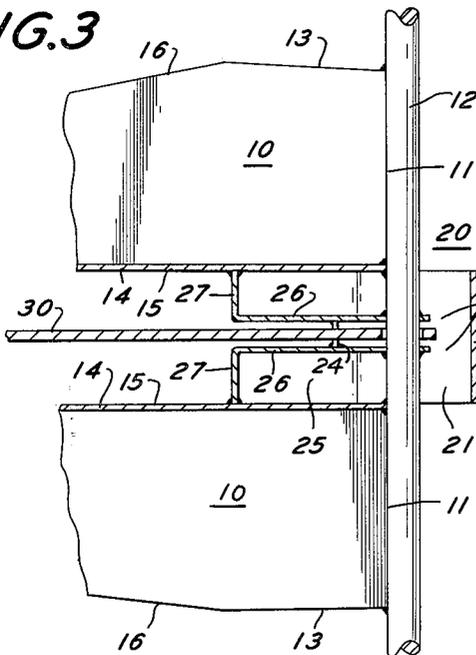
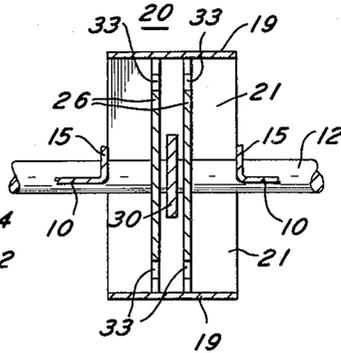


FIG. 4



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2 Sheets-Sheet 2

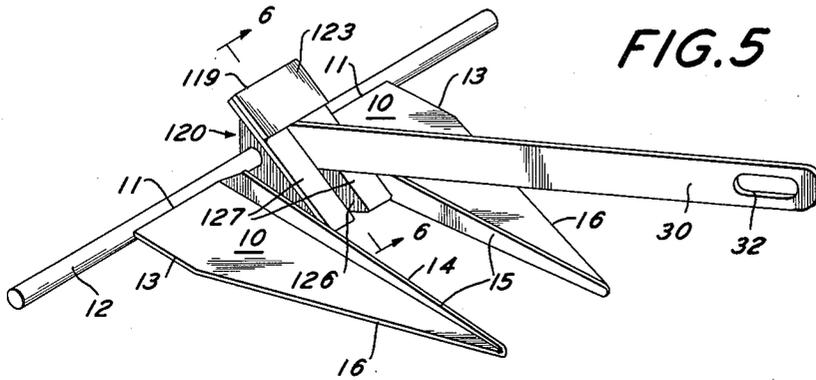


FIG. 5

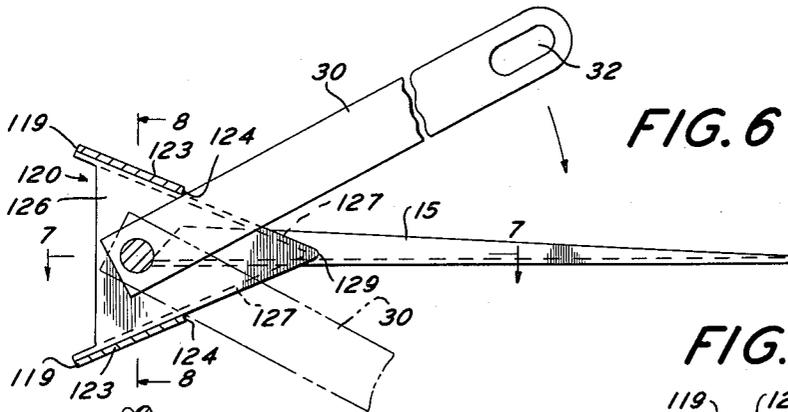


FIG. 6

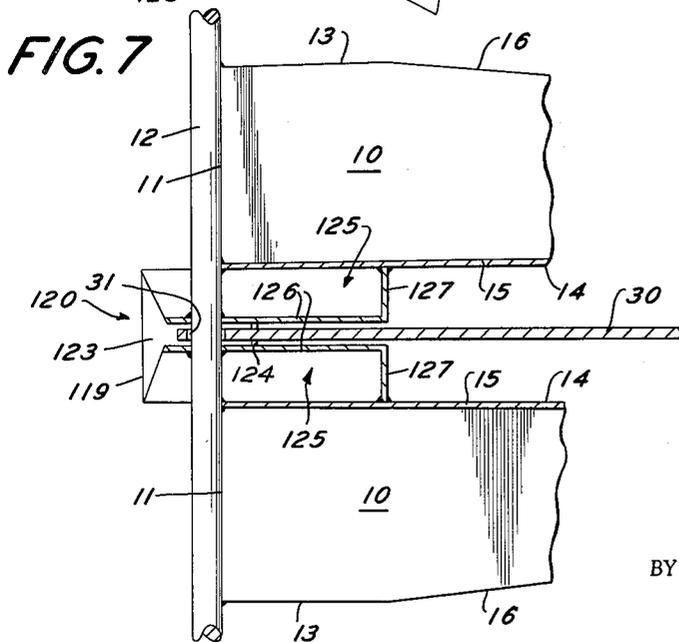


FIG. 7

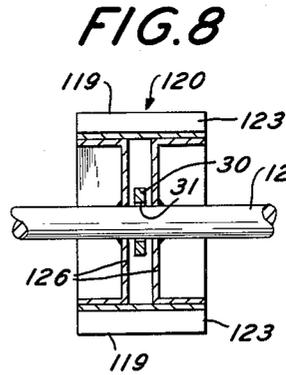


FIG. 8

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This invention relates to twin fluke anchors.

It has heretofore been proposed to provide twin fluke anchors which usually include a shank, a stock at one end of the shank, a crown made of one or more pieces, and flukes which usually are part of a rigid assembly comprising all the parts except the shank. The shank is pivoted so as to swing a predetermined angle on either side of the plane of the flukes. The crown has the principal function initially to raise the rear section of the flukes off the bottom so that the points will engage the bottom when a pull is exerted on the stock.

Most anchors of the twin fluke type can be classified in two groups, (a) those having the flukes closely spaced and fastened directly to the crown, and (b) those having considerable separation between the flukes which are mounted on the stock.

Anchors of the first group commonly have the fault that bottom material is plowed up by the flukes and is led by the flukes to the crown. At the crown it becomes entrapped and tends to foul the anchor and creates a heavy dirty mass of material which is difficult to dislodge when the anchor is recovered. Such fouling is particularly likely to occur when the bottom is sticky mud. Closely spaced flukes may also be fouled when the bottom contains a quantity of oyster or other coarse shells, coarse gravel, or empty beer cans which become lodged between the flukes.

Anchors of the second group, where the flukes are attached only to the stock have a common fault in the inherent weakness due to the bending moment set up by the pull of the shank at the center of the stock or other supporting member and the resistance of the widely spaced flukes.

Anchors of the second group have a further fault because of their tendency to trip and roll on the bottom when only one of the widely spaced flukes engages in the bottom.

It is the principal of the present invention to provide a twin fluke anchor in which the flukes are spaced sufficiently to avoid fouling of the flukes or the crown.

It is a further object of the present invention to provide a twin fluke anchor which is resistant to the bending moment set up by the shank while providing adequate spacing of the flukes to avoid fouling of the flukes or the crown.

It is a further object of the present invention to provide a twin fluke anchor having spaced flukes with which fouling of the flukes is avoided.

It is a further object of the present invention to provide a twin fluke anchor having spaced flukes with which fouling of the crown is avoided by leading bottom material along the side of rather than into the crown.

It is a further object of the present invention to provide a twin fluke anchor having a crown which in addition to the usual and customary function of the crown also offers minimum resistance to the bottom in burying when the entire anchor is pulled down into the bottom.

It is a further object of the present invention to provide a twin fluke anchor having an improved crown construction with secondary plates at the rear of the crown which prevent the crown from catching in the bottom and provide a lifting effect when the anchor is overridden for recovery.

It is a further object of the present invention to provide a twin fluke anchor of the character aforesaid which

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can be readily assembled from relatively simple components and secured by welding.

Other objects and advantageous features of the invention will be apparent from the description and claims.

5 The nature and characteristic features of the invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

10 FIGURE 1 is a view in perspective of a preferred embodiment of an anchor in accordance with the invention;

FIG. 2 is a longitudinal sectional view, taken approximately on the line 2—2 of FIG. 1;

FIG. 3 is a longitudinal sectional view, taken approximately on the line 3—3 of FIG. 2;

15 FIG. 4 is a transverse sectional view taken approximately on the line 4—4 of FIG. 2;

FIG. 5 is a view in perspective of another preferred embodiment of an anchor in accordance with the invention;

20 FIG. 6 is a longitudinal sectional view taken approximately on the line 6—6 of FIG. 5;

FIG. 7 is a longitudinal sectional view taken approximately on the line 7—7 of FIG. 6; and

25 FIG. 8 is a transverse sectional view taken approximately on the line 8—8 of FIG. 6.

It should, of course, be understood that the description and drawings herein are illustrative merely and that various modifications and changes can be made without departing from the spirit of the invention.

30 Like numerals refer to like parts throughout the several views.

Referring now more particularly to FIGS. 1 to 4 of the drawings, a pair of flukes 10 is provided, righthanded and lefthanded respectively, of sheet metal or plate, preferably each having rear marginal edges 11, secured, as by welding, to the stock 12. The stock 12 is preferably a rod, or tube. Each of the flukes 10 has extending from the stock 12 slightly flaring rear outer side marginal edges 13 extending forwardly about a third of the length of each fluke 10. Each of the flukes 10 also preferably has in tapering relation toward the front, straight inner side marginal edges 14 with forwardly tapering flanges 15 therealong for stiffening, and front side marginal edges 16 extending from the rear outer side marginal edges 13 to the front terminal of the inner side marginal edges 14.

40 A crown 20 is provided having integral rear inclined walls 21, meeting at 22 at an included angle which can range from about 90° to 60°. The rear walls 21 have integral therewith and extending from apices 19 front inclined walls 23 with terminal edges 24. Interiorly disposed within the crown 20, crown cheek inserts 25 are provided having spaced parallel inner walls 26 which may be welded to the stock 12 at their intersections. The walls 26 have front wall sections or flanges 27 which are secured, as by welding, to the front walls 23 and along their margins 28 to the flanges 15. The flanges 27 extend in meeting relation to each other at 29, at the desired included angle which may be in the range from about 90° to 60°. The flanges 26 with the front wells 23 present a substantially closed front which does not catch and hold shells, mud or the like.

55 The spaced parallel walls 26 provide a location for the pivotal mounting on the stock 12 of the shank 30 which has a pivot opening 31 at its rear end and an opening 32 at its front end for attachment of the anchor chain, rode or line (not shown).

The terminal edges 24 of the walls 23 determine the extent of pivotal movement of the shank 30.

70 The cheek inserts 25 have upper and lower cut-outs 33 and a rear cut-out 34 to facilitate discharge of bottom

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material entering the space between the walls 26 and to facilitate cleaning.

Referring now more particularly to FIGS. 5 to 8 of the drawings, the flukes 10 have rear marginal edges 11 secured as before to the stock 12. The flukes 10 have similar flaring rear outer side marginal edges 13, flaring inner marginal edges 14 with tapered flanges 15, and front side marginal edges 16.

The crown 120 includes inclined wall plates 123 with terminal edges 124 and apex edges 119. Interiorly disposed crown cheek inserts 125 are provided having spaced parallel inner walls 126 which are welded to the stock 12 at their intersections. The walls 126 have front wall sections or flanges 127 to which the wall plates 123 are secured, as by welding. The walls 126 are also secured to the flanges 15 at their intersections, as by welding. The flanges 127 extend in meeting relation to each other at 129, at the desired angle which may be in the range from about 60° to 90°. The flanges 127 with the front wall plates 123 present a substantially closed front which does not catch and hold shells, mud or the like.

The spaced parallel walls 126 provide a location for the pivotal mounting on the stock 12 of the shank 30 with its pivot opening 31 and line attaching opening 32.

The terminal edges 124 of the wall plates 123 determine the extent of pivotal movement of the shank 30.

The anchor shown in FIGS. 1 to 4 and the anchor shown in FIGS. 5 to 8, by reason of the crown 20 or 120 will readily engage with the bottom when drawn thereover by the line attached to the opening 32 of the shank 30. At the same time, the wide spacing of the flukes 10 and the closed front construction avoids fouling of the flukes 10 and crown 20 or 120. The welded connections of the crown 20 or 120 and the flukes 10 resist the bending moment set up by the shank 30 pulling on the stock 12 at the pivotal connection of the shank 30.

The crown 20 or 120 while of assistance for the digging in of the points of the flukes 10 is still not of such size as to unduly resist the entrance into the bottom. The crown 20 or 120 is so shaped that it will not catch in the bottom, and will act as a fulcrum for recovery of the anchor.

I claim:

1. In an anchor of the twin fluke type, a stock, a pair of flukes secured along their rear marginal edges to the

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stock with their inner edges in spaced relation, a crown having a pair of forwardly inclined wall portions and cheek inserts between said flukes, a shank pivotally carried on the stock, said cheek inserts having spaced plates providing a space therebetween for said shank, the front edges of said forwardly inclined wall portions providing stops for said shank, said spaced plates having forwardly disposed flanges extending from said forwardly inclined wall portions in meeting relation on each side of said spaced plates and providing a substantially closed front for said crown, said flanges of said plates having opposite outer side margins, said flukes having their inner edges in meeting relation to said side margins on each side and said flukes extending outwardly therefrom.

2. An anchor as defined in claim 1 in which said side margins of said flanges and said inner edges are in secured relation to each other.

3. An anchor as defined in claim 2 in which said flanges and said walls restrain the stock against bending upon the application of stress thereon by said shank and by said flukes.

4. An anchor as defined in claim 1 in which said spaced plates are secured to said stock; said flanges are secured to said flukes; and said flanges, said forwardly inclined walls and said flukes restrain the stock against bending upon the application of stress thereon by said shank.

5. An anchor as defined in claim 1 in which said forwardly inclined wall portions are connected rearwardly of the stock.

6. An anchor as defined in claim 1 in which the rear margins of said forwardly inclined wall portions are connected by rearwardly meeting wall portions.

7. An anchor as defined in claim 1 in which the rear margins of said forwardly inclined wall portions have integral rearwardly inclined meeting wall portions extending therefrom.

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