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3,621,806

ANCHOR WITH RETRACTABLE FLUKES

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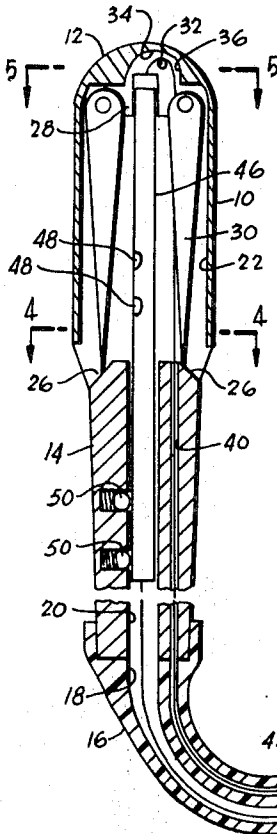


FIG. 1.

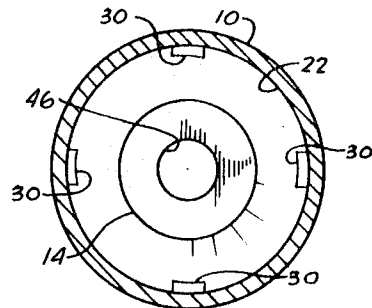
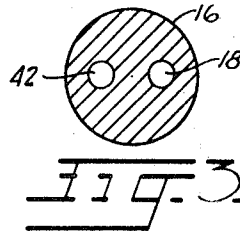


FIG. 4.

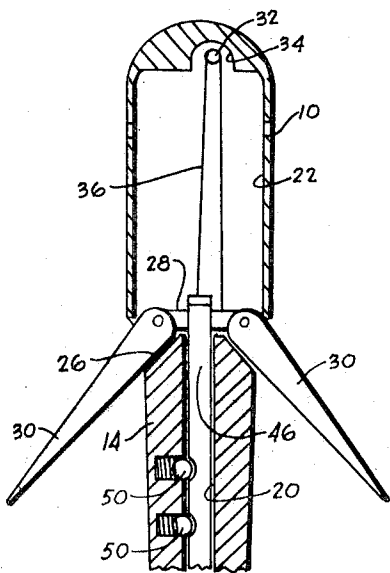


FIG. 2.

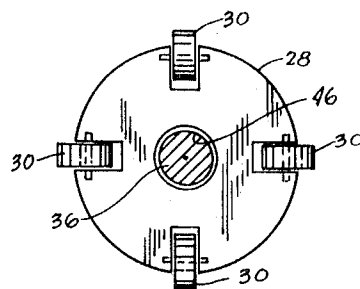


FIG. 5.

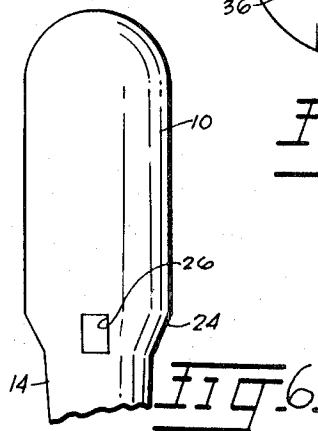


FIG. 6.

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## ANCHOR WITH RETRACTABLE FLUKES

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8 Claims

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### ABSTRACT OF THE DISCLOSURE

A ship's anchor takes the form of a cylinder with retractable and extendable flukes. The cylinder carries two cables. Application of tension to one cable extends the flukes. Application of tension to the other cable retracts the flukes.

### SUMMARY OF THE INVENTION

My invention includes a hollow cylinder having a head and a tail portion, said portion having a plurality of ports. A like plurality of flukes are pivotally secured at one end to a member which under the control of two cables can be moved slidably within the cylinder, towards the head portion when one cable is pulled and towards the tail portion when the other cable is pulled. When the member is positioned adjacent the head portion, the flukes are disposed within the cylinder, and are thus retracted. When the member is positioned adjacent the tail portion, the flukes extend out of the ports. The ports are so shaped that the flukes are pivoted outwardly from the cylinder as well as extending out of the ports whereby the flukes are in extended position.

### BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a cross sectional side view of my invention with the flukes retracted;

FIG. 2 is a similar view with the flukes extended;

FIG. 3 is a cross section taken along the line 3-3 in FIG. 1;

FIG. 4 is a cross section taken along the line 4-4 in FIG. 1;

FIG. 5 is a cross section taken along the line 5-5 in FIG. 1; and

FIG. 6 is a side view of a portion of the structure of FIG. 1.

### DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to FIGS. 1-6, there is shown a main hollow cylindrical section 10 with a solid butt end 12 and extending rearward via a reducing throat 24 to an extension 14 of smaller diameter. A flexible elongated housing 16 is secured at one end to the end of extension 14. Housing 16 has one central bore 18 communicating with a central bore 20 in extension 14 which in turn communicates with the chamber 22 in section 10. Throat 24 has a plurality of equidistantly spaced ports 26 which open inclinedly outward and rearward of section 10.

A flat disc 28 has elongated flukes 30 pivotally secured at one end to the periphery thereof in equidistantly spaced positions. A hollow shank 46 secured at its top end to disc 28 extends in bore 20. A roller or pulley 32 disposed

in a hollowed top portion 34 of chamber 22 supports a cable 36. One side of cable 36 is secured to the disc and extends through the shank 46 and bore 18 to be secured to a first cable pull 38. The other side of cable 36 extends through a second bore 40 in extension 14 and a second bore 42 in housing 16 to be secured to a second cable pull 44.

Tension on one cable pull causes disc 28 to move to the position of FIG. 1 with the flukes withdrawn and tension on the other cable pull causes the disc to move to the position of FIG. 2 with the flukes extending outwardly through the ports.

A locking means is provided to secure the shaft 46 in a desired, flute extended position (FIG. 2). This locking means comprises grooves 48 formed on shaft 46 in position to engage ball bearing means 50. These bearings are spring biased so as to be forced into locking engagement with grooves 48 thereby serving to maintain the shaft in a desired position.

Typically, the anchor is formed of steel and plastic but any materials which can withstand anchor use can be substituted.

While I have described my invention with particular reference to the drawings, such is not to be considered as limiting its actual scope.

Having thus described this invention, what is asserted as new is:

1. An anchor comprising a hollow cylindrical section having a butt end and a throat end, a plurality of radially disposed ports on said cylindrical section, a transversely extending member arranged within said cylindrical section and including a first cable and a second cable operatively attached to opposite sides of said transversely extending member such that said member may be selectively moved from said butt end to said throat end of said cylindrical section, a plurality of elongated flukes, pivotally secured at one end to said transverse member and arranged such that said flukes are retracted into said cylindrical section when said transverse member is approximate to said butt end, and wherein said flukes are extended out of said radially disposed ports when said transverse member is proximate to said throat end.

2. The anchor of claim 1 wherein said transverse member comprises a transversely extending disc having a concentrically attached hollow shank extending from said disc toward said throat end, said disc having said plurality of flukes pivotally attached at the peripheral edge thereof and arranged such that said disc and said shank are slidable within said cylindrical section.

3. The anchor of claim 2 wherein said first cable extends through said shank and is attached to the bottom side of said disc, said second cable is attached to the top side of said disc and extends around roller means fixedly attached to said butt end of said cylindrical section and outward through said throat section whereby upon application of a tension force along either said first or second cables said shank and said disc will slidably move within said cylindrical section.

4. The anchor as described in claim 1 wherein said throat end has a flexible housing secured thereto, said housing having channels adapted to receive said cables.

5. The anchor as described in claim 1 wherein said cylindrical section has a head portion adjacent to said butt end, an extension portion of a smaller diameter than said head portion, said extension portion being adjacent

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said throat end, said plurality of said radially disposed ports being located at the junction between said head portion and said extension, a shank connected to said transversely extending member and arranged to extend into a central channel within said extension.

6. The anchor of claim 5 wherein said plurality of elongated flukes are arranged such that as said transversely extending member is moved toward said extension the free end of said flukes will impinge against said extension and be urged out of said radially disposed ports whereby said flukes will be extended outwardly from said cylindrical section.

7. The anchor of claim 6 wherein said central channel in said extension is arranged to slidably receive said shank and further wherein said central channel has disposed therein ball bearing guiding means whereby said shank is guided in its sliding movement within said central channel.

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8. The anchor as described in claim 7 wherein locking means are provided within said central channel whereby said flukes may be locked in their outward, extended position.

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