Oct. 30, 1934. J. McLELAND 1,978,844

MARINE ANCHOR

Original Filed Dec. 14, 1931

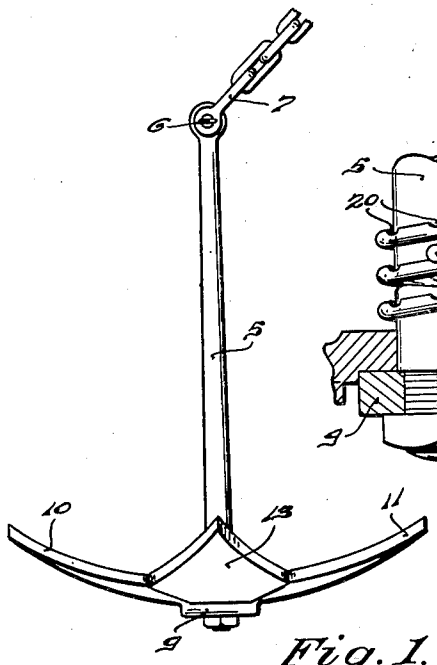


Fig. 1.

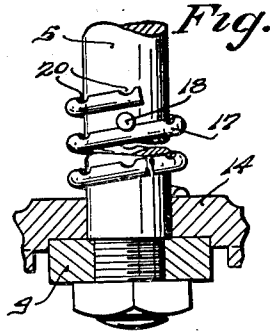


Fig. 7.

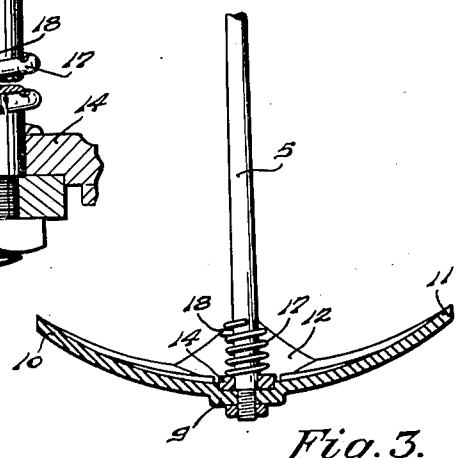


Fig. 3.

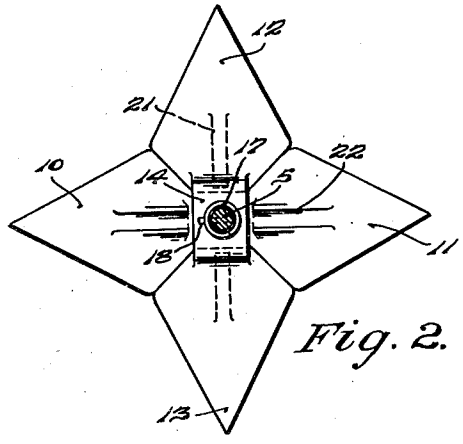


Fig. 2.

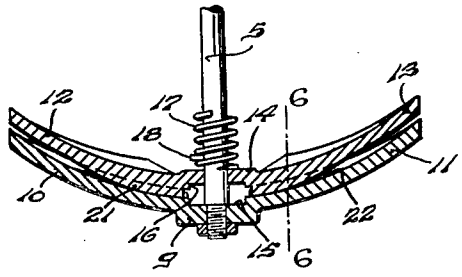


Fig. 5.

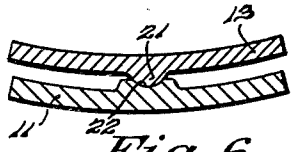


Fig. 6.

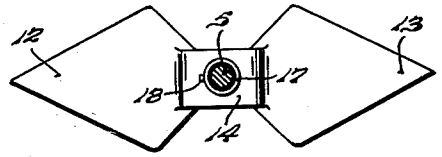


Fig. 4.

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UNITED STATES PATENT OFFICE

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MARINE ANCHOR

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8 Claims. (Cl. 114—207)

This invention relates to anchors, the object, generally stated, being the provision of new and improved structure most efficiently adapted to serve as a mooring for marine vessels.

In clarifying the invention, while numerous anchor designs have been developed, substantially all are unimportant modifications of one of three classes, stock, mushroom and navy, the latter of which, while in extensive use primarily by reason of its ornamental appearance, is generally considered the least efficient insofar as any degree of assured mooring is concerned. Constructed with parallel lobes pivotally supported at opposite sides of the shank, the space therebetween being relatively unrestricted, tide and other water conditions cause a wash through the opening, tending to produce a resultant gulley and eventually exposing the embedded lobes. Of the stock and mushroom anchors, the latter, in use, is unquestionably the more efficient from its extremely resistant formation, although frequently dragging for some distance prior to penetration. The objections generally advanced reside in the necessity for strapping the same on the deck to prevent shifting and a natural conspicuousness of the same. The stock anchor, while designed to most readily embed itself, is formed with relatively small areal dimensions, proportionately failing to resist movement under any great amount of stress. Such construction is further objected to by reason of the ease of dislodgment of the stock-engaging pin, not infrequently caused by a fouling thereon of the anchor chain.

In overcoming the objections incident to said anchor constructions, more particular objects and advantages of the invention should become apparent in the course of the following detailed description and claims, the invention consisting in the novel construction, adaptation and combination of parts hereinafter described and claimed.

In the drawing:

Figure 1 is a side elevation of an assembled anchor constructed to accord with the preferred embodiment of the present invention.

Figure 2 is a horizontal section thereof taken through the shank to indicate the anchor flukes in top plan.

Figure 3 is a longitudinal vertical section with the shank shown in side elevation.

Figure 4 is a similar view to that of Figure 2 indicating the component parts of the anchor head in inoperative nested dispositions.

Figure 5 is a longitudinal vertical section through Figure 4.

Figure 6 is a transverse vertical section taken on line 6—6 of Figure 5, and

Figure 7 is an enlarged sectional detail of the preferred means of securing the anchor head in its selective operative or inoperative assemblies.

Reference being had thereto, the numeral 5 indicates the anchor-shank, provided at one end with an eye through which passes the pintle 6 for connecting a shackle-link 7, the other end being threaded for the reception of the hub 9 of one of a pair of members each of which have an approximate concavo-convex form in side elevation and collectively serve to form the anchor head.

More particularly thereto, said hub 9 is offset below and serves to connect a pair of diametrically oppositely projecting flukes 10, 11, the lateral edges of each diverging outwardly at substantial right angles to one another from the hub to approximately the mid-length of the fluke, thence converging to a spike tip. The other of said members, conformed to provide similarly shaped flukes 12, 13, presents an upwardly offset medial hub 14 freely slidable on the shank 5. Said hubs, as indicated, are arranged for interfitting engagement through the medium of transverse notches 15, 16 inset below and above, respectively, the meeting faces of the same. A lock therefor comprises a spring 17 sleeved over the shank to act as a worm with respect to a secured pin 18. With particular attention to Figure 7, I indicate a preferred character of spring having notches 20 cut into the same in spaced-apart dispositions, a selective notch receiving the pin in most effectively preventing accidental retraction.

In the accommodation to a nesting of one fluked member over the other in their inoperative dispositions, said members are preferably formed with a longitudinal rib 21 and a receiving slot 22 therefor, co-operating with the locking spring as hereinafter described.

In assembling, the respective members are laid at cross angles to one another to allow interengagement between the respective notches. Compressing the spring thereagainst with a notch of the same engaging the pin prevents displacement. Retraction of the spring allows a dislodgment of the notched hubs and a revoluble movement to internest the same, the spring being again compressed against the hub 14 to retain such in its nested inoperative disposition.

The peculiar formation providing radial flukes most effectively adapted to embed themselves in the ground, with a retention of the mushroom holding efficiency by reason of the relatively large areal dimensions afforded the hub proper of the

assembled head, renders the structure most efficient in use.

The convenience, both in assembling and in the accommodations for ready and inconspicuous storage, should be apparent.

What I claim is:

1. A marine anchor comprising a conjugate head of substantial concavo-convex form, one of said conjugate members overlying the other and each providing a central hub portion and a pair of flukes projecting from diametrically opposite sides of the same, the hub of the overlying member having a transverse notch in its convex face and the hub of the lower member having a transverse notch in its concave face, said members providing a longitudinal rib and a groove, respectively, in their notched faces, a shank slidably received through the upper and threadably secured in the lower of said hubs, a spring sleeved over the shank, and a pin rigid with the shank and arranged to project through the interval between successive spring convolutions, said spring acting as a worm with respect to the pin to compress said members, one to the other, said upper member being adapted for revoluble movement about the shank as an axis to locate the flukes thereof either at cross angles to or in alignment with the flukes of the other member, the members being inter-notched in their cross-angular dispositions and the rib of one seating in the groove of the other in their aligned dispositions.

2. The structure as defined in claim 1, the convolutions of the spring providing circumferentially-spaced notches in their upper faces, selective of said notches receiving the pin to prevent spring retraction.

3. A marine anchor comprising a head formed of two companion members, each of which are of a concavo-convex form providing a central hub portion having a pair of flukes projecting from diametrically opposite sides, the hub of one member providing a transverse notch in its concave face and the hub of the other member providing a transverse notch in its convex face, said notched hubs being adapted for interfitting engagement to locate the respective members at cross angles, one to the other, a shank rigidly secured to the hub of one of said members, the hub of the other of said members being freely slidable on the shank above said secured member for revolving the same about the shank as an axis, a spring sleeved over the shank above said slidable member, and a pin rigidly connected with the shank to project into the interval between successive spring convolutions, said spring acting as a worm with respect to the pin to compress said members, one to the other.

4. A marine anchor comprising a shank, and a head therefor composed of companion members revolubly supported with respect to one another and each providing a pair of diametrically aligned flukes, means provided by said members affording an interfitting engagement, one with another, in the inoperative vertically aligned disposition of the members, said interfit preventing rotary dislodgment of the members, and means to interfit said members in their operative dispositions with the flukes in spaced-apart dispositions circumferentially of the shank.

5. In a marine anchor comprising a head, and a supporting shank therefor, said head composed of companion members revolubly supported with respect to one another, of means threadably supported about said shank for clamping said members in selective of said revoluble dispositions, and means for locking said threadedly supported means in clamping dispositions.

6. In a marine anchor comprising a head, and a supporting shank therefor, said head composed of companion members revolubly supported, one with respect to another, of means supported for longitudinal movement on the shank for clamping said members in selective of their revoluble dispositions, and means for locking said last named means.

7. The combination with a shaft, and a spring sleeved over the same, of a pin secured to the shaft to project between successive spring convolutions, said spring being adapted for movement longitudinally of the shaft responsive to revoluble movement of the same about the shaft as an axis.

8. The structure as defined in claim 7, and including a member carried by said shaft, one terminal of said spring being arranged to compressibly engage said member, of means provided by said spring co-operative with the pin for preventing accidental retraction of the spring from said member.

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