

M. W. HALL.

ANCHOR.

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922,137.

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Fig. 1.

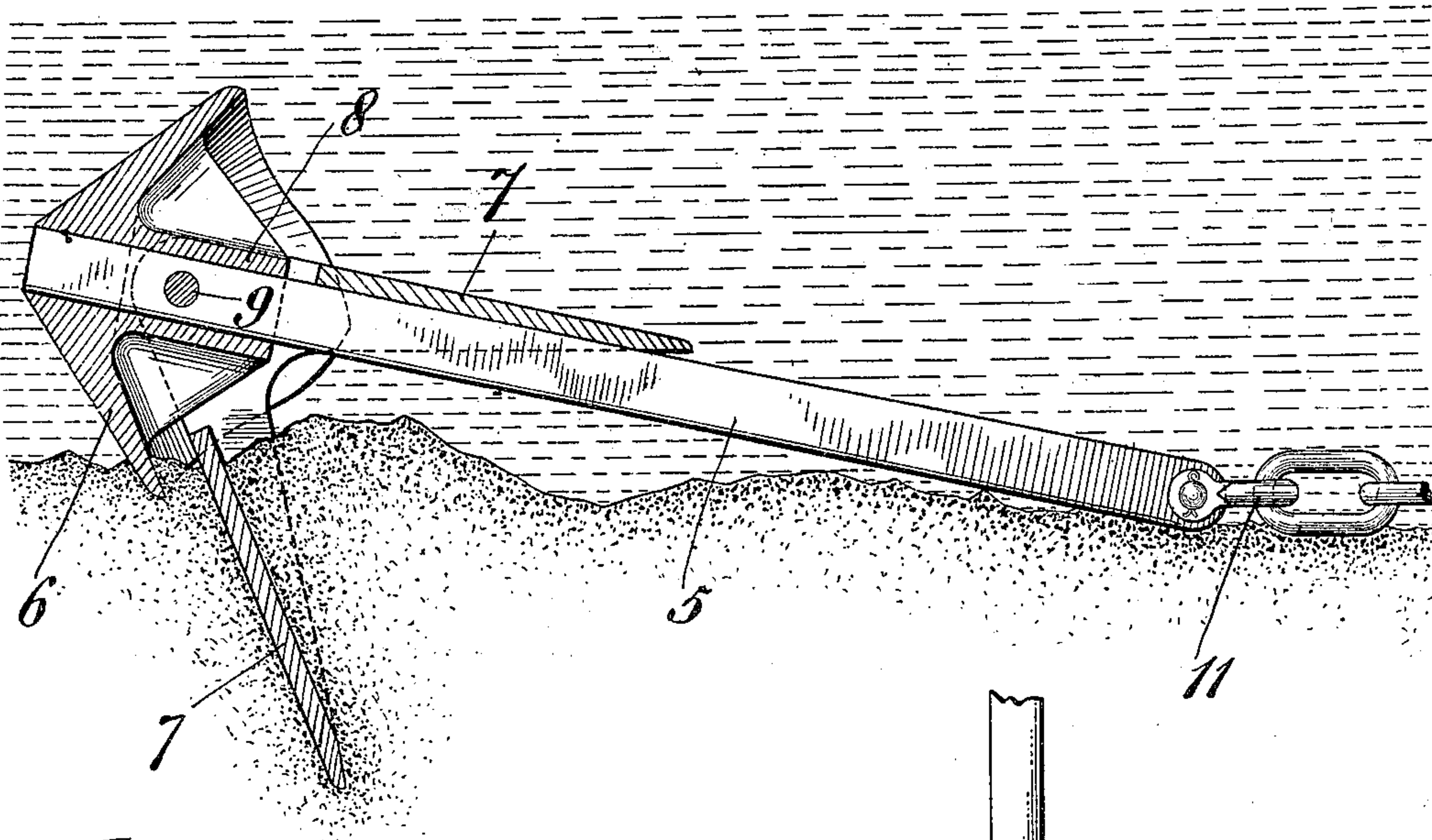


Fig. 2.

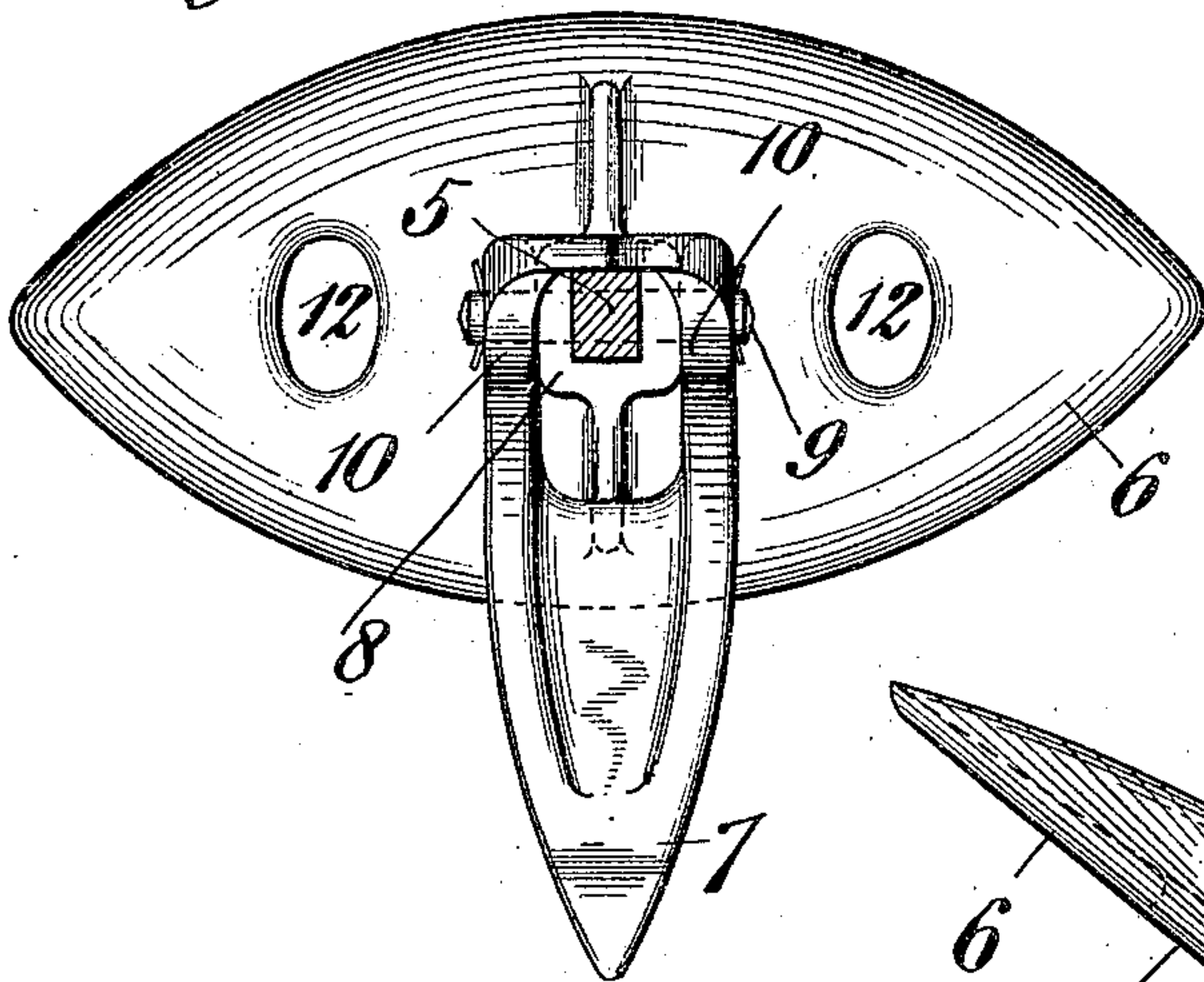
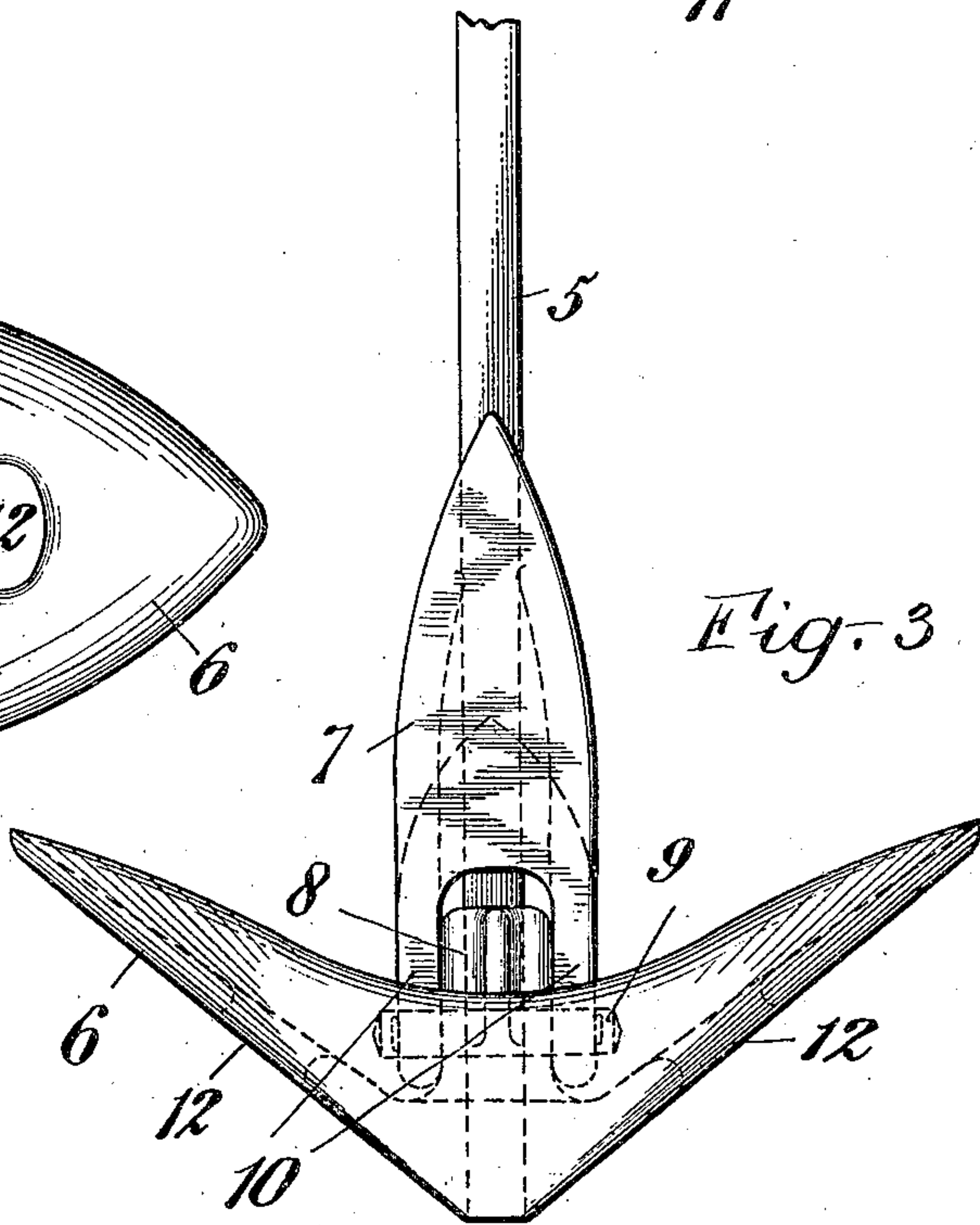


Fig. 3.



WITNESSES:

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ANCHOR.

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To all whom it may concern:

Be it known that I, MILAN W. HALL, a citizen of the United States of America, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Anchors, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to anchors, and particularly to ships' anchors.

Ships' anchors may usually be divided roughly into two classes:—mushroom anchors and fluke anchors. Mushroom anchors are ordinarily employed in soft bottoms, such as those composed of mud or loose sand, while fluke anchors are employed where the bottom is either hard or medium hard. An ordinary fluke anchor will not hold while in loose sand or mud, and an ordinary mushroom anchor will fail to get a grip in a hard bottom. There is, moreover, a point between very soft and medium ground where neither form of anchor holds well, the ground being so hard as to prevent a mushroom anchor from obtaining a good hold, yet too soft to give a proper hold to a fluke.

It is the purpose of this present invention to supply an anchor which will hold uniformly in all classes of bottoms, and to this end I provide an anchor having a mushroom head with one or more flukes, the result of which is not only to cause the anchor to take hold in any class of ground, but also to take hold very much more firmly, because where the anchor is used in a ground which would be too hard for an ordinary mushroom anchor to take hold, the fluke in forcing its way into the ground prepares the way for the mushroom portion of the anchor, which follows and thereby gives a double grip.

In the preferred form of anchor I provide the mushroom of substantially elliptical form and pivot a pair of flukes in proximity thereto, so that they swing in a path substantially in the line of the minor axis of the ellipse of the mushroom head. By this means the necessity for a "stock" is dispensed with, and the anchor becomes for some purposes substantially a four-fluked anchor.

My invention also consists in certain details of construction and novel combinations to be presently described, and in forming the mushroom portion of the anchor with openings which may be used to receive hooks

when the anchor is being manipulated for the purpose of catting it against the side of the vessel.

In order that my invention may be thoroughly understood, I will now proceed to describe an embodiment thereof, having reference to the accompanying drawings, and will then point out the novel features in claims.

In the drawings: Figure 1 is a view in central longitudinal section through the anchor, showing the same in use. Fig. 2 is an end view of the same with a shank shown in transverse section. Fig. 3 is a view in side elevation of the anchor with the end of the shank broken away.

The anchor illustrated comprises a shank 5, a mushroom head 6, and a pair of pivoted flukes 7. The mushroom head is of substantially elliptical form, as will be readily understood by reference to Fig. 2 of the drawings, and is provided with a central boss 8 for the reception of the shank 5. The shank 5 is secured in place by means of a bolt 9 which passes through the said shank and through the central boss 8. The flukes 7 are here shown as constituting a single integral structure, the central portion of which has an opening therethrough, whereby the same may be slipped over the shank and caused to straddle the boss 8. The pin 9 which secures the shank and the head together is also used as a pivotal pin, the said pin passing through ears 10 formed as parts of the fluke structure, as will be readily understood by reference to the drawings. The flukes are thus pivoted in proximity to the mushroom head in such a way that they will swing in a path substantially in the line of the minor axis of the ellipse constituting the contour of the mushroom head. It will be noted that the shape of the mushroom is such as to give the anchor a tendency to take the proper position for the fluke to enter the ground, so that though but a single fluke is employed at a time there is no necessity for the employment of a stock, and hence the shank is merely provided at its outer end with the ordinary shackle 11 and chain or cable connection, and the usual stock is dispensed with. When this type of anchor is employed in a hard bottom the anchor will be found to act very much as a four-fluked anchor, in that the points along the major axis of the mushroom act in such cases as flukes. If, how-

ever, one of the flukes proper acts in such a capacity it will give a lead to the mushroom in the direction of its minor axis, and the stronger the pull upon the anchor the more likelihood is there of the mushroom portion being dragged down into the bottom to give an additional hold. In medium or soft bottoms the tendency of the fluke is to work up sand, or the like, in front of the mushroom head so as to make a false bank in front of it, whereby a better hold is secured, so that my improved anchor is not only adapted to hold in substantially any class of ground in which it is used, but in almost any kind of ground it will give a better hold than will either a mushroom or a fluke anchor of ordinary construction.

I preferably form the lower contour of the mushroom head angular or conical in shape instead of spherical or spheroidal, as is usually the case in mushroom anchors, so as to prevent the anchor from having any tendency to stand up on end as mushroom anchors often do; and I further preferably provide the mushroom head with one or more openings 12 which may be conveniently formed in a line with the pin 9 (see Fig. 3), so as to facilitate the placing in position and removal of the said pin, but which are particularly provided for facilitating the handling of the anchor when it is being raised. It is well known that anchors (especially the mushroom type), are very difficult to handle when they are being raised out of the water, and particularly is it difficult to properly manipulate them when catting them against the side of the vessel. With these holes provided a hook or hooks may be lowered down from on board the vessel and secured into the holes, whereby the anchor may be readily handled for any purpose.

What I claim is:

1. An anchor comprising a shank, a mushroom head of substantially elliptical form, and a fluke arranged to project substantially in the line of the minor axis of the ellipse of the mushroom head.

2. An anchor comprising a shank, a mushroom head of substantially elliptical form, and a pair of flukes arranged to project substantially in the line of the minor axis of the ellipse of the mushroom head.

3. An anchor comprising a shank, a mushroom head of substantially elliptical form, and a fluke pivotally connected to swing in a path substantially in the line of the minor axis of the mushroom head.

4. An anchor comprising a shank, a mushroom

head of substantially elliptical form, and a pair of flukes pivotally connected to swing in a path substantially in the line of the minor axis of the mushroom head.

5. An anchor comprising a shank, a mushroom head of substantially elliptical form, and a pair of rigidly connected flukes pivotally mounted to swing in a path substantially in the line of the minor axis of the mushroom head.

6. An anchor comprising a mushroom head having a central boss, a shank received therein, a pair of flukes arranged to straddle the said boss, and a pin which passes through the said fluked structure, the boss, and the shank, the said pin serving to secure the shank and the mushroom head together and to constitute a pivotal connection for the said flukes.

7. An anchor comprising a shank, a mushroom head whose bottom or end surface is substantially conical in form and whose outer contour is substantially in the form of an ellipse, and a fluke arranged to project substantially in the line of the minor axis of the mushroom head.

8. An anchor comprising a mushroom head of substantially elliptical form, the said mushroom head having a central boss, a shank received within the said boss, a pair of flukes arranged to straddle the said boss, and a pin which passes through the said boss longitudinally in a line with the major axis of the ellipse of the mushroom head, and which also passes through the fluked structure and the shank, the said pin serving to secure the shank and mushroom head together and to constitute a pivotal connection for the said flukes, the two said flukes being arranged one behind the other in a line at right angles to the pivotal connection thereof.

9. An anchor comprising a mushroom head having a central boss, a shank received therein, a pair of flukes arranged to straddle the said boss, and a pin which passes through the said fluked structure, the boss, and the shank, the said pin serving to secure the shank and mushroom head together and to constitute a pivotal connection for the said flukes, the said mushroom head having openings therein in a line longitudinally with the said pin.

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Witnesses:

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