(No Model.)

W. PIKE & N. McDAIRMID.

FOOT FOR DREDGE ANCHORS.

No. 483,012. Patented Sept. 20, 1892.

Fig. 2.

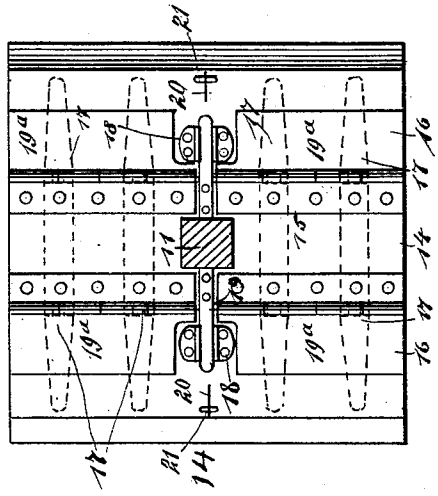
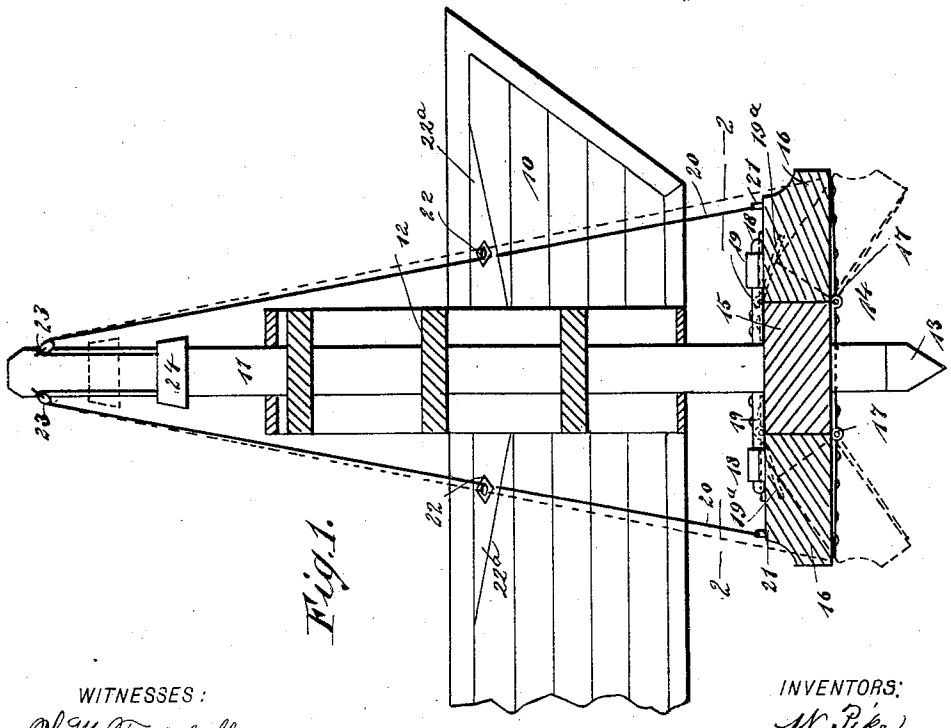


Fig. 1.



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UNITED STATES PATENT OFFICE.

WILLIAM PIKE AND NORMAN McDAIRMID, OF SAULT DE STE. MARIE, MICHIGAN.

FOOT FOR DREDGE-ANCHORS.

SPECIFICATION forming part of Letters Patent No. 483,012, dated September 20, 1892.

Application filed March 29, 1892. Serial No. 426,948. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM PIKE and NORMAN McDAIRMID, of Sault de Ste. Marie, in the county of Chippewa and State of Michigan, have invented a new and Improved Foot for Dredge-Anchors, of which the following is a full, clear, and exact description.

Our invention relates to improvements in dredge-archors. These dredge-anchors usually consist of a vertically-movable post extending downward through the dredge and a solid foot fixed to the post and adapted to be embedded in the mud beneath the dredge. This sort of an anchor is necessary for the dredge, as the dredge must be held substantially stationary, so that its machinery may work properly. An objection to the usual solid anchor-foot is that it is difficult to break anchor, as the suction is so great that the foot will not readily loosen its hold on the mud. This frequently causes the dredge to be sunk when a storm comes up quickly, and in any event it takes a long time to make the anchor loose its hold.

The object of our invention is to overcome this difficulty, which we do by making the anchor-foot in sections and hinging them together, so that when the dredge moves off the center the foot will partially close, and thus overcome the suction, so that it may be easily worked loose and raised.

To this end our invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both views.

Figure 1 is a vertical section of the anchor-foot embodying our invention, showing it applied to an anchor-post and dredge; and Fig. 2 is a sectional plan on the line 2 2 in Fig. 1.

The dredge 10 may be of any approved kind, and the anchor-post 11 extends vertically on one side of the dredge in the usual way, the post being held in a suitable support 12. The post and its support are of the usual kind. On the under side of the anchor-foot 14 is an iron-clad anchor 13 of the usual kind.

The foot 14 of the anchor comprises the fixed middle portion 15, which is secured to the anchor-post a little above its lower end, and the leaves 16, which are hinged to the center piece, there being a leaf on each side. The leaves and center piece are of the same thickness and length, and the leaves are hinged to the center piece on the under side, as shown at 17, so that when the dredge moves backward or forward the leaves may swing down, as shown by dotted lines in Fig. 1. Each leaf is provided near the center and on the upper side with an open-topped box 18, and extending through the posts 11 and across the center piece 15 is a pin or bar 19, the ends of which register with the boxes 18, so that when the leaves are level with the center piece the bar will enter the boxes and the leaves will be prevented from passing up any higher or from working laterally. The foot will thus be nearly as strong as if made of a single piece. Aprons 19^a are hinged to the center piece 14 and project over the adjacent leaves 16, so as to cover the joint and exclude mud and gravel.

The leaves are provided with cables 20, which are secured to eyebolts or their equivalents 21 near the outer edges of the leaves, and the cables extend upward through holes 22 in the knees 22^a of the support 12 and over sheave-pulleys 23 at the top of the post 11, and the upper ends of the cables are secured to a sliding weight 24, which is mounted upon the post 11, and the weight thus has a tendency to counterbalance the leaves and hold them in a level position.

The anchor is operated in the usual way, and any suitable mechanism may be employed for raising and lowering the post. It will be seen that when the foot is pressed downward upon the bottom it will bear solidly thereon, but when the dredge is moved forward or backward to break anchor the leaves will swing, as shown by dotted lines, so as to overcome the suction and permit the foot to be easily raised.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with the anchor-foot, of an apron hinged to the middle section of the foot and extending over the adjacent leaves, substantially as described.

2. The combination, with the anchor-post, of a foot secured thereto and provided with swinging leaves, substantially as described.

3. The combination, with the anchor-post, of a foot comprising a rigid middle section secured to the post and swinging leaves hinged to the middle section, substantially as described.

4. The combination of the anchor-post, the anchor-foot having hinged leaves thereon, and a cross-bar secured to the post and extending into the path of the leaves, substantially as described.

5. The combination of the anchor-post, the foot having swinging leaves, open-topped boxes secured to the leaves, and a cross-bar secured to the rigid portion of the foot and extending into the path of the boxes, substantially as described.

6. The combination of the anchor-post, the foot having swinging leaves, cables secured to the leaves and extending upward to the top of the post, and the counter-balance secured to the cables, substantially as described.

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