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BOW ANCHOR FOOT PLATE AND SHIPPING APPARATUS THEREOF.

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To all whom it may concern:

Be it known that we, SYLVESTER GEORGE PERRY, of the town of Port Dalhousie, in the county of Lincoln, and CHARLES FREDERICK STAFF, of the town of Welland, in the county of Welland, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Bow-Anchor Foot-Plates and Shipping Apparatus Therefor, of which the following is the specification.

Our invention relates to improvements in bow anchor foot plates and shipping apparatus therefor, and the object of the invention is to provide a foot plate for bow anchors which may be readily shipped and unshipped without any danger of the anchor sticking in the bed of the stream or lake when being raised and it consists essentially of a pair of leaf castings arranged at each side of the anchor point and abutting each other at their inner side, a detachably hinged connection between the leaf castings and the anchor point, and a shipping frame detachably secured on the scow or dredge for shipping the outer leaf of the foot plate as hereinafter more particularly explained by the following specification.

Figure 1, is a general perspective view of a bow anchor shown at the side of a portion of a dredge or scow with our foot plate and shipping apparatus connected thereto. Fig. 2, is a sectional view taken through the anchor point immediately above the foot plate. Fig. 3, is a vertical sectional view taken through Fig. 2 on line X—X. Fig. 4, is a perspective detail view of the lower end of the anchor post. Fig. 5, is a perspective detail view of the anchor point and the leaves of the foot plate partially broken away and in section. Fig. 6, is a perspective detail of one of the leaves of the foot plate.

In the drawings like letters of reference designate corresponding parts in each figure.

A is a portion of a dredge or scow.

B is the anchor post connected to the dredge or scow by the usual means, such means not being shown as it forms no part of our invention. The anchor post B is formed with a reduced portion B' and a further reduced portion B'' arranged diagonally to the portion B'.

C is the anchor point which fits onto the portions B' and B'' of the anchor post, the portion B'' fitting between the internal bosses B'' formed in the anchor post shown particularly in Fig. 2 of the drawings.

D is the foot plate comprising leaves D' and D'' each having hinge lugs D' and D'' at their inner ends abutting each other as shown in Figs. 1 and 3.

It will be seen on referring to Fig. 6 that the hinge lugs D' and D'' are arranged in pairs at each end of the plates D' and D''.

D is a recess formed on the inner side of each of the plates D' and D'' in the center thereof.

D' and D'' are pins which extend through the lugs D' and D'' toward the center of the plate and project slightly into the recesses D''.

C are arc-shaped recesses formed in the anchor point C and designed to receive the pins D' and D'' when the plates are in their operative position. The arc-shaped recesses C extend into each side of the anchor point and open out into the front and rear faces of such point. The upper edge of the entrance into the slots C are curved at C' so as to allow of more ready entrance of the hinged pins D' and D'' when the leaves of the foot plate D' are being shipped.

F is a pulley secured to a cross arbor F' provided with a suitable crank handle F''.

F' are chains secured to the pulley F at their upper ends and detachably secured at the bottom to the leaf castings D' and D'' of the foot plate D.

G is a shipping frame comprising horizontal arms G' detachably secured to the deck of the scow by U-bolts G'' or other suitable means. The arms G' are connected together by a cross plate G'.

G' are depending arms hinged at their inner ends to the horizontal arms G' and provided at their lower ends with inwardly curved portions extending to each side of the anchor point.

When it is desired to ship the outer leaf of the foot plate the frame is placed in the position shown in Fig. 1 of the drawing and the leaf D' inserted between the anchor post and the frame at the top thereof and set in the position shown by dotted lines in Fig. 1. The leaf D' is provided with lugs 6 and 7 designed to bear against the inner opposing sides of the depending bars G' so as to guide the plate D' downwardly when lowered by means of the chain and pulley F and F' respectively. The foot plate D' is
lowered in this position until the hinged pins $D^v$ and $D^v$ engage with the inwardly curved portions $C^z$ of the arc-shaped recesses $C'$.  

By means of the curved portions $C^z$ the hinged pins are guided into the slots $C'$ and also by means of the inwardly curved portions $D^v$ of the shipping frame $G$. When the hinged pins are brought within the slot the motion of the crank $F^z$ is reversed so as to pull upwardly upon the chain $F^v$ and on the inner end of the foot plate also carrying the hinged pins upwardly into the top of the arc-shaped slots $C'$ into the position shown in Figs. 3 and 5.

To secure the hinged pins within the slots $C'$ I provide the following means: 

H are a series of tubes extending downwardly through the anchor post to the boss $B^z$ formed inside the anchor point. 

I are holes extending through the bosses $B^z$ into the arc-shaped slots $C'$. These holes communicate at their upper ends with the tubes $H$. 

$J'$ are orifices formed in the bottom portions of the arc-shaped slots immediately opposite the portion $I$ hereinbefore referred to. 

$J$ are pins provided with pointed lower ends. The pins $J$ are normally held within the orifices $I$ in the position shown in Fig. 3. 

$J'$ are cords extending upwardly through the tubes $H$. The cords are secured at their lower ends to the pins $J$ and at their inner ends to rings $J^v$ which are connected to fastening hooks $J^z$. When the leaf casting $D^v$ of the foot plate $D$ has been brought into position as hereinbefore described and as shown particularly in Fig 3 of the drawings we release the ring $J^z$ from the hook $J^v$ and allow the pin $J$ to drop through the orifice $I$ across the opening of the arc-shaped recess $C'$ into the orifice $I'$ thereby closing the entrance to the recess. By this means the hinge pins $D^v$ and $D^v$ are securely held within the arc-shaped recesses which thereby form a hinge for the leaf of the foot plate. When this has been accomplished we remove the frame $G$ and ship the inside anchor. It will of course, be understood that no frame is necessary for shipping such inside anchor as the natural tendency of the hinge pins $D^v$ and $D^v$ thereof is to enter the recesses $C'$ when the leaf casting is being lowered.

$K$ is the tackle by which the anchor post is raised, the cable $K^z$ of which extends over the pulley $K^z$ mounted in suitable bearings on the deck of the scow. The cable then passes downwardly over the usual pulley journaled within the anchor post in the slot $H^v$ whence the cable extends upwardly to a bracket $K^v$ to which it is suitably connected.

Having described the principal parts in-volved in our invention we shall briefly describe the operation and utility of the same. When it is necessary to raise the point all it is necessary to do is to operate the cable $K$ in the usual way so as to raise the anchor post vertically. As the anchor point $C$ is withdrawn from the bed of the lake or stream the leaf castings $D^v$ and $D^v$ will fall into the position shown by dotted lines in Fig. 3 thereby allowing the anchor post to withdraw easily out of the mud forming the bed of the stream.

It will be understood by those skilled in the art that anchors hitherto have pins which extend through the anchor post in proximity to the bottom thereof. It will be seen that this cross pin will sink into the soft bed of the stream and make it very difficult to raise the anchor point out of the bed. By our device it will be seen that as soon as the anchor point is raised the leaves will fall downwardly to each side of the anchor point and thereby allow of easy withdrawal of the post.

From this description it will be seen that we have devised a very simple means whereby an anchor post of a dredge or scow may be supported on the bed of the stream or lake without such support interfering with the easy withdrawal of the anchor post when it is being raised.

What we claim as our invention is: 1. In a bow anchor for dredges and the like, the combination with an anchor point having arc-shaped recesses located to each side thereof and opening into the front and rear faces of the point, of a foot plate provided with central opposing recesses designed to extend around each side of the anchor point, and hinged pins extending through suitable portions of the foot plate into the arc-shaped recesses of the point, as and for the purpose specified.

2. In a bow anchor for dredges and the like, the combination with an anchor point having arc-shaped recesses located to each side thereof and opening into the front and rear faces of the point, of foot plates provided with central opposing recesses designed to extend around each side of the anchor point, hinged pins extending through suitable portions of the foot plates into the arc-shaped recesses of the point, and a suitable closure for the recesses, as and for the purpose specified.

3. In a bow anchor for dredges and the like, the combination with an anchor point having arc-shaped recesses formed on each side of the point and opening into the front and rear faces thereof, of a pair of foot plates provided with central opposing recesses, opposing hinged pins extending through a suitable portion of each plate into the arc-shaped recesses of the point, and vertically slidable pins located in holes in
the point and designed to be dropped vertically across the opening of the recesses to close the same, as and for the purpose specified.

4. In a bow anchor for dredges and the like, the combination with a point having recesses located at each side thereof opening into the front and rear faces of the point, a foot plate provided with hinged pins extending toward the center of the plate and into the recesses of the point, and a removable closure for the recesses, as and for the purpose specified.

5. In a bow anchor for dredges and the like, the combination with an anchor post supported in the usual manner on the dredge and the anchor point secured to the bottom of the anchor post, of foot plates, a removable hinge connection between the foot plates and the anchor point, and a shipping frame comprising guiding bars extending from the dredge to each side of the anchor post to the outside thereof and then vertically downwardly into proximity to the anchor point and then curved inwardly to each side of such anchor point, and suitable tackle for raising and lowering the foot plate, as and for the purpose specified.

6. In a bow anchor for dredges and the like, the combination with an anchor post supported in the usual manner on the dredge, and an anchor point forming part of the post, of a foot plate and removable hinge connection between the foot plate and the anchor point, lugs extending downwardly from the foot plate in proximity to the outer edges thereof, a shipping frame comprising bars extending outwardly from the dredge to each side of the anchor post and downwardly to a point in proximity to the anchor point and then curved inwardly to each side of the point and with the inner opposing edges of which the lugs of the foot plate are designed to slidably engage as the foot plate is lowered, and suitable tackle for raising and lowering the foot plate, as and for the purpose specified.

7. In a device of the class described, an anchor point provided with arc-shaped side recesses opening into the front and rear faces of the point, as and for the purpose specified.

8. In a device of the class described, an anchor point provided with arc-shaped side recesses opening into the front and rear faces of the point, and a suitable closure for the recessed openings, as and for the purpose specified.

9. In a device of the class described, an anchor point provided with arc-shaped side recesses opening into the front and rear faces of the point, and pins located in vertical orifices located in the point above the recesses and designed to drop vertically across the openings of the recesses, as and for the purpose specified.

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Witnesses:

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