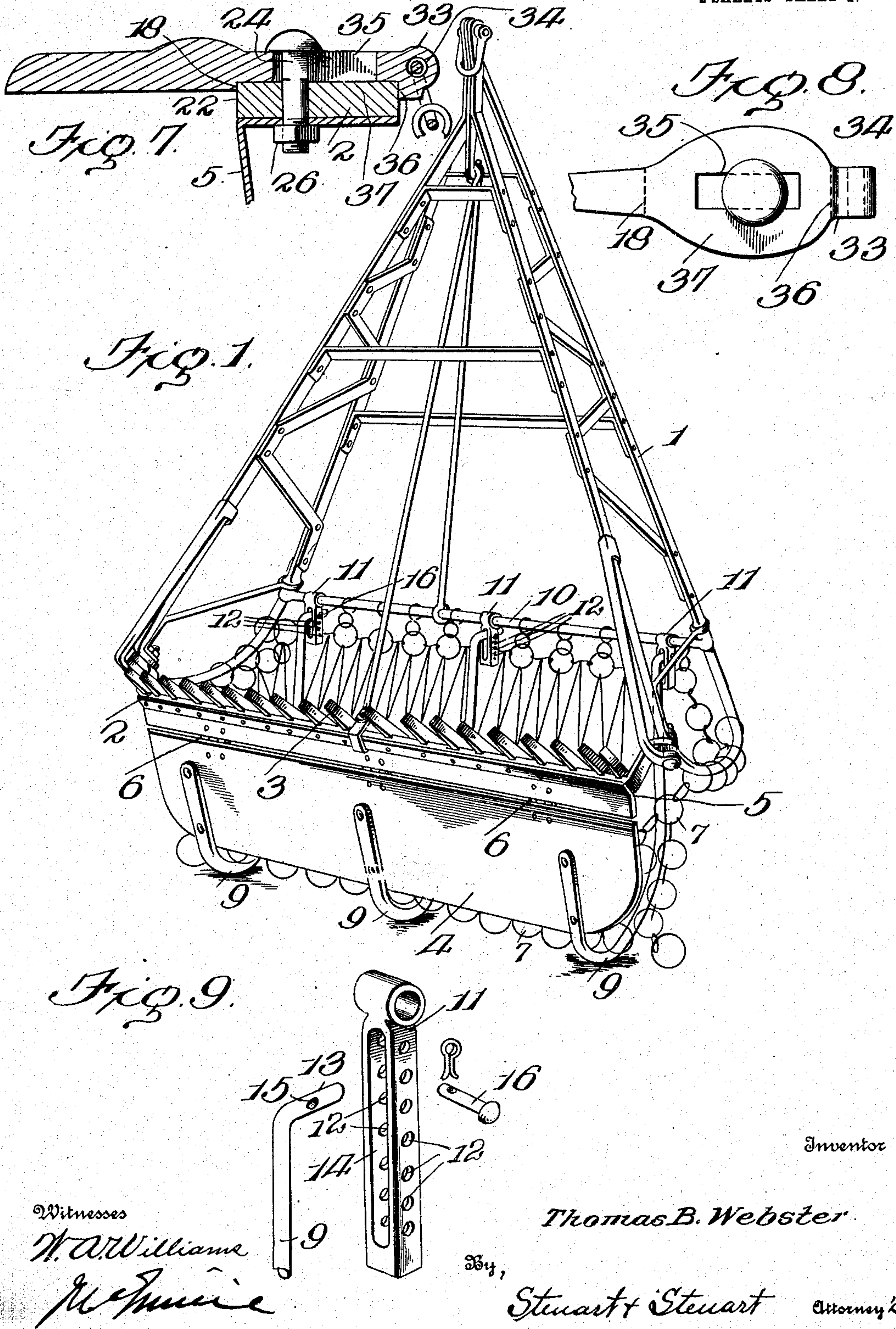


T. B. WEBSTER.
OYSTER DREDGE.
APPLICATION FILED FEB. 18, 1909.

929,355.

Patented July 27, 1909.

2 SHEETS—SHEET 1.



Witnesses

W. A. Williams

W. A. Williams

Inventor

Thomas B. Webster

By,

Stuart & Stuart

Attorney's

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W. A. Williams
M. J. J. J.

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Stewart & Stewart Attorneys

UNITED STATES PATENT OFFICE.

THOMAS B. WEBSTER, OF BALTIMORE, MARYLAND.

OYSTER-DREDGE.

No. 929,355.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed February 18, 1909. Serial No. 478,717.

To all whom it may concern:

Be it known that I, THOMAS B. WEBSTER, a citizen of the United States of America, residing at Baltimore, Maryland, have invented certain new and useful Improvements in Oyster-Dredges, of which the following is a specification.

This invention relates to oyster dredges. Such dredges as now in use in the art consist of a frame having a transverse blade armed with teeth. In the rear of the blade is a chain bag secured to the frame, with its mouth distended. The dredge is adapted to be drawn over the bottom, the teeth extending down to engage the oysters and tear them from the rocks or other bottom formation to which they are attached. The bag is placed to catch the oysters as they are removed and serves to hold them and all other solid material which is turned up by the teeth. In the dredges as now built, the teeth are made of wrought iron and each tooth is supplied with a pin which is integral therewith and generally at right angles to the length of the tooth. The blade is provided with an aperture to receive the pin of each tooth and the teeth are secured in place by heating them to a high temperature, passing each pin through the corresponding hole in the blade, and heading it over. The operation of mounting the teeth on the blade is one that must be performed by a blacksmith at a considerable expense, and as the teeth of a dredge are subject to such wear that they must be replaced after each trip, the blacksmith work on the dredges is a very considerable item of expense in harvesting oysters. Another defect of the dredges in use is that the chain bags which hold the oysters are allowed to drag on the bottom with their load, and as the oyster beds are very rough and covered with jagged stones, the life of the bags is always short, and they frequently break when loaded and cause a loss of the oysters which have already been gathered. With the dredges now used, it is an incident of each haul that when the bag becomes partly loaded, the teeth are pushed down into the mud or shells, so that while the oysters in the bottom of the bag are clean, those later dredged are mixed with a large proportion of mud and stones or shells. It also frequently happens that in throwing the dredge overboard, the chain bag becomes caught on the teeth and its capacity thus reduced, so that at the end of the haul it is

found that very few of the oysters which have been displaced from the bottom are in the bag, the rest having been wasted.

To overcome the first difficulty and reduce the cost of blacksmithing, I have provided a tooth which may be easily removed and secured in place by the oystermen without the service of a blacksmith. This tooth is provided with a shank, shown as flattened, to engage a face of the blade, and slotted longitudinally or diagonally to receive a bolt which passes through the blade and shouldered transversely to engage one and preferably both edges of the blade to prevent side motion. The blade is apertured to receive the bolt of each tooth and the length of the slots in the tooth shanks makes accurate placing of the bolt holes in the blade and finishing of the blade unnecessary. To protect the bag and overcome the other difficulties referred to, I have provided a thin plate which is secured to the blade and extends to the rear beneath the bag to maintain it out of contact with the bottom. This plate not only protects the bag, but it serves as a guard to prevent the teeth and blade from being sunk into the bottom, so as to scrape up mud and shells, and reduces the strain on the bag so that economy may be exercised in using lighter chains and hooks to form the bag. The plate prevents the bag from swinging down and forward against the teeth, so that fouling of the bag on the teeth is obviated. The applicant's plate is also of use in dumping the oysters. The dredge is drawn up over a roller on the side of the boat and moved forward until the rear of the plate rests on the roller and the nose of the dredge on the deck. In this position, the plate is tilted forward and the oysters may be easily removed. In order to conform to different conditions of bottom, the plate may be hinged and made adjustable.

The applicant is aware that numbers of dredges have been produced and patented in which a rigid cage is substituted for a bag. Such cages have never come into common use by the oystermen because they must be made exceedingly cumbersome and heavy in order to support the heavy loads of oysters which are handled at each haul. Light material, as wire netting, when supported upon a rigid frame soon yields to the weight of the oysters within and the contact with the rough bottom without. The device which has been universally adopted by

the oystermen to hold the catch while the teeth are being hauled over the bed is a chain bag, generally composed of S hooks and rings. It is to the support and protection of this bag that the applicant's plate is intended to be applied.

An oyster dredge to which my invention has been applied is illustrated in the accompanying drawings:

Figure 1 is a perspective view of the dredge; Fig. 2 is a fragmentary cross-section through the blade, plate and bag, showing a tooth in elevation; Fig. 3 is a front elevation of a tooth detached; Fig. 4 is a sectional elevation of another modification of my device; Fig. 5 is an elevation of the tooth used therewith; Fig. 6 is an elevation of a slightly different tooth; Fig. 7 is a longitudinal section of another type of tooth; Fig. 8 is an elevation of the same; Fig. 9 shows details of the plate adjusting means, grouped to indicate their cooperative relation.

Referring to the drawings, the dredge consists of a suitable frame 1 having a transverse bar or blade 2 on which are mounted the depending teeth 3 and to which the plate 4 is secured. As shown, an angle iron 5 on the rear of the blade carries hinges 6, also attached to the plate, so the latter swings in a vertical plane. The bag 7 shown as resting on the plate, is attached at its mouth to the frame, the lower edge of the mouth of the bag being shown in Fig. 2 as engaging a rod 8 which extends across the dredge just above the blade 2. If the plate be hinged, some means must be provided to hold it in adjusted position. The preferred means is shown in the form of bows or bands 9. One end of each band is shown as secured to the plate near its rear portion, and from this point the bands extend back and up over the bag. The upper extremities of the bands are adjustably secured to the frame, preferably in the manner to be described. The transverse rod 10 to which the upper edge of the bag is attached is provided with slotted lugs 11, pierced with a series of holes 12. The end of each band 9 is turned up vertically at 13 and the member 13 passed through the slot 14. The member 13 is pierced at 15 to admit the pin 16 passed through a hole 12. In this way the plate is made adjustable by moving the end 13 of the bands in the slots and pinning them. This allows the position of the plate to be changed to suit different conditions of dredging.

Having reference to Figs. 2 and 3, it will be noted that the blade 2 is shown as rectangular and the shanks of the teeth are flattened at 17 and shouldered transversely near the teeth proper on their rear sides at 18. The flat shank of each tooth is slotted longitudinally at 19 and the blade is apertured with holes, one corresponding to each

tooth. To mount the teeth, each one is placed on the blade with its rear flat surface 21 on the front surface of the blade, and the shoulder 18 is pressed against the lower face 22 of the blade. A bolt 24 is passed through the slot of the tooth and through the corresponding hole 20, and the nut 26 is tightened on the bolt, holding the tooth in place with the shoulder 18 in close contact with the lower surface 22 of the blade. It will be noted that the length of the slot 19 provides for the positioning of the tooth with its shoulder in contact with the blade and makes it unnecessary to finish the blade or remove irregularities from its surface in order to secure a rigid setting of the teeth.

The angle iron 5 to which the plate 4 is hinged may be turned either down, as shown in Fig. 2, or up, as shown in Fig. 4. One flange of each angle iron, apertured with holes to correspond to and register with those of the blade, is placed against the rear surface of the latter and the bolts 24 which have been described as holding the teeth, are passed through the plate and flange and the nuts 26 are screwed onto the bolts in the rear of the flange. In this way, a single set of bolts is made to hold both the teeth and the plates to the blade. In Figs. 4 and 5, I have shown the shank 29 with the slot therein extending above the blade. This projecting portion of the shank forms an eye 31 to which the lower portion of the mouth of the bag may be secured. Fig. 6 shows a tooth shank slotted diagonally and provided with a lug 33 apertured at 34 to form an eye for the same purpose as eye 31.

Figs. 7 and 8 illustrate still another type of tooth fastening. The shanks of the teeth of the style shown in these figures are flattened at 37 to engage the blade face and slotted longitudinally at 35, as described in connection with Figs. 4 and 5, but the slot preferably does not extend above the blade. The end of the shank is provided with a lug 33 apertured at 34 to engage the bag. To prevent the tooth from working loose, I have provided, in addition to the shoulder 18 engaging the lower edge 22 of the blade, a shoulder 36 engaging the upper edge of the blade. The bolt is shown as passed through the tooth and plate and angle iron, but of course the teeth described may be used without the protecting plate and angle iron.

The operation of my device will be apparent from the foregoing description of its construction and the statement of its function. In connection with this description, I would have it understood that while I set forth numerous minor details of the dredge to which my device has been applied, I do not desire to limit myself to these details, but

What I claim and desire to secure by Letters Patent is:

1. In an oyster dredge having a tooth blade, a tooth to be removably and rigidly secured to the blade, the tooth having a flattened shank and two transverse shoulders on the shank to engage the blade from above and below the shank between the shoulders being slotted to receive a bolt.

2. In an oyster dredge having a tooth blade, a tooth to be removably and rigidly secured to the blade, the tooth having a flattened shank shouldered transversely to engage the blade on two opposite edges, the shank between the shoulders being slotted to receive a bolt, the upper end of the shank having an eye to be engaged by the bag.

3. In an oyster dredge, a frame having teeth and a bag, the mouth of the bag secured to the frame, the bag otherwise hanging free and extending to the rear, a plate pivotally mounted on the frame and extending to the rear beneath the bag, and means for securing the plate in adjusted position.

4. In an oyster dredge, a frame including a transverse blade and teeth, the latter secured to the blade, a flexible bag, the mouth of which is secured to the frame in distended position, a plate which normally rests on the bottom extending to the rear of the blade to support the bag, and a band secured to the rear of the plate extending upward and inclosing the rear of the bag.

5. In an oyster dredge, a frame including

a transverse blade and teeth, the latter secured to the blade, a plate pivotally mounted on the frame, the body of the plate extending to the rear, a flexible bag, the mouth of which is secured to the frame and which hangs freely on the plate, protected thereby from the bottom, and bands secured to the rear of the plate bent up to inclose the rear of the bag and adjustably secured at their upper extremities to the frame.

6. In an oyster dredge, a frame having a support for teeth, a tooth having a flattened shank shouldered transversely to engage the edge of the support, the shank slotted beyond the shoulder, and, at its extremity, provided with an eye to which a dredge bag may be fastened.

7. In an oyster dredge, a frame having a support for teeth, a tooth having a flattened shank shouldered transversely to engage the edge of the support, the shank slotted beyond the shoulder, the shank, at its extremity, provided with an eye to which the dredge bag may be fastened, and a bolt passing through the slot to secure the tooth to the support.

Signed by me at Baltimore, Maryland,
this 15th day of February, 1909.

THOMAS B. WEBSTER.

Witnesses:

EDWARD L. BASH,
S. RALPH WARNKEN.