Charles A. Chamberlin:

Improvement in Ship's Anchors.

PATENTED JUL 11 1871

116806

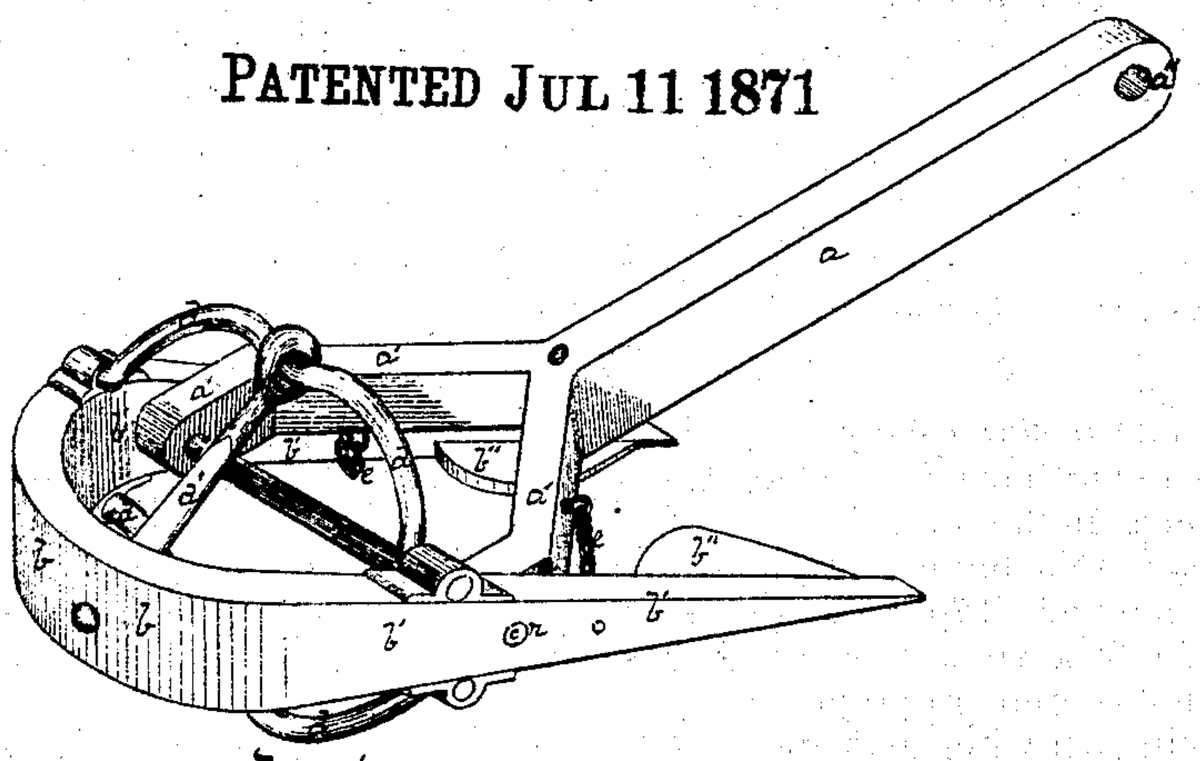

Fig. 1.

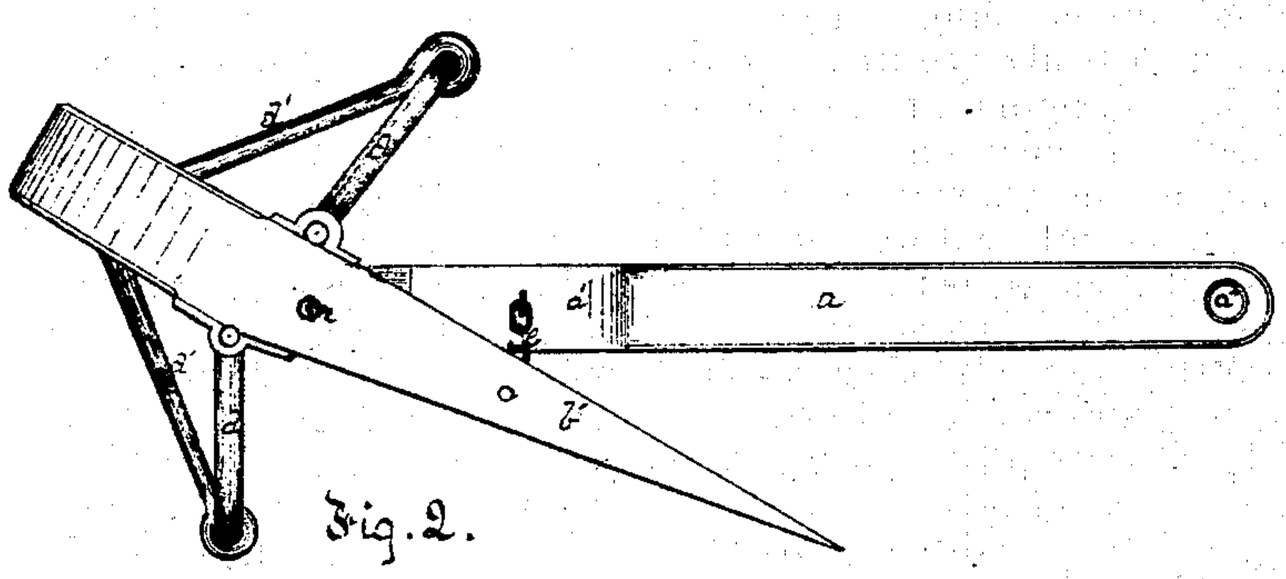

Fig. 2.

Witnesses:

R. A. Wrenshall

Thos. Blenn

Inventor:

Charles A. Chamberlin,

by Bakewell Johnston,

his Attys.

116,806

UNITED STATES PATENT OFFICE.

CHARLES A. CHAMBERLIN, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN ANCHORS.

Specification forming part of Letters Patent No. 116,806, dated July 11, 1871.

To all whom it may concern:

Be it known that I, CHARLES A. CHAMBERLIN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Ship's Anchor; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a rear perspective view of my improved anchor, and Fig. 2 is an edge view or side elevation thereof.

Like letters of reference indicate like parts of each.

The object of my improvement is to obviate the defects of the common anchor, which are both numerous and serious. Its shape is such (the stock and flukes being at right angles to each other) that it is always in the way on the bows or inboard, hanging at the cathead or at the hawse-hole. In heaving up it is apt to get under the forefoot, and when the vessel is pitching, it can be fished only with great difficulty. When hanging at the cathead it fouls everything it touches. Again, it is sometimes necessary to come to at short range. In such case it is difficult to make the flukes catch and penetrate sufficiently to hold. The frequent fouling of the flukes and chain is also a serious difficulty, and it is impossible to ascertain without heaving up whether they are fouled or not; and, in addition to all this, its holding power is so small that even when not fouled it often drags, so that reliance on it often results in the destruction of both life and property.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and mode of operation.

The cable or chain is connected to an eye, a'', at the forward end of the shank a. The opposite or rear end of the shank a is bifurcated and spread apart, as at a'. To the rear ends of these legs a' is loosely pivoted, by a rod, c, or otherwise, a bow, b, terminating in the arms b', on the inner or outer edges of which (or both) are the blades b'', the extremities of the arms and the edges of the blades being such as will readily penetrate the earth on whichever side the anchor may happen to cant. These blades and arms constitute what are generally known as the flukes. The point n at which the bow b is hung to the legs a' is above or (reckoning from the points of the flukes) forward of the center of gravity, so that in, heaving up or lowering the anchor, the flukes will always occupy the same vertical plane with the shank a; but instead of making the U-part of the bow b sufficiently heavy to accomplish this result, it may, without shifting the pivoting point n, be made lighter, and the same mechanical result be secured by an arrangement of springs, which shall bear against it so that it shall heave up and lower in a vertical position, and such springs I claim as the mechanical equivalent of a preponderance of weight in the U-part of the bow b. From each of the arms b', and both above and below, a curved guide, d, passes up and over to the opposite arm b', the points where such guides connect with the arms b' being preferably back of the pivoting-point n. These guides may be fixed and supported each by a brace, d', or, as I prefer to make them, they may be pivoted, as shown, and the rear end of each brace d' be secured by a key, so that when the anchor is stowed the braces d' may be unkeyed and the guides d be laid down flat onto the upper or lower face of the anchor and be out of the way. The arms b' forward of the pivoting-point n are connected by chains e to the legs a' for purposes which will be obvious to those skilled in the art. The anchor made as described has not sufficient edge-face for it to stand on; hence, when dropped, it will cant onto either its upper or lower face, and rest on the lower guide d and the points of its flukes. The first dragging motion, by the resistance of the lower guide on the ground, acts so as to thrust the points of the flukes into the earth, and the deeper they penetrate the greater such thrusting force will be; hence its holding power is measured not, as in the ordinary anchor, by its weight alone, but by the latter plus the force of the downward thrust caused by the leverage of the lower guide.

I thus make an anchor which, with the same weight, or even a less weight, possesses a greater holding power than the ordinary anchor—one that will cant with absolute certainty under all circumstances, one that cannot possibly be fouled by the chain and when hanging at the cathead cannot foul the rigging or chains of other vessels in hauling in or out of dock. As the flukes always hang vertical they cannot catch under the forefoot when weighing, nor injure the

bows in catting or fishing. It is easier catted and handled, fishes without difficulty, stows away more snugly, and is better for kedging or boat-service. It has no fluke or stock projecting upward to injure a vessel in shallow water, and both flukes are in use at the same time.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the flukes, connected by a curved or angular bar, *b*, extending beyond the center of oscillation, the bifurcated shank *a*, and guiding device *d* located between the connecting-bar and center of oscillation, substantially as and for the purposes set forth.

2. The weighted head *b* or connecting-bar of the flukes, in combination with the shank *a* loosely pivoted thereto in such manner, substantially as described, as that the superior gravity of the connecting-bar shall give the flukes a vertical position in weighing or dropping anchor.

3. In combination with the devices described in the second claim, the guiding-bars *d* and braces *d'*, attached by a screw-bolt so as to be readily folded upon the shank, for the purpose described.

4. A shank having flaring bifurcated arms *a'*, each of which is loosely pivoted to one of the flukes, substantially as described.

In testimony whereof I, the said CHARLES A. CHAMBERLIN, have hereunto set my hand.

CHARLES A. CHAMBERLIN.

Witnesses:

A. S. NICHOLSON,

R. C. WRENSHALL.