To all whom it may concern:

Be it known that I, ROBERT S. R. CHRISTZBERG, a citizen of the United States, residing at Charleston, in the county of Charleston and State of South Carolina, have invented certain new and useful Improvements in Ships' Anchors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in anchors; and it consists of the certain novel features hereinafter described and claimed.

Reference is had to the accompanying drawings, wherein the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a perspective view of the anchor as it is about to "take" on the bottom. Fig. 2 represents a front elevation of the anchor. Fig. 3 represents a section of the anchor along the line x x of Fig. 2, as seen from the right. Fig. 4 represents a perspective view of a modification of the stop on the shaft carrying the flukes.

A represents the shank of the anchor, which at its lower end is slotted, as shown in Figs. 2 and 3, leaving side walls a and end faces a'. The upper end of the shank is perforated at a for the stock E and at a' for the ring F.

The flukes B are preferably long-oval in shape and tapering toward their front edges, as shown. These flukes have a square eye b, adapted to receive the flattened end c of the shaft C. The said flattened portions c should preferably be upset somewhat in order to prevent the flukes from becoming detached. This shaft C passes through the lower end of the shank and has a stop piece or projection c, which is adapted to bring up against either one of the faces a' when the anchor is on the bottom. Rigidly attached to the said shaft C are two pairs of auxiliary or preventer flukes D, each having the prongs d and d', which prongs are set at an angle to the axis of the flukes B and are first to engage on the bottom.

The stock E may be constructed curved, according to the usual practice, or it may be made with a shoulder e, cotter-pin e', and rounded end e, which are small enough to slip through the holes a and thus enable the stock to be readily removed. This is of special importance in stowing the anchor while at sea, and more especially in carrying out anchors by means of boats, where it is necessary to divide the weight as much as possible.

The operation of the device is as follows: The anchor being let go as usual falls on the bottom with the shank nearly parallel to the bottom. Now if the bottom be hard and the scope of the chain long the flukes B might slip along the bottom without engaging were it not for the auxiliary flukes D. The prongs d' (or d, as the case may be) catch on the bottom and give the flukes B the proper direction for engaging as the chain is tautened.

It will be seen that these arms d' engage at once and are relieved of their strain by the flukes B when the said strain becomes very great. By this combination of auxiliary and ordinary flukes the very important quality of quick holding is obtained for the anchor.

The stops c, on which the leverage is very great, should be preferably deep, as shown in Fig. 4, and securely attached to the shaft C.

As the ship swings to the opposite tide, the shank will turn over, carrying with it the flukes B and preventer-flukes D, and the arms d' will catch, bringing the flukes B into engagement, as before.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an anchor, the combination, with a shank having a suitable stock attached there to and having a cylindrical aperture in the lower end thereof and a slot opening into said cylindrical aperture and partially encircling the same, of a shaft having a stud thereon adapted to move freely in said slot and to bring up against the end faces thereof, flukes B, rigidly attached to said shaft, and auxiliary flukes D, having arms d and d' set at an angle to said flukes B, also rigidly secured to said shaft, substantially as and for the purposes described.
2. In an anchor, the combination, with a shank having a suitable stock attached thereto, of a transverse shaft passing through the lower end of said stock, with means for holding said shaft after it has turned through a given angle, the flukes B, rigidly attached to said shaft, and auxiliary flukes D, having arms d and d' set at an angle to said flukes B, also rigidly secured to said shaft, substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT S. R. CHRIETZBERG.

Witnesses:

J. M. BRUNSON,

D. H. MURCHAUSS.