(No Model.)

E. T. STARR.

ANCHOR.

No. 377,692. Patented Feb. 7, 1888.

Fig. 4.

Fig. 1.

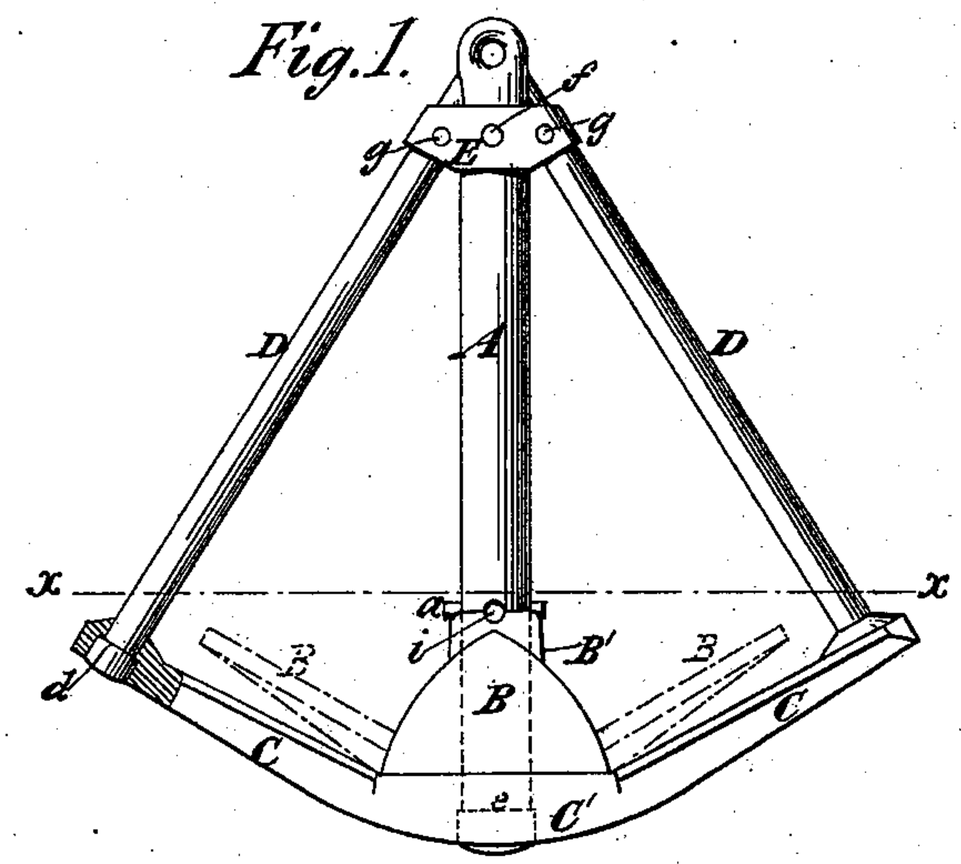


Fig. 2.

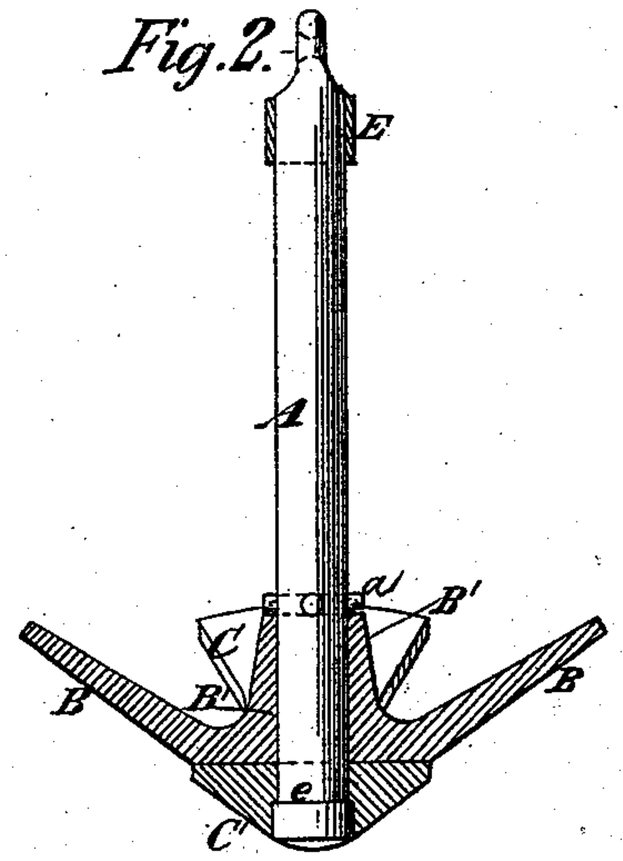
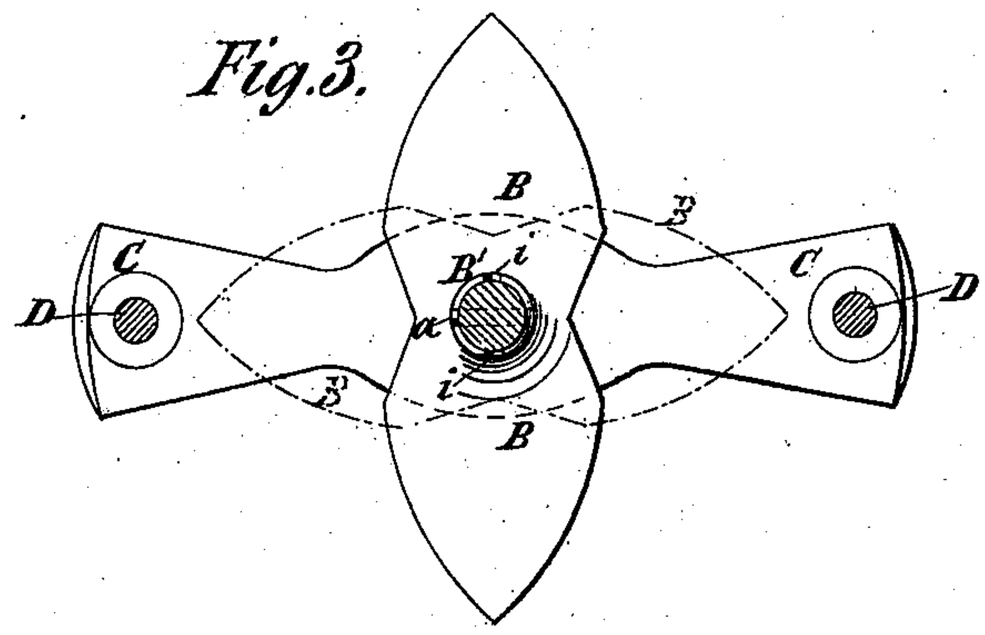


Fig. 3.



Witnesses:
Joseph C. Rol,
Henry J. McBride.

Inventor:
Eben T. Starr
by attorneys
Fromm & Hall

UNITED STATES PATENT OFFICE.

EBEN T. STARR, OF NEW YORK, N. Y., ASSIGNOR OF EIGHT-FIFTEENTHS TO MADGE STONE, OF SAME PLACE.

ANCHOR.

SPECIFICATION forming part of Letters Patent No. 377,692, dated February 7, 1888.

Application filed November 17, 1887. Serial No. 255,386. (No model.)

To all whom it may concern:

Be it known that I, EBEN T. STARR, a citizen of the United States, residing in the city, county, and State of New York, have invented a new and useful Improvement in Anchors, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to anchors which have two guard-arms projecting from the crown in opposite directions, and connected with the upper part of the shank by diagonal guard-braces, and which have also two other arms which bear palms or flukes, and which when in their operative positions stand at right angles to the first-mentioned arms, such an anchor being the subject-matter of my application for United States Letters Patent, Serial No. 240,996, filed June 11, 1887.

The present improvement consists in the novel construction, hereinafter described and claimed, of such an anchor, whereby facility is afforded for the stowage and transportation of the anchor, and great strength is obtained.

Figure 1 in the drawings is a side view of an anchor illustrating the whole of my invention, one end of one of its arms being in section. Fig. 2 is a central sectional view at right angles to Fig. 1. Fig. 3 is a transverse sectional view, taken below the line *x x* in Fig. 1. Fig. 4 is a central sectional view of the socket-piece, which connects the upper part of the shank with the diagonal braces, and assists in holding all the parts of the anchor together.

Similar letters of reference indicate corresponding parts in the several figures.

A designates the shank of the anchor, from which project in opposite directions two arms, B, terminating in palms or flukes, and two other arms, C, also projecting in opposite directions, the said arms B occupying positions at right angles to those C, and all the arms being fixed relatively to the shank in the normal condition of the anchor, as shown in bold outline in the several figures, but most clearly in Fig. 3.

The arms C are made with a crown, C′, which is fixed to the lower part of the shank, and they are connected at their ends by diagonal braces D with the upper part of the shank. The arms B are made with a crown, B′, through which the shank passes, and which is secured to the shank just within the crown C′ of the arms C.

The anchor represented is, except as to the manner in which its separate parts are constructed and put together, essentially like what is described in the specification of my application for Letters Patent hereinbefore referred to.

The most important difference is in the mode of applying the palm-bearing arms B, which, instead of being connected with the same crown as the arms C, as described in that specification, are made in the same piece with a separate crown or central socket, B′, through which the shank passes in such manner that the said arms may be turned from the normal position shown in bold outline at right angles to the fixed arms C to the position shown in dotted outline in Figs. 1 and 3, in line or parallel with the fixed arms C, to render the anchor more convenient for stowage. The arms B are capable of being secured in either of the above-described positions by a pin or key, *a*, which is inserted through a hole in the shank and through two holes or notches, *i*, in the central socket, B′, the holes or notches in the latter being duplicates, so that the pin or key may pass through the hole in the shank and through one pair of said holes or notches in the said socket to secure the arms firmly in either position.

In order to permit the palm-bearing arms B to be brought to the position parallel with the fixed or guard arms C, described with reference to the dotted outlines in Figs. 1 and 3, the length of the fixed arms C and the spread of the diagonal or guard braces D at their connections with the said arms must be sufficiently greater than the length of the arms B and their palms to permit the ends of the palms to enter between and be kept within the said braces when brought to the said position.

The connection between the upper ends of the diagonal braces D and the upper end of the shank is made by a socket-piece, E, in which there is, as shown in Fig. 4, a central socket, *b*, which fits the shank, and two diagonal sockets, *c*, to fit the braces D. The lower part of the shank is made with a shoulder, *e*, to abut against a corresponding shoulder in the portion of the crown C, through which the shank passes, and the lower parts of the braces

D are made with shoulders *d*, to abut against corresponding shoulders in the parts of the arms C, through which the said braces pass. The braces D pass through the sockets *c* in the socket-piece E and abut against the shank above, and the crown C′, with its arms C, the shank, the braces, and the socket-piece E are all strongly and firmly secured together by pins, bolts, or keys *f g g*, inserted through holes in the socket-piece and in the shank and braces. The crown or socket B′ of the arms B is held firmly against the fixed crown C′ by the pin *a*.

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

1. The combination, in an anchor, of a central shank, palm-bearing arms capable of turning about the axis of the shank, fixed arms rigidly attached to the shank, and fixed diagonal braces connecting the ends of said rigidly-attached arms with the shank, and having a sufficient spread at their connection with the said rigidly-attached arms to permit the palm-bearing arms and their palms to pass between them when the last-mentioned arms are turned in line with the rigidly-attached arms, all substantially as herein described.

2. The combination of the crown C′, having arms C, the central shank fitted to said crown, with a shoulder, *e*, the diagonal braces D, fitted to the arms, with shoulders *d*, the socket-piece E, having sockets *b c c* for the shank and braces, and the pins or keys *f g g*, all substantially as herein described.

EBEN T. STARR.

Witnesses:
FREDK. HAYNES,
HENRY J. MCBRIDE.