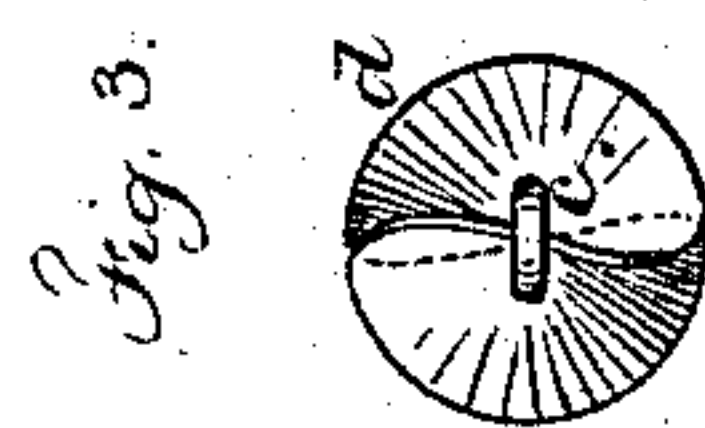
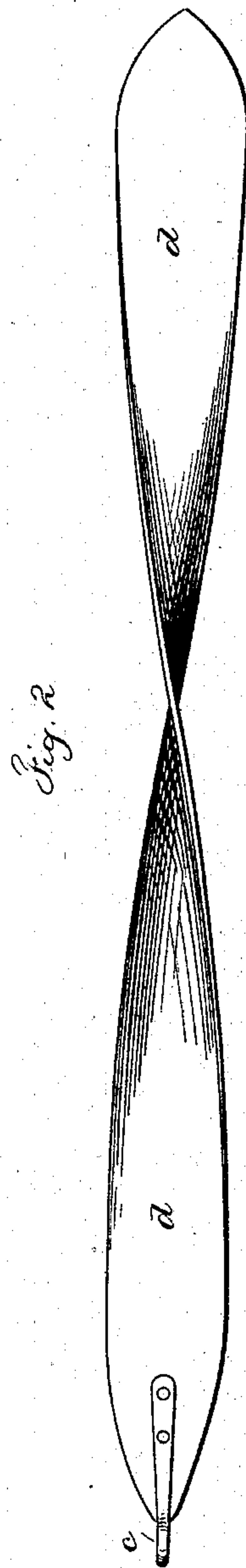
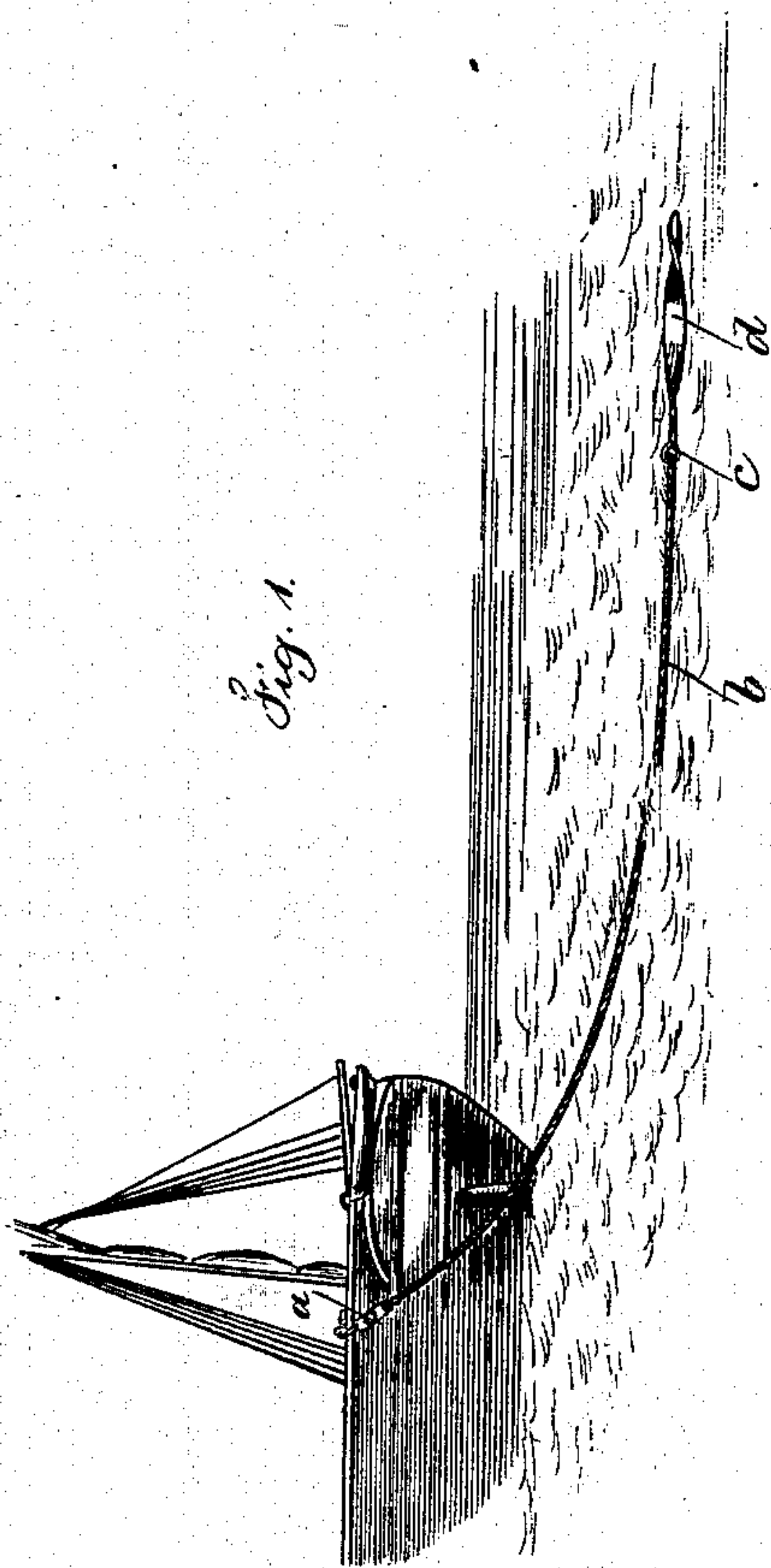


(No Model.)

G. W. MERRILL.
ROTATOR FOR SHIP'S LOGS.

No. 272,146.

Patented Feb. 13, 1883.



Witnesses

Chas H. Smith
J. Hall

Inventor
George W. Merrill
per Lemuel W. Correll atty

UNITED STATES PATENT OFFICE.

GEORGE W. MERRILL, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF
AND WILLIAM G. MERRILL, OF SAME PLACE.

ROTATOR FOR SHIPS' LOGS.

SPECIFICATION forming part of Letters Patent No. 272,146, dated February 13, 1883.

Application filed December 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MERRILL, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Ships' Logs, of which the following is a specification.

Before my invention propellers for ships' logs had been made with inclined fans around a central core, each fan or blade occupying a radial or nearly radial position and spiral to the axis, so that the fans became the same as sections of a many-threaded screw. This propeller for the log has considerable inertia and resistance in the water, and it is liable to jump out of the water and to pursue a zigzag course. Besides this, it is expensive to make, and it cannot be changed to rectify any inaccuracy in the registration of the log. In addition to the foregoing disadvantages in the propeller itself, the resistance offered in the water frequently causes the tow-line to snap, and the propeller is lost, and frequently sharks snap at the propeller, and the shape is such that it does not slip out of the mouth, but is liable to become caught in the teeth and the line broken.

After many years of experience and experiment I have succeeded in devising and constructing a very simple propeller for ships' logs, which overcomes all the objections and difficulties heretofore known to me, and rendering the propeller so cheap and efficient that the dead-reckoning of a ship's course can be relied on to a greater extent than heretofore, and the propeller is not liable to be lost, and if it is lost another can be substituted at very little expense, and if the log does not correspond with the actual distance run the propeller can be adjusted at sea, even by a comparatively-inexperienced person.

In the drawings, Figure 1 is a view illustrating the manner in which this propeller for logs is used, and Fig. 2 is a side view, and Fig. 3 an end view, of the propeller itself.

The registering mechanism *a*, that is employed, may be of any desired construction. A device of this character is shown in Letters Patent No. 263,936, heretofore granted to W. G. and G. W. Merrill. From the registering mechanism a line, *b*, passes to the eye *c*, or other suitable attaching device, of the propeller-blade *d*. This blade *d* is a twisted plate of

metal, and it is quite long in proportion to its width—say about one and a half inch wide and twenty inches long, more or less. The twist or inclination of the edge to the axis is about the same as that heretofore used in the blades of propellers for ships' logs, and the necessary extent of surface is obtained by the increase of the length. By this construction of propeller for ships' logs the central core or axis is entirely dispensed with, the resistance in the water is lessened, the risk of irregular action in the water is prevented, because the draft is at the end of a long body, and it will keep on line with the cord or rope to the register, the water will not be separated or lashed into foam by the propeller, and said propeller will glide through the water with scarcely any disturbance, and it will move in a regular screw form through the water. If any fish catches at the propeller it is likely to slip out of the mouth, because it is the same size from end to end, or nearly so. Besides this, sea-weed is not liable to remain upon it as it draws out of the weed, because the blade is the same size, or nearly so, from end to end.

One of the important features of this invention is the ease with which it is adjusted.

In practical use it is found that the same log will register differently upon different vessels, owing to the difference in the riding of the vessel and the disturbance of the water in the wake of the vessel.

My propeller is made as a uniform twist from end to end; but if the log registers too great distance the error can be rectified by slightly untwisting the propeller, and the reverse if the registration is too little. Suitable keys or bending-forks can be provided for increasing or lessening the twist of the propeller-blade.

I claim as my invention—

The propeller for ships' logs, formed of a long narrow blade twisted from end to end, and having an attaching device at one end for the rope to the registering mechanism, substantially as set forth.

Signed by me this 2d day of December, A. D. 1882.

G. W. MERRILL.

Witnesses:

HAROLD SERRELL,
CHAS. H. SMITH.