No. 677,020. Patented June 25, 1901.

J. C. COOMBS & A. N. McGRAY.

SHIP'S LOG.

(Application filed Sept. 6, 1900.)

(No Model.)

Fig. 1.

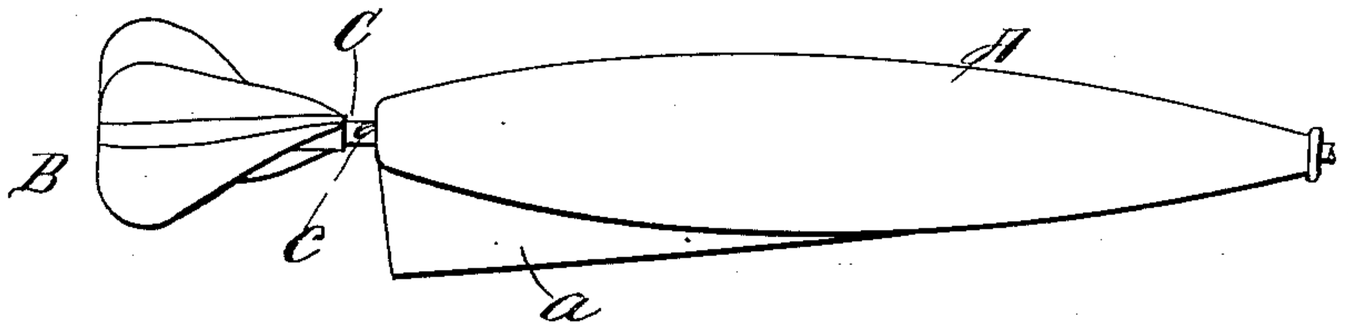


Fig. 2.

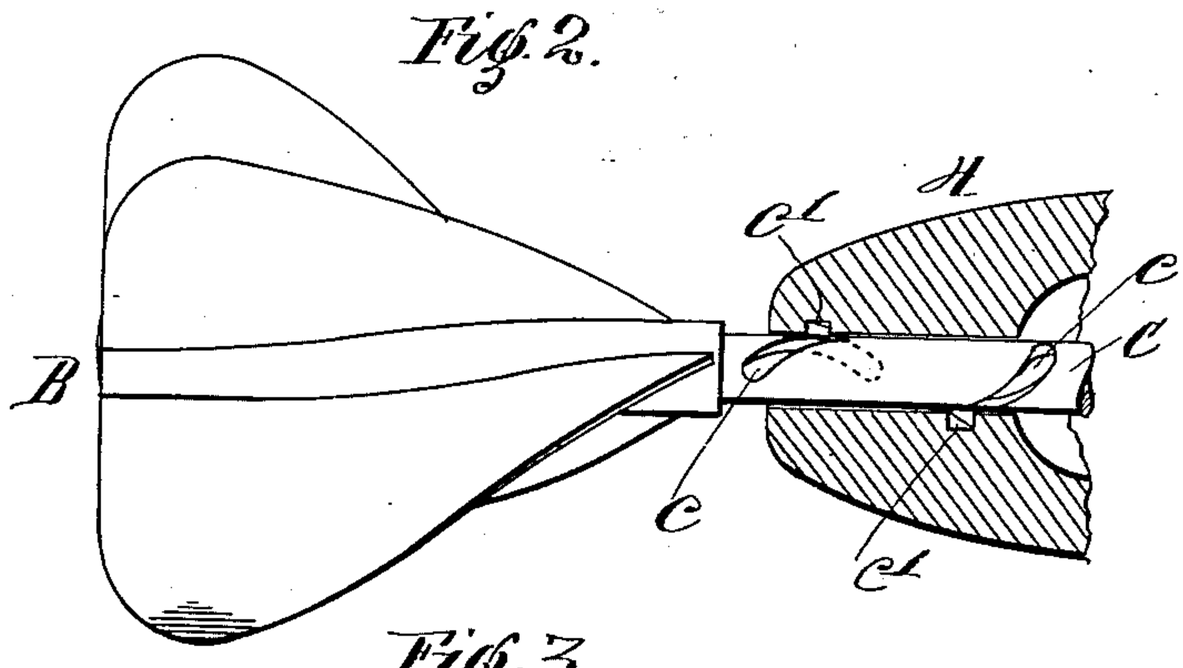
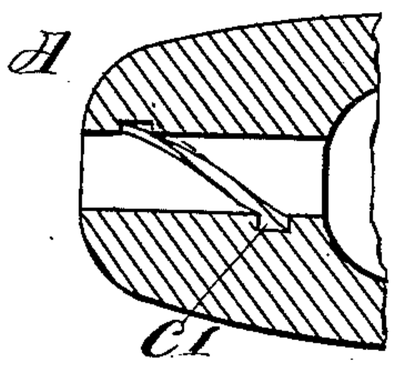


Fig. 3.



Witnesses

Arthur A. Folsom

Arthur Berrow.

Inventors

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By William Holden,

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UNITED STATES PATENT OFFICE.

JOHN COLBY COOMBS AND ARTHUR NEHEMIAH McGRAY, OF BOSTON, MASSACHUSETTS.

SHIP'S LOG.

SPECIFICATION forming part of Letters Patent No. 677,020, dated June 25, 1901.

Application filed September 6, 1900. Serial No. 29,188. (No model.)

To all whom it may concern:

Be it known that we, JOHN COLBY COOMBS and ARTHUR NEHEMIAH MCGRAY, citizens of the United States, residing at Boston, in the county of Suffolk, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Ships' Logs, of which the following is a specification.

The object of our invention is to prevent water entering into the interior of the log in the direction of the rotator-shaft and to force out of the interior of the log any water that might be in or enter therein, which we attain in the following manner:

Figure 1 is a log with our invention. Fig. 2 is a detail section of Fig. 1, showing our invention. Fig. 3 is also a detail section of Fig. 1.

A represents the log-casing, and *a* the log-steadying vane.

B denotes the rotator, which is fixedly secured to the log-shaft, (represented by the letter C.) The rotator-shaft or log-shaft is provided with the spiral channels or grooves *c*, one or more of which may be cut into the shaft at any desired angle with its axis and may extend half-way through the log-casing in the back end portion of the log, and like ways or grooves may be cut in like angles with the axis as the shaft emerges from the log-casing into the water and may extend equally half-way into the casing, but are not continuous or ever in open connection with each other. In the middle portion of the casing in which the groove parts of the shaft revolve there is a corresponding way or groove, (represented by the letter *c'*,) which overlaps the respective ends of the grooves in the shaft at certain points in its revolution. These grooves respectively in the shaft and the casing are so cut in relation to each other that in no position can they be in such continuous connection as to permit water to flow in or out of the log-casing, and the operation designed is that as the shaft revolves the water in the log-casing will be taken up by the grooves on the shaft in contact therewith and flow into the grooves in the log-casing, from which it will again in the progress of the revolution of the shaft flow into the grooves in the shaft and flow as the shaft revolves into the sea, thereby withdrawing or expelling all water from the interior of the log-casing.

Having described our invention, we claim—

In a ship's log, means for preventing water entering into the interior of, and expelling water from the interior of the log-casing, consisting of a spiral channel provided in the end of the log-casing, and spiral channels provided on the rotator-shaft adapted to alternatively make a communication from the interior of the log to the exterior thereof, and break said communication in each successive revolution of the rotator-shaft, as described.

In testimony whereof we have hereunto set our hands this 6th day of July, A. D. 1900.

JOHN COLBY COOMBS.
ARTHUR NEHEMIAH McGRAY.

Witnesses:
F. C. CHAMBERLIN,
CHARLES H. HANSON.