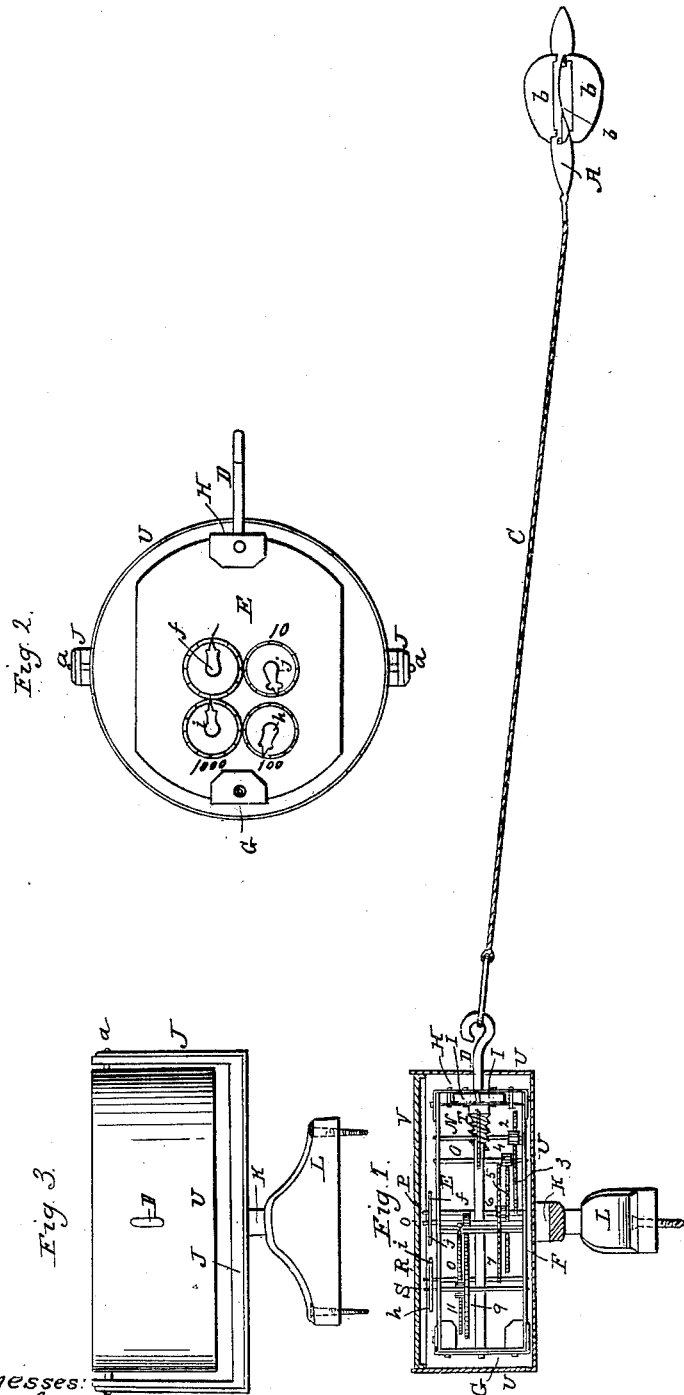


T. HOTCHKISS.
Nautical Log.

No. 45,042.

Patented Nov. 15, 1864.



Witnesses:
Stephen S. Hunt
Clausen B. Lawrie

Inventor:
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UNITED STATES PATENT OFFICE.

TRUMAN HOTCHKISS, OF STRATFORD, CONNECTICUT.

IMPROVEMENT IN NAUTICAL LOGS.

Specification forming part of Letters Patent No. 45,042, dated November 15, 1864.

To all whom it may concern:

Be it known that I, TRUMAN HOTCHKISS, of Stratford, in the county of Fairfield and State of Connecticut, have invented a new and useful Nautical Log and Indicator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of the indicator with the inclosing-box cut away, and a diminished view of the winged log A and cord C, attached thereto. Fig. 2 is a top view of the indicator and its inclosing-box; and Fig. 3 is a side view of the box inclosing the indicator, with its supporting frame and stand.

Like parts are indicated by the same letters in all the drawings.

The nature of my invention consists in the employment of a winged log or propeller, A, in combination with a cord, C, and a clock-work indicator, whereby (when said log is thrown into the water from a moving vessel or boat and allowed to drag) the distance passed over will always be correctly shown by the dial-hands of said indicator, the latter being kept in any convenient place on board the vessel or boat.

To enable others skilled in the art to make and use my invention, I will now describe its construction and operation.

A is a cigar-shaped spindle, ten inches in length and one inch in its greatest diameter, provided with four wings or blades, *b b b b*, the shape of which is clearly shown in Fig. 1. These wings are made of sheet-brass or other suitable metal, four inches and a half long and one and a half wide, and are arranged on the spindle A spirally at an angle of forty-five degrees with its axis, like the blades of a propeller, being confined by nails or screws, as shown in Fig. 1, or in any other obvious manner; or the spindle and wings may be cast in one piece of any suitable metal. The size and proportions of this winged log or propeller, however, may be obviously varied, provided the clock-work of the indicator be varied to correspond.

C is a cord, chain, or wire of any suitable material, intended to be about thirty fathoms long, or sufficiently long to clear the eddies produced by the motion of the vessel, one end of said cord being attached to the log, as

shown in Fig. 1, and the other to the outer end of the spindle D.

The clock-work or pinions of the indicator are inclosed in a frame of sheet-brass or other suitable material, E being the top, F the bottom, G the back, and H the front; and this frame is inclosed in a box, of tin or other suitable material, U, provided with a glass cover, V, as shown in Fig. 1, there being a hole in one side for the spindle D, as shown in Fig. 3.

J is a U-shaped frame, the center of which is provided with a spindle, K, which turns freely in the platform L. Projecting from the opposite sides of the box U are two pivots, *a a*, which, passing through the upper ends of the frame J, support the box and allow it to move in a vertical plane, the spindle K allowing it to move also in a horizontal plane, for the purpose specified above.

The spindle D passes longitudinally through the center of the box, the back end of said spindle turning in the end G, while the front end rests and turns on four friction-rollers, I, which are arranged on axles fast in the front H and a strip of metal back of and parallel with the same, as shown in Fig. 1. The front end of spindle D is provided with the endless screw T, which, engaging with the cogs of pinion 1, causes the latter to rotate with its axle N, the extremities of which turn in suitable bearings in the top E and bottom F of the box.

Near the bottom of the axle N is a small pinion, 2, which actuates a larger pinion, 3, attached to the axle O, similar to axle N. Just above pinion 3 is a small pinion, 4, of eight cogs, which actuates pinion 5, of eighty cogs, on the axle P. Above pinion 5 is a small pinion, 6, of eight cogs, which actuates pinion 7, of eighty cogs, on axle Q. Above pinion 7 is a small pinion, 8, of eight cogs, which actuates pinion 9, of eighty cogs, on axle S. Above pinion 9 is a small pinion, 10, of eight cogs, which actuates pinion 11, of eighty cogs, on axle R. The tops of the axles P Q R S are provided with indices *h i j f*, as shown in Fig. 2, the top of the box E having four graduated circles, in the centers of which the axles P Q R S of the indices *h i j f* revolve, the first circle indicating units, the second tens, the third hundreds, and the fourth thousands of miles, or whatever the unit may be.

It being known how many revolutions the

log A makes in a rod or mile, it is obviously easy to construct the clock-work to register the distance passed over, as the revolutions of the log will be transmitted to the spindle D with accuracy by means of the connecting-line C.

My invention is very simple, cheap, and compact, and can be used as readily as a compass on any ship, vessel, or boat, the distance passed over being always shown by the hands of the indicator.

Having thus described the construction and operation of my invention, what I claim as new, and do hereby secure by Letters Patent, is—

The employment of a winged log or propeller, A, in combination with the cord C and clock-work indicator, substantially as set forth, and for the purpose described.

TRUMAN HOTCHKISS.

Witnesses:

CLAUDIUS B. CURTIS,
STEPHEN S. BOOTH.