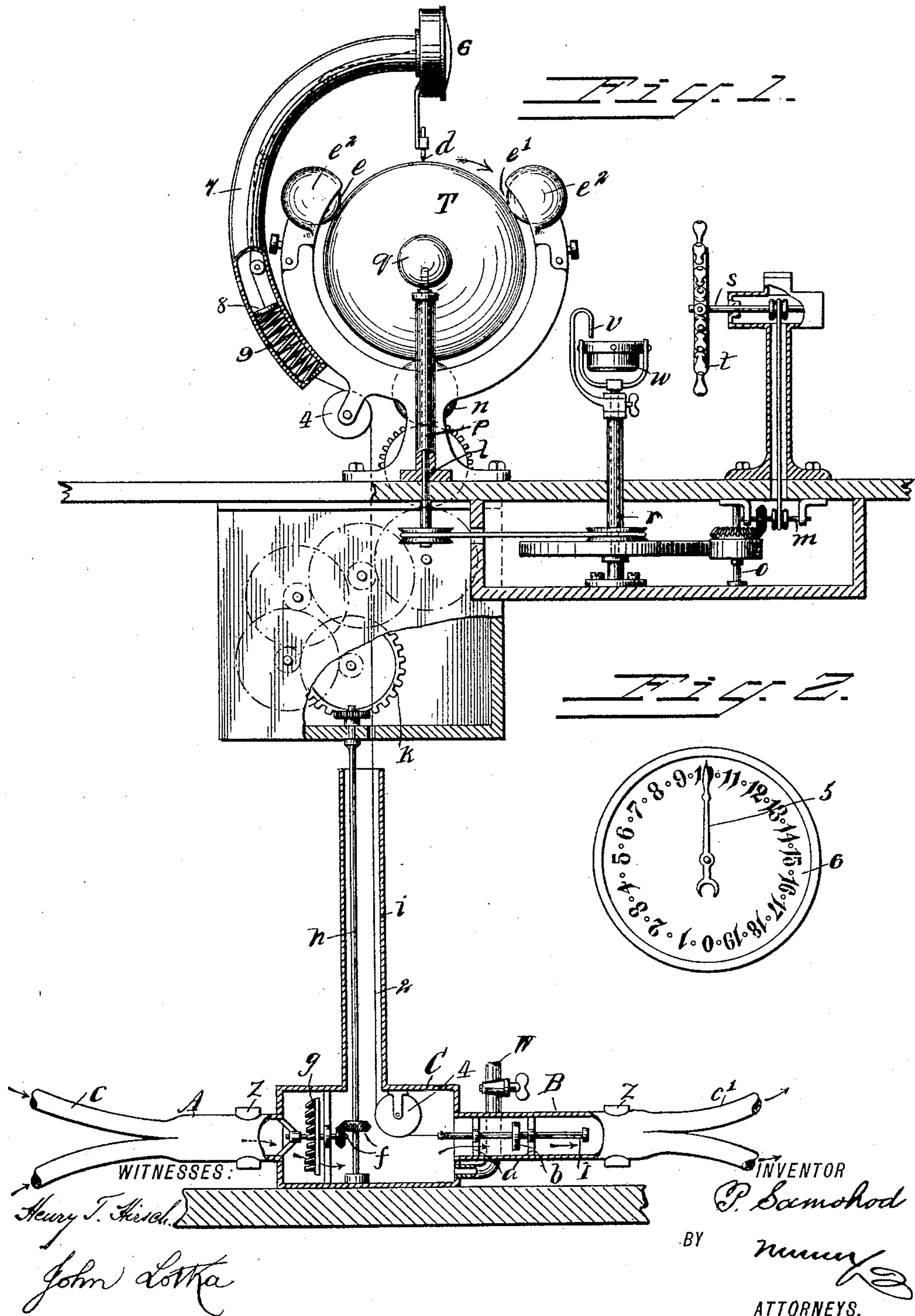


(No Model.)

P. SAMOHOD.
NAUTICAL REGISTERING APPARATUS.

No. 572,832.

Patented Dec. 8, 1896.



UNITED STATES PATENT OFFICE.

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NAUTICAL REGISTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 572,832, dated December 8, 1896.

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To all whom it may concern:

Be it known that I, PEDRO SAMOHOD, of Lima, Peru, have invented a new and Improved Nautical Registering Apparatus, of which the following is a full, clear, and exact description.

The invention relates to an apparatus whereby the course of a vessel may be registered on a globe or map, the operation of said apparatus being automatic in part. The invention also comprises means for indicating the speed of a marine vessel.

The invention consists of a globe mounted on bearings, so as to be capable of turning in any direction, and means for imparting a gradual rotation to said ball according to the course of the vessel.

The invention will be fully described hereinafter and the features of novelty pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a longitudinal sectional elevation of that portion of the vessel which contains my improved apparatus, and Fig. 2 is a face view of the dial of the speed-indicator.

In carrying out my invention I secure near the bottom of the hull tubes A B, provided with pipes c c' , extending longitudinally of the vessel and adapted to serve, respectively, as inlet or outlet pipes, it being understood that the ends of the said pipes open into the water, so that during the travel of the vessel the water will flow through said pipes and the tubes A B. Within the tube B is arranged a rod 1, mounted to slide in bearings a and carrying a small disk or piston b , which, however, does not engage the walls of the pipe B. A pipe i runs upward from the central casing C, to which the tubes A and B are connected, said tube i extending well above water-line. The inner end of the rod 1 has secured to it a cord or like flexible connection 2, which extends over pulleys 4 through the tube i , and is connected by any suitable means to the hand 5 of the speed-indicator, having a dial 6, on which are produced figures indicating the speed of the vessel in knots or other units. The cord 2 passes through a sleeve 7, and within said sleeve a disk 8 is secured to the

cord, said disk being under the influence of a spring 9, having a tendency to draw the piston b forward against the action of the water flowing through the apparatus. It will be understood that according to the speed of the vessel the piston b will assume different positions, and the hand 5 will indicate the speed of the vessel correspondingly.

Adjacent to the inlet-tube A a turbine wheel g is journaled in the casing C, with its axis extending lengthwise of said tube, and the said wheel is arranged to drive by means of bevel-gears f a shaft h , extending upward through the sleeve i and operating the transmission-gear k . Said transmitting mechanism is connected to a ball n , adapted to rotate about a horizontal axis and in supporting engagement with the globe T. Other balls e e' , held in sockets e^2 serve to hold the globe T steady.

It will be understood that as long as the vessel is traveling forward the globe T will be continuously rotated by the ball n in the direction indicated by the arrow. This would correctly indicate the course of the vessel on the globe by means of the stationary pencil or marker d if the vessel did not change its course. It will be obvious that in case the course is changed the correct indication on the globe T can be obtained only by giving said globe a partial rotary motion about a vertical axis, and this I effect by means of the following mechanism:

q are balls engaging the sides of the globe T and secured to vertical shafts l , journaled in sleeves p . Only one of the balls is shown in Fig. 1, the other ball being concealed by the globe T.

t is a hand-wheel adapted to be turned manually and operatively connected to the shafts l by means of an appropriate transmitting mechanism. The particular mechanism shown comprises a horizontal shaft m and two vertical shafts o r , which are connected to each other and to the shafts l , as well as to the shaft s of the hand-wheel t , by means of belts, bevel-wheels, and friction-wheels, as shown. It will be obvious that any kind of transmitting mechanism may be used in this connection. To the tubular shaft r , forming a part of this mechanism, is secured an adjustable pointer v , which ex-

tends adjacent to the ship's compass *w*. An attendant is placed at the wheel *t*, and it is the duty of this man to so turn the wheel *t*, if necessary, that the pointer *v* will always remain in registry with the magnetic needle of the compass. It will be seen that with this operation the globe *T* will be turned about a vertical axis each time the course of the ship is changed, and thus a correct record of the trip will be obtained.

It will be seen that the apparatus is comparatively simple and that the record on the globe is always in view, so that the position of the globe in relation to the marker *d* may be readily adjusted at the beginning of the trip.

In order that the casing *C* and tubes *B* may be cleaned whenever necessary and that the parts located therein may be readily repaired, I have provided valves *z* in the tubes *A* and *B*, so that the flow of water through said tubes may be interrupted whenever desired, and the casing *C* may then be emptied by connecting a pump to the tube *W*.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A nautical registering apparatus, comprising a globe mounted so as to be capable of a universal movement, a stationary marker adapted for engagement with said globe, and means controlled by the ship's progress for imparting movement to the said globe, substantially as described.

2. A nautical registering apparatus, comprising a globe mounted so as to be capable of a universal movement, a stationary marker adapted for engagement with said globe, a channel extending through the vessel and opening into the water at both ends so that water will flow through said channel when the vessel is in motion, a motor actuated by the water flowing in said channel, and an operative connection between said motor and the globe to impart a rotary motion to the latter, substantially as described.

3. A nautical registering apparatus, comprising a globe mounted so as to be capable of a universal movement, a stationary marker adapted for engagement with said globe, a motor located in the water in such a manner

as to be actuated when the ship is in motion, and an operative connection between said motor and the globe, substantially as described.

4. A nautical registering apparatus, comprising a globe supported on balls so as to be capable of universal movement, a stationary marker adapted to engage said globe, and means for automatically rotating the globe when the vessel is in motion, substantially as described.

5. A nautical registering apparatus, comprising a globe mounted on balls so as to be capable of universal movement, a motor adapted to be actuated automatically when the vessel is in motion, said motor being operatively connected to one of the supporting-balls to rotate said ball about a horizontal axis, a stationary marker adapted to engage the globe, balls rotatable about vertical axes and engaging the said globe, means under the control of an operator, for turning said balls to rotate the globe about a vertical axis, a compass, and a pointer connected to said controlling mechanism and adapted to register with the needle of the compass, substantially as described.

6. A nautical registering apparatus, comprising a globe mounted so as to have universal movement, a motor actuated automatically by the ship's motion, and connected to said globe to turn the same about a predetermined axis, an operating mechanism under the control of an attendant, and engaging said globe to rotate it about an axis approximately perpendicular to the first-named axis, and a stationary marker engaging said globe, substantially as described.

7. The combination with a longitudinal tube located below the water-line and adapted to receive water at one end and discharge it at the other, a piston mounted to slide in said tube, a spring opposing a resistance to the action of the water on the piston, a speed-indicator, and a connection between said indicator and the sliding piston, substantially as described.

PEDRO SAMOHOD.

Witnesses:

TABLO JENKS,
RICHARD R. NEILL.