No. 807,153. PATENTED DEC. 12, 1905.

H. S. CLARK.

POSITION FINDER.

APPLICATION FILED AUG. 19, 1904.

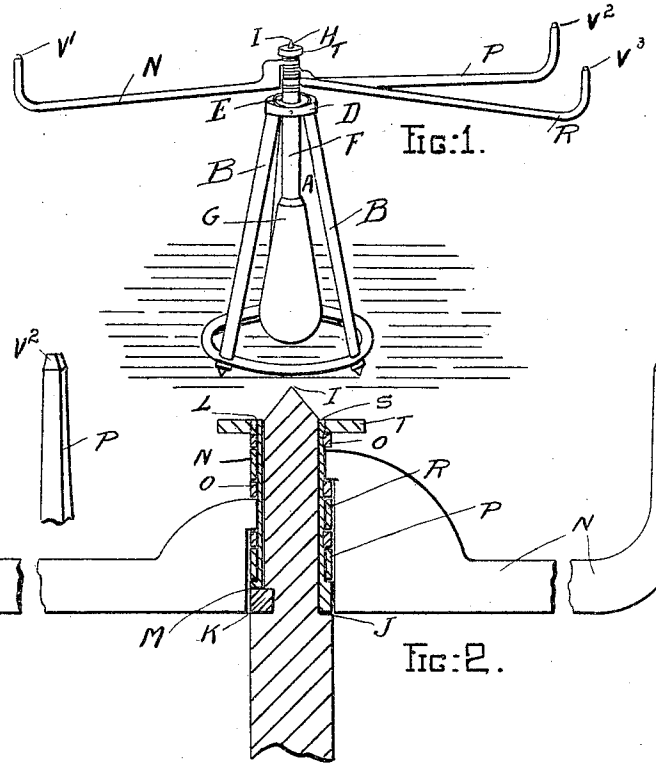


Fig:1.

Fig:2.

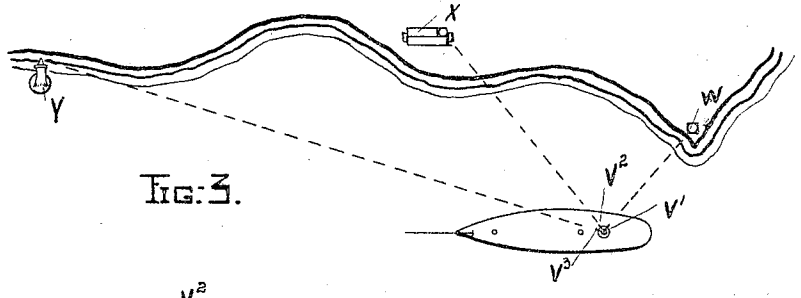


Fig:3.

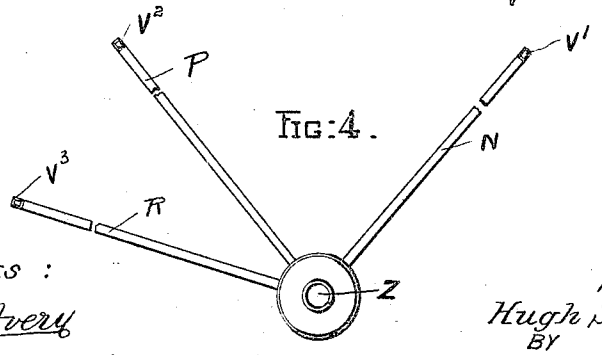


Fig:4.

WITNESSES :

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HUGH SHAW CLARK, OF ONEHUNGA, NEW ZEALAND, ASSIGNOR OF ONE-HALF TO ROBERT LOGAN, THE YOUNGER, OF DEVONPORT, NEW ZEALAND.

POSITION-FINDER.

No. 807,153. Specification of Letters Patent. Patented Dec. 12, 1905.

Application filed August 19, 1904. Serial No. 221,388.

To all whom it may concern:

Be it known that I, HUGH SHAW CLARK, master mariner, a subject of His Majesty the King of the United Kingdom of Great Britain and Ireland, and a resident of Onehunga, in the Provincial District of Auckland and Colony of New Zealand, have invented a new and useful Improved Position-Finder for Indicating Positions on Either Land or Sea, of which the following is a specification.

This invention relates to improvements in position - finders, particularly for coastwise vessels, yachts, and vessels in sight of fixed objects, and it can also be used for recording positions on land, the purpose of the invention being to provide a position-finder of simple and inexpensive construction, having no parts liable to get out of order, and requiring no special skill to operate it.

The accompanying drawings show four figures, of which—

Figure 1 is a perspective view of the position - finder mounted on a spindle double swung similarly to a ship's compass, with a pendulum-weight within a tripod standard. Fig. 2 is a sectional view of the upper portion of Fig. 1. Fig. 3 is a diagrammatic view illustrating the manner of using the position finder or instrument on the deck of a vessel when sighting fixed objects; and Fig. 4 is a plan of the position-finder proper, showing the three arms and thumb-screw.

Ordinarily the position - finder will be mounted on a tripod or other suitable form of standard; but it can also be adjusted to a spindle fixed on and to the glass of a ship's compass, being on the ship, vessel, or other place where there is a clear view—say, for instance, from the upper deck or bridge of a vessel or from rising ground.

The standard A has a tripod formation, as shown in Fig. 1, the legs B of which are preferably kept true to each other by the bottom ring C and top ring D. The legs B are projected through the ring C and are screwed or otherwise secured thereto and have their lower ends more or less pointed, so that the standard A will have a better grip of whatever it is standing upon. The ring D has a smaller ring E set within it and journaled to it so as to swing within it. A spindle F is passed through this ring E and is journaled to it at right angles to the journaling of the ring E to within the ring D, the effect of the two journalings being that the spindle F can be moved in almost any direction. A pendulum-weight G is fixed to the under end of the spindle F, which weight at all times hangs plumb and keeps the spindle in an upright position, while the upper end H of the spindle is pointed and forms the center or base sight hereinafter described. The upper end of the spindle F from just above where it is journaled to the ring E has a reduced diameter and just on the edge above the shoulder J, made by this reduced diameter, a pin or lug K is let into the thinner part of the spindle F.

A hub or cylinder L is provided to fit easily over the spindle F and onto the shoulder H, a slot or recess M being formed in the lower edge of the hub or cylinder L, which fits closely over the pin or lug K, whereby the hub or cylinder L is held rigid to the spindle F. Three parallel arms N, P, and R are fitted to the hub or cylinder L by ring formations, which are made flush with the three washers O, fixed on the cylinder, one between each ring formation and one above the topmost ring formation, whereby the arms in their rotary movements will be kept in place, so that each of them—the arms N, P, and R—can be turned around the hub or cylinder, the washers being suitably stationary on the hub in any direction required. The upper end S of the hub L is outwardly screw-threaded, onto which the thumb-screw T, provided for the purpose, can be screwed tight when the arms are set in the position required, as is hereinafter described. The ends of the arms N, P, and R are turned up at right angles, and the tips or vanes V′, V^2, and V^3 are made so that when fitted onto the spindle F they are exactly in the same plane as the point or end I, the pointed end of the spindle F.

In using the instrument before described with the object of giving effect to the purpose for which it is projected the officer in charge of the vessel on which the position-finder is being used, wishing to find his exact position off the land where his vessel is, takes as sighting-objects three stationary points on or off the land, such as are shown on Fig. 3 of the drawings herewith and marked, respectively, W, X, and Y. Having first loosened the thumb-screw T, he takes the central point or object X by preference and sights the same

over the spindle-point I and over the point or vane V^2 of the arm P. Then while the thumb-screw T is sufficiently loose he quickly brings the arm R in line with the point or object Y by bringing the spindle-point I and vane V^3 in line therewith. Having done this, he immediately brings the arm N in line with the point or object W by bringing the spindle-point I and the vane V′ in line therewith and at once tightens the thumb-screw T so that neither of the arms can be moved from the direction given them. In pointing the arms the last object to be taken should be the one that the ship or vessel is passing quickest. The bearings having thus been taken, the hub is lifted off the shoulder J and pin or lug K and is placed upon the chart, so that each arm is in direct line with the points or objects already taken, as above described. Then a pencil or other suitable marker is passed through the hollow space Z within the hub or cylinder L, previously fitted over the spindle, and a dot or mark is made on the chart, when the position finder or instrument is removed from the chart. This dot or mark thus made upon the chart indicates the precise position of the vessel at the time the observation was made or taken.

The position finder or instrument mounted on the standard is mainly for use upon coasters, yachts, and other small vessels when it is not convenient to have the instrument mounted upon a ship's compass; but where convenient it will be adjusted to a compass on the ship or vessel.

With this instrument and with the charts which are usually marked as to the depth of water anchorages may be readily found in harbors or other localities, the operation being substantially the same as above described. Anchorage-places, positions of lost anchors, wrecks, buoys, rocks, islands, and other places or spots having been ascertained and marked on the chart, as above indicated, can always after be again located by taking fresh bearings, when the precise place or spot will be quickly ascertained. In the same manner places previously fixed on land can be freshly located and former work thus accurately checked.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

1. A position-finder, comprising a standard, a sight-spindle extended upward from the standard, a hub removably engaging the said spindle, means for preventing rotary movement of the hub, three outwardly-extended arms having ring formations around said hub and having upward projections, sight-points on said upward projections, washers for keeping said ring formation in position, and means for securing the removable arms as adjusted, as specified.

2. A position-finder, comprising a standard, a spindle extended upward from the standard and pointed at its end, a hub removably mounted on the spindle, means for preventing rotary movement of the hub on said spindle, the upper end of said hub having an outwardly-threaded portion, three arms extended outwardly from the hub, having ring formations around said hub, said three arms having upward extensions provided with sights brought into same plane or line of sight with pointed upper end of said spindle, washers for keeping said ring formation in position, and thumb-screw for engaging with said thread of hub for securing said rotary arms as adjusted, as specified.

3. A position-finder, comprising the upper part of the spindle from and including the shoulder as described extended upward from and fixed to the outside center of and at right angles to the glass covering a ship's compass, upper end of said spindle, a hub removably mounted on said spindle, means for preventing rotary movement of the hub on said spindle, the upper end of said hub having an outwardly-threaded portion, three arms extended outwardly from the hub, having ring formations around said hub, said three arms having upward extensions provided with sights brought into same plane or line of sight with pointed upper end of said spindle, washers for keeping said ring formation in position, and thumb-screw for engaging with said thread of hub for securing said rotary arms, as adjusted as specified.

4. A position-finder comprising a center or base sight and outer sights mounted to swing relatively to the said center sight, a pendulum binnacle-support for the center sight, and a tubular hub for the outer sights, from which the outer sights radially extend and upon which the outer sights have independent movement, the said hub being removably fitted on the said pendulum-support below yet adjacent to the center sight.

5. The combination with a spindle having a base-sight at its upper end and a weight at its lower end, and a binnacle-support for the spindle, of a cylinder or hub removably mounted on the spindle below the base-sight, a lock for the cylinder or hub, arms radially extending from the hub, having independent rotary movement thereon, terminating at their free ends in upturned outer sides in the same horizontal plane with the base-sight, and tension devices for the said arms.

HUGH SHAW CLARK.

Witnesses:
GEORGE WILLIAM BASLEY,
PERCY HERBERT BASLEY.