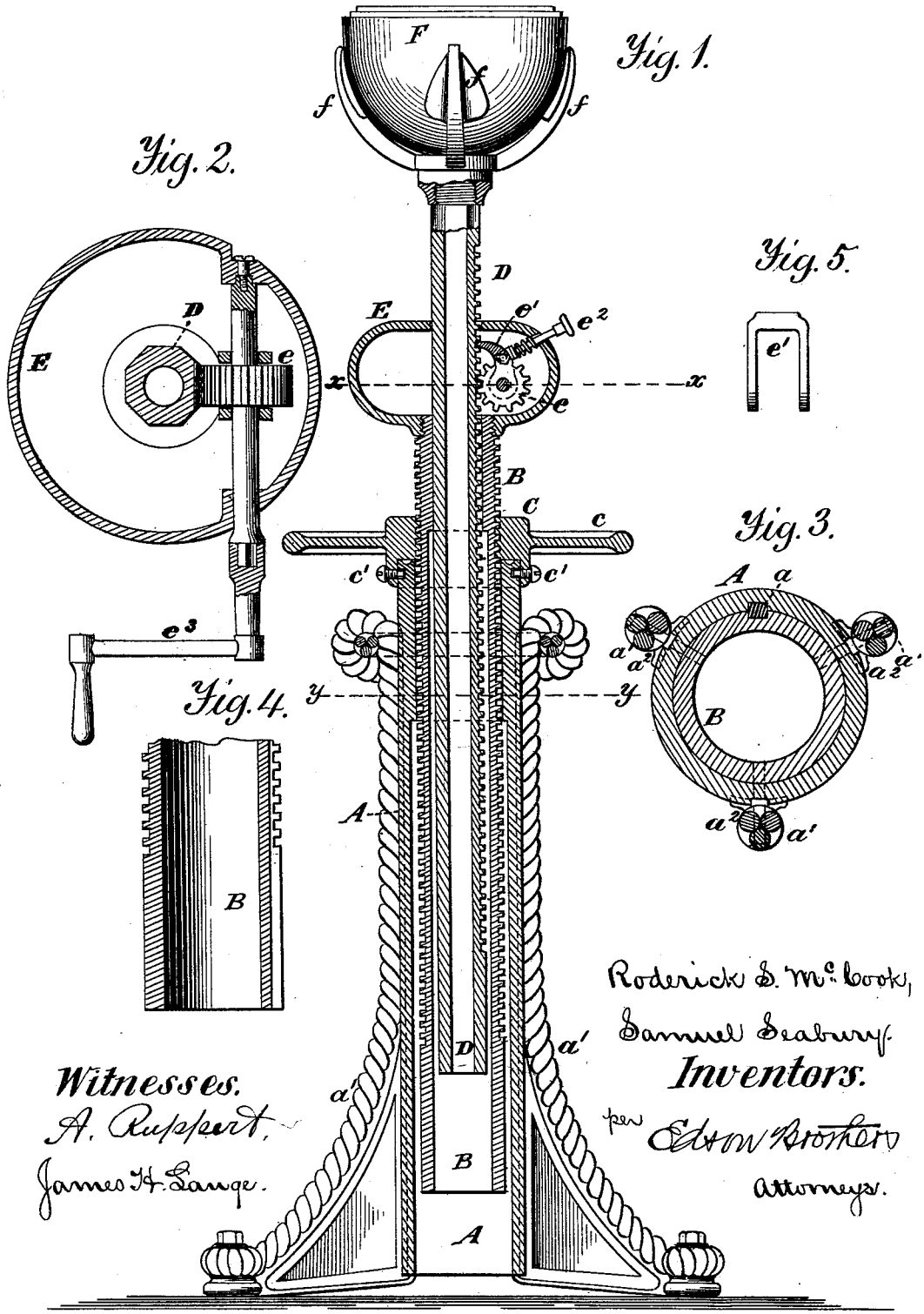
R. S. McCOOK & S. SEABURY.

Standard for Binnacles.

No. 218,298. Patented Aug. 5, 1879.



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IMPROVEMENT IN STANDARDS FOR BINNACLES.

Specification forming part of Letters Patent No. **218,298**, dated August 5, 1879; application filed June 16, 1879.

To all whom it may concern:

Be it known that we, RODERICK SHELDON McCOOK and SAMUEL SEABURY, (United States Navy,) of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Standard Compass-Binnacles, for use on vessels of war and merchant vessels; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a vertical section, partly in side elevation, of our improved standard compass-binnacle. Fig. 2 is an enlarged section of same on line *x x* of Fig. 1. Fig. 3 is a similar section on line *y y*. Fig. 4 is a detail sectional view of the lower end of the exteriorly screw-threaded hollow shaft; and Fig. 5 is a detail view of the pawl.

Corresponding parts in the several figures are denoted by similar letters of reference.

This telescopic standard binnacle is made of any metal that will not influence the magnetic needle. The outer or main shaft, A, is cast hollow, with a shoulder or projection inside in the upper end. This shoulder is carefully turned to the exact size of the screw-section. It is fitted with a feather or guide, *a*, which is of exact size to fit in a slot cut in the screw-section B. This feather *a* is secured by screws through the outside of main shaft, so in case of need the feather can be adjusted to take up lost motion in screw.

The screw-section B is turned to the exact size to allow it to pass through the shoulder above mentioned, and a double or triple square thread of sufficient pitch is cut its whole length, excepting a distance at the lower end equal to the length of the shoulder in the main shaft. This lower part, when the screw is up, bears closely against the shoulder of main shaft and steadies it. A slot is cut in the screw the whole length of the thread, and of exact size to take the guide or feather *a* in the shoulder of main shaft.

On top of the main shaft, and with a lip fitting down and around it, is a nut or cap, C, having a wheel, *e*, about sixteen inches in diameter, standing out from it at right angles. This cap C is fitted with a thread to take the screw closely. Enter the screw in the main shaft, the guide of the shoulder running in the slot of the screw, fit on the cap, and by turning it the screw-section is raised or lowered.

To prevent the cap from lifting, a groove is cut round the outside of the main shaft and under the lip of the cap. Four screws, *c'*, with square inner ends, are then set through the lip until the square ends enter this groove. At the upper end of screw-section, and inside, is another shoulder of sufficient length. This is cut to an octagonal shape, and steadies the lower end of the inner or rack section, D. The upper end of the screw being slightly turned down, a thread is cut on it, and to this is screwed the hollow flattened globe E, which contains the toothed wheel *e*, axle, and pawl e^1, for working the rack-section D. Secured to the pawl, and extending outside of the globe E, is a headed spring-encircled pin, e^2, the purpose of which is to enable the operator to release the pawl from the rack.

The inner or rack section is octagonal in shape, one side having teeth cut in it, with the exception of the lower end, which fits in the bearing of the screw-section B. Enter this section through the screw-section, engage the teeth with the toothed wheel *e*, ship the crank e^3 on the axle of the wheel *e*, and run the section D up. The upper end of this section D is fitted with a thread, and to it is screwed the four anchors *f*, which hold the compass-bowl F.

The whole is supported by three legs, a^1, secured to the outer face of the main shaft at equal intervals. These legs a^1 are curved in shape on the outer edge, having a metal rope running down them, or other design. The upper end of the rope is turned over to form a circle, leaving an opening in the center. The lower end is turned over, so as to form a foot for the leg, and having a hole cut through it to receive a screw for fastening it to the deck. In the main shaft three shallow grooves are cut to receive the edge of the leg. There are

also lugs a^2 on this inner edge, which fit into corresponding openings in the shaft and take the weight of the structure. At the lower inner corner is another lug for the same purpose. The leg is entered in its place and secured with screws. The circular rope is entered in the opening at the upper end. When all the legs are on, this rope is secured or scarfed together. The three panels formed on the main shaft by the legs are ornamented, as well as the plain faces of the legs.

The object of this binnacle is to enable bearings to be taken of objects external to a ship, the binnacle being raised to look over obstructions, such us boats. It also enables the navigator to raise his standard compass beyond the influence of local attraction caused by iron, &c., in the ship, and lower it at will in bad weather or in port. He can thus head his ship on the proper magnetic course by this compass, and afterward steer the corresponding course by his steering-compasses. It is also claimed to be an improvement on the method now generally adopted for raising the compass above the influence of iron on board of iron merchant steamers and men-of-war.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the rack-shaft and screw-shaft, and mechanism for independently raising and lowering said shafts, with the main or outer shaft, the rack shaft or section telescoping within the screw shaft or section, and both sections telescoping within the main or outer shaft, substantially as and for the purpose set forth.

2. The combination of the hollow shaft A, having the cap C, exteriorly screw-threaded hollow shaft B, having globe E, the latter provided with the pinion e and pawl e', and the shaft D, having rack-teeth on one of its sides, substantially as and for the purpose set forth.

3. The combination, with the hollow shaft A, having the feather a, of the hollow screw-shaft B, having a groove running nearly its entire length, substantially as and for the purpose set forth.

4. The combination, with the hollow shaft A, having an exterior annular groove near its upper end, of the cap or nut C, provided with screws within the groove in said shaft A, substantially as and for the purpose set forth.

5. In a standard compass-binnacle, the shaft A, having longitudinal and transverse grooves or recesses cut in its exterior surface, into which are inserted the legs a^1, having the lugs a^2, suitably held in place by screws or otherwise, substantially as shown and described.

6. The standard compass-binnacle, consisting of the shaft A, supported on the legs a^1, having the feather a, and the exterior annular groove, cap, or head C, having the wheel e and screws e', exteriorly screw-threaded shaft B, having the longitudinal groove running nearly its length, and globe E, provided with the pinion e, pawl e^1, pin e^2, and crank e^3, and shaft D, provided with rack-teeth on one of its sides, substantially as set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

RODERICK S. McCOOK.
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Witnesses for R. S. McCook:
JOHN B. HOOVER,
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L. J. SIMMONS,
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