

N. H. DIBBLE.
Mariners' Compass.

No. 168,726.

Patented Oct. 11, 1875.

Fig: 1

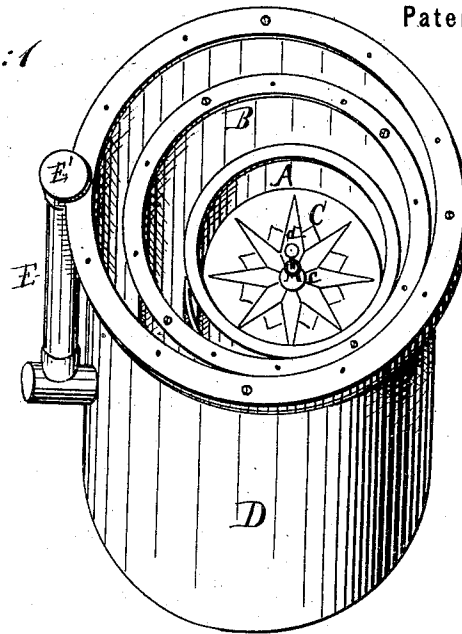
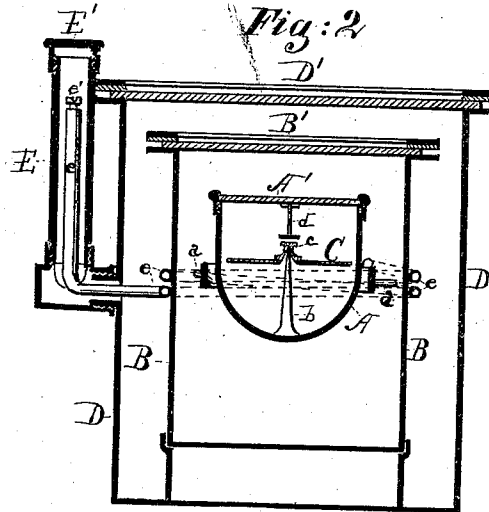


Fig: 2



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MARINERS' COMPASSES.

Specification forming part of Letters Patent No. **168,726**, dated October 11, 1875; application filed August 10, 1875.

To all whom it may concern:

Be it known that I, NOAH H. DIBBLE, of Chicago, in the county of Cook and State of Illinois, have invented an Improved Mariner's Compass, of which the following is a specification:

The object of my invention is to so isolate a mariner's compass as that the needle will not deviate under the influence of local attraction; also, to prevent the needle-cup from dropping off its pivot in case the compass should accidentally be capsized.

The invention consists, first, in inclosing the binnacle-box proper in an outer water-tight casing, the space between it and the former to be filled with water, glycerine, or other transparent liquid, the effect of which is to prevent deviation of the needle under local attraction, the influence of which is arrested or nullified by the inclosing fluid; second, in a means for filling the compass-box with dry air or any suitable gas, to prevent the obscuring of its top glass by the condensation of moisture under it; third, in a means for preventing the needle-cup from rising off clear of its pivot.

Figure 1 is a perspective view. Fig. 2 is a vertical section.

In the drawing, A represents an ordinary copper compass-box, hung by the gimbals *a* in a copper binnacle, B, the said compass-box having a central pivot, *b*, on which the card C is supported by the apex of the pivot, which enters the cup *c* of the needle. The compass-box has fitted to it an air and water tight glass cover, A', from the center of which hangs a stud, *d*, at a little distance above the cup *c*, so as to allow the latter perfect freedom of motion, but close enough to arrest it and prevent it from becoming entirely free from the said pivot. The binnacle-box is provided with a glass cover, B', fitted water-tight thereto. D is an outer casing, which incloses the binnacle-box, and is in like manner fitted with a water-tight glass top, D'. The binnacle is supported on short standards above

the bottom of the casing, and there is a clear space between the latter and all sides of the binnacle. E is a bent pipe tapped into one side of the casing, and is fitted with a screw-cap, E', to close its outer end. *e* is a tube inside the pipe E, which tube has its upper end closed by a screw-plug, *e'*. The tube is carried around the binnacle in one or more coils, and has its inner end tapped into the binnacle. The coiling of the tube is to permit of its expansion and contraction under changes of temperature without damage. The cap E' and plug *e'* being removed, the binnacle is filled with dry air or gas, such as hydrogen, that will not condense to moisture, when the tube should be closed by its plug. The space between the binnacle and its outer casing should then be filled with water, glycerine, or other transparent fluid, and the cap E' secured onto the filling-pipe E, when the compass is ready for use.

By inclosing the needle in a fluid, it is freed from the influences of local attraction, and consequently will at all times be in the meridian.

What I claim as my invention is—

1. A mariner's compass having its binnacle inclosed or immersed in a fluid contained in an outer casing, substantially as described.

2. In a mariner's compass, substantially as described, the means for filling the binnacle with dry air or gas, consisting of the coiled pipe *e*, having a screw-plug, *e'*, substantially as described and shown.

3. In a mariner's compass, substantially as described, the means for filling the binnacle-casing with a fluid, consisting of the bent pipe E, having a screw-cap, E', substantially as described and shown.

4. In a mariner's compass, the stop-stud *d*, pendent from the binnacle-glass, as and for the purpose set forth.

NOAH H. DIBBLE.

Witnesses:

WM. H. LOTZ,
GEO. FROMMANN.