

(No Model.)

J. A. HOOPER.
MARINER'S COMPASS.

No. 533,465.

Patented Feb. 5, 1895.

Fig. 1.

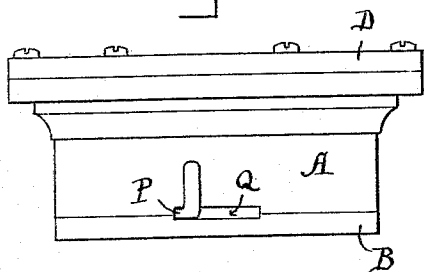


Fig. 2.

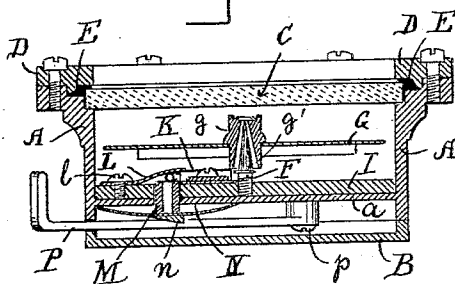


Fig. 3.

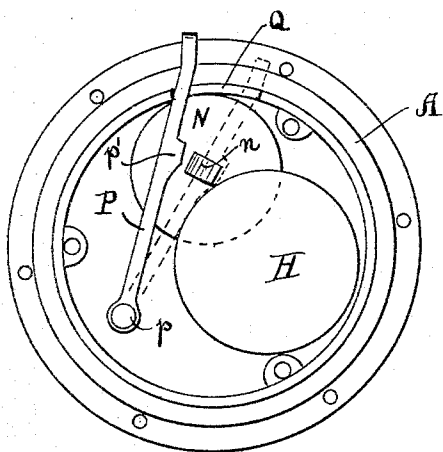


Fig. 4.

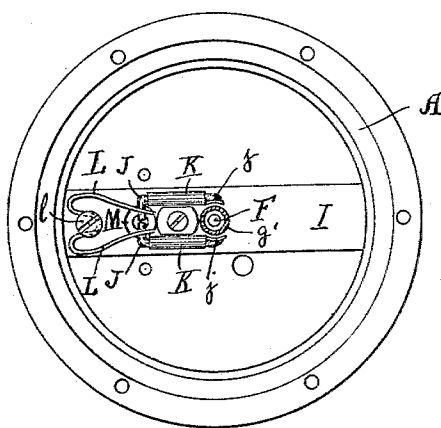


Fig. 5.

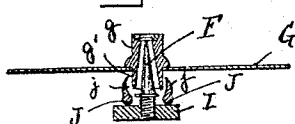
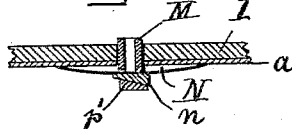


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

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MARINER'S COMPASS.

SPECIFICATION forming part of Letters Patent No. 533,465, dated February 5, 1895.

Application filed March 2, 1894. Serial No. 502,059. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. HOOPER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Mariners' Compasses, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to stops for marine compasses. Such stops as hitherto made lift the card from its point of rest against the glass to hold the same. In practice it is found that this method is very defective, the card often shifting one or two points while being raised thus rendering the reading incorrect so that the mariner is misled in his calculations. Now the object of my invention is to overcome this defect, and to produce a stop for marine compasses which will hold the card without variation.

The invention consists of two jaws adapted to clasp the under side of the card spindle, said jaws being operated by a lever compressing an expansion chamber which raises a tube that operates upon the outer ends of rods carrying the jaws as hereinafter fully described and pointed out in the claims.

Referring to the accompanying drawings: Figure 1—represents a side view of a marine compass embodying my invention. Fig. 2—is a vertical section through same. Fig. 3—is a view of the under side, the bottom plate being removed. Fig. 4—is a plan or top view with the outer ring, glass and card removed. Figs. 5 and 6 are detail views.

A represents the body or outer casing, B the bottom plate, C the glass, D the upper ring, E the packing, F the pivot post, G the card, and H an expansion chamber, all of which may be of ordinary construction.

I is a cross bar secured to the lower portion *a*, of the casing A.

J, J, are bent rods formed at their inner ends with jaws *j*, to clasp around the lower end *g'*, of the card spindle *g*. The said rods are mounted in bearings K, secured to the cross bar I.

L is a wire spring secured to the cross bar I, by a screw *l*, the ends of which spring rest upon the ends of the jaw rods J, to hold them down in which position the jaws *j*, clasp the

card spindle *g'*, to hold same. Just under the outer ends of the jaw rods J, is a tube M, that passes through an aperture formed in the cross bar I, and bottom *a*. The lower end of the tube or rod M, is attached to a plate forming an expansion chamber N, said plate being secured around its edges to the bottom *a*. On the under side of this expansion chamber N, and opposite the tube M, is secured a small wedge shaped piece of metal *n*.

P is a lever fulcrumed on a screw *p*, secured to the bottom *a*. The outer end of this lever projects through an aperture Q, formed in the outer casing and its end is bent up as show. The lever is formed with an enlargement *p'*, the under side of which is preferably wedge shaped to correspond to the shape of the piece *n*. The aperture Q, regulates the travel of the lever P, and when pushed on one side as shown in full lines in Fig. 3, the jaws *j*, will clasp the lower end *g'*, of the card spindle and hold it firmly, and when the lever P, is pushed into the position shown in dotted lines the two wedge shaped portions *p'*, *n*, will be in contact with each other. Thus the bottom of the expansion chamber N, will be slightly depressed in its center and the tube M, will be raised, thus forcing the outer ends of the jaw rods J, up, which of course imparts a similar movement to the jaws *j*, and throws the jaws *j*, out of contact with the lower end *g'*, of the card spindle, thus releasing the card. The fluid that is forced from the expansion chamber N, is taken up by the expanding chamber H, in the usual manner.

When in use the lever P, is kept in the position shown in dotted lines in Fig. 3, so that the card is free to rotate and when an observation is being taken, the moment the compass is in the desired position the lever P, is pushed over to the position shown in full lines, and the jaws *j*, grasp the lower end of the card spindle and hold it without the slightest variation. Thus the mariner is not misled in his calculations.

What I claim is—

1. In a compass the combination with the card spindle, of a pair of jaws adapted to clasp the lower end of the card spindle and a lever and connections between said lever and jaws substantially as set forth.

2. In a compass the combination of a card

spindle, jaws adapted to clasp the same, a spring, a tube attached to an expansion chamber, a wedge shaped piece on the under side of said expansion chamber and a lever for
5 operating same, substantially as set forth.

3. In a compass the body A, bottom *a*, provided with two expansive chambers N, H, the card G, and spindle *g*, in combination with
10 a pair of jaws *j, j*, a tube attached to the expansive chamber N, a spring L, and a lever P, for operating the expansive chamber N, and

connection between same and the jaws, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of 15 two subscribing witnesses, on this 6th day of January, A. D. 1894.

JOHN A. HOOPER.

Witnesses:

CHAS. STEERE,
EDWIN PLANTA.