

No. 670,733.

Patented Mar. 26, 1901.

W. J. REYNOLDS.

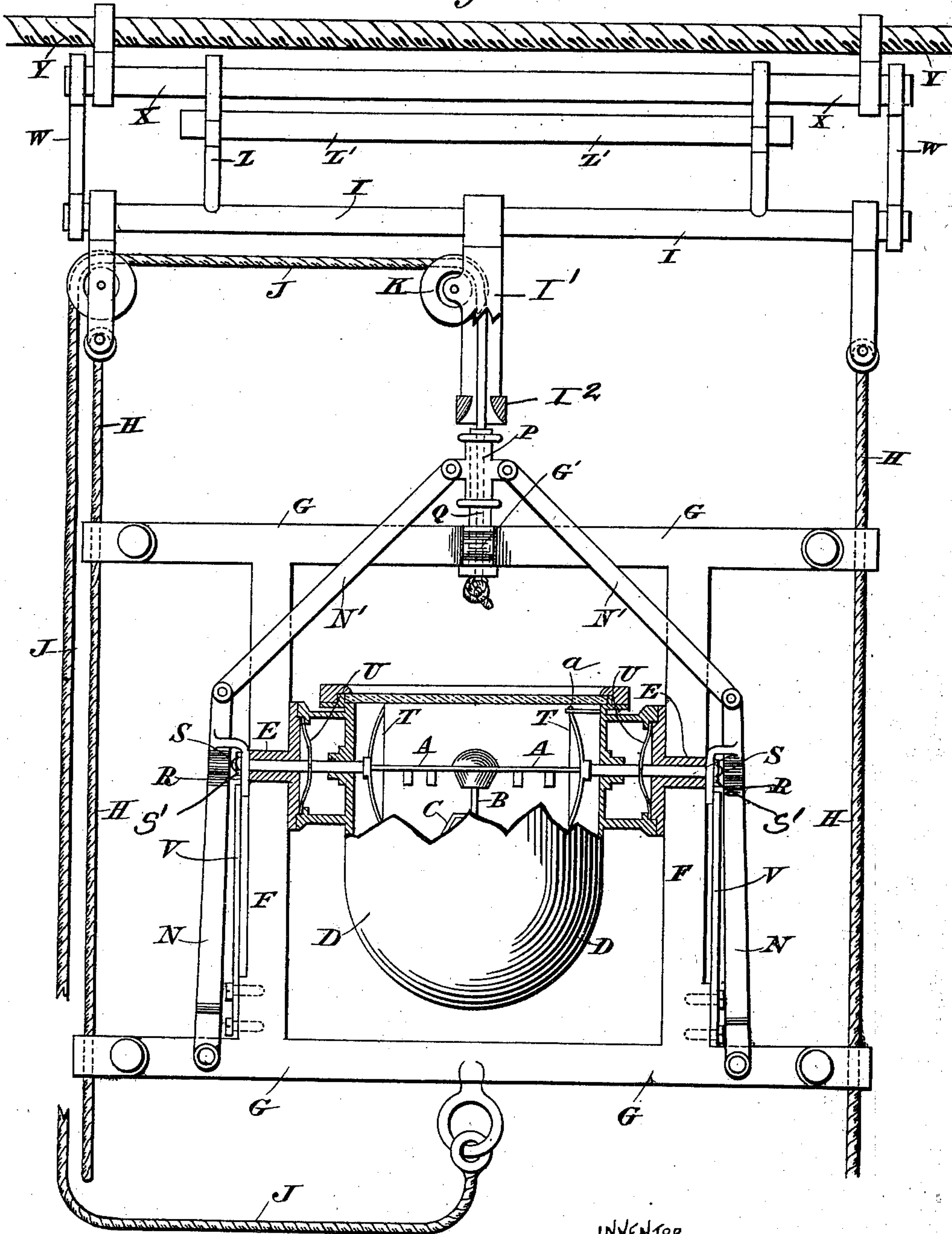
SHIP'S COMPASS.

(Application filed Feb. 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES

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2 Sheets—Sheet 2.

Fig. 2.

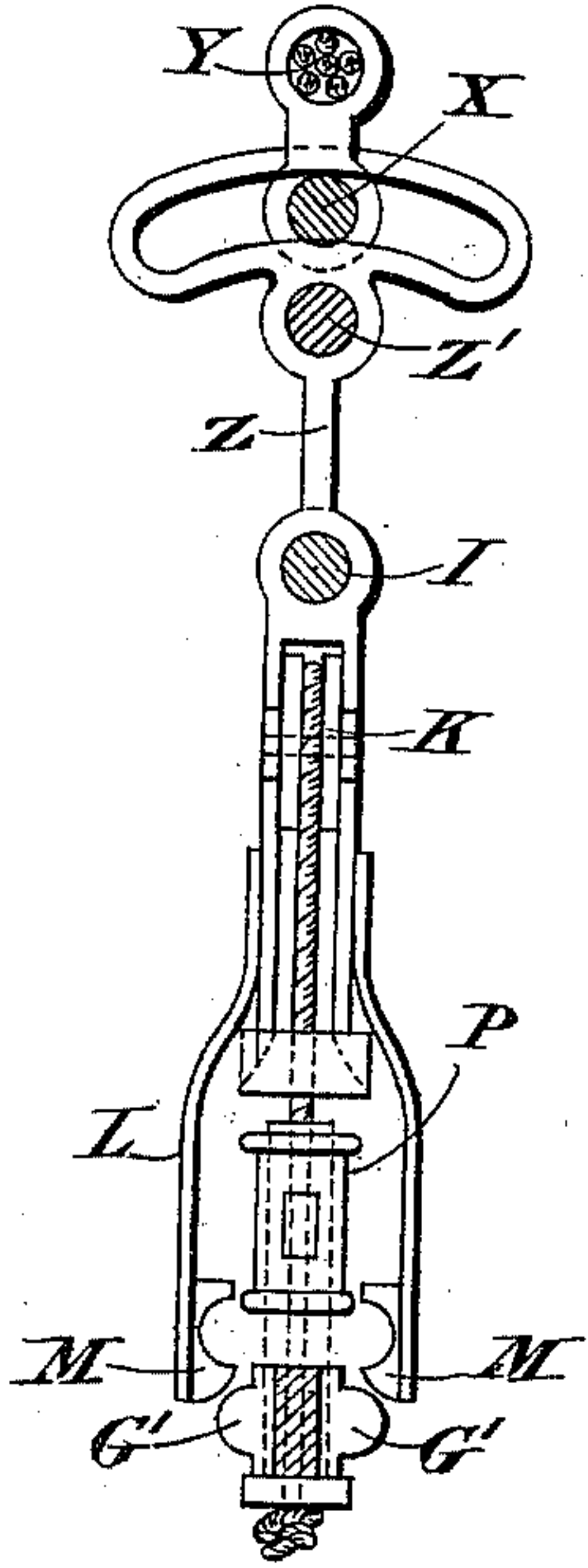


Fig. 3.

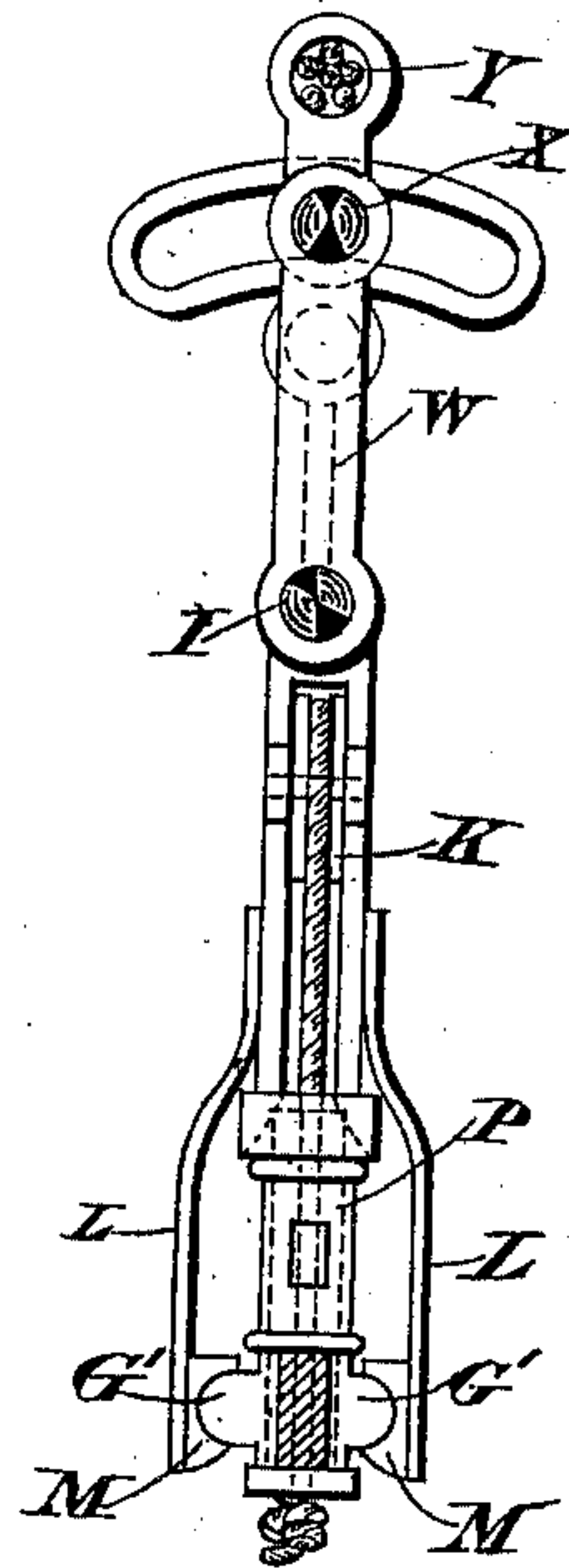


Fig. 6.

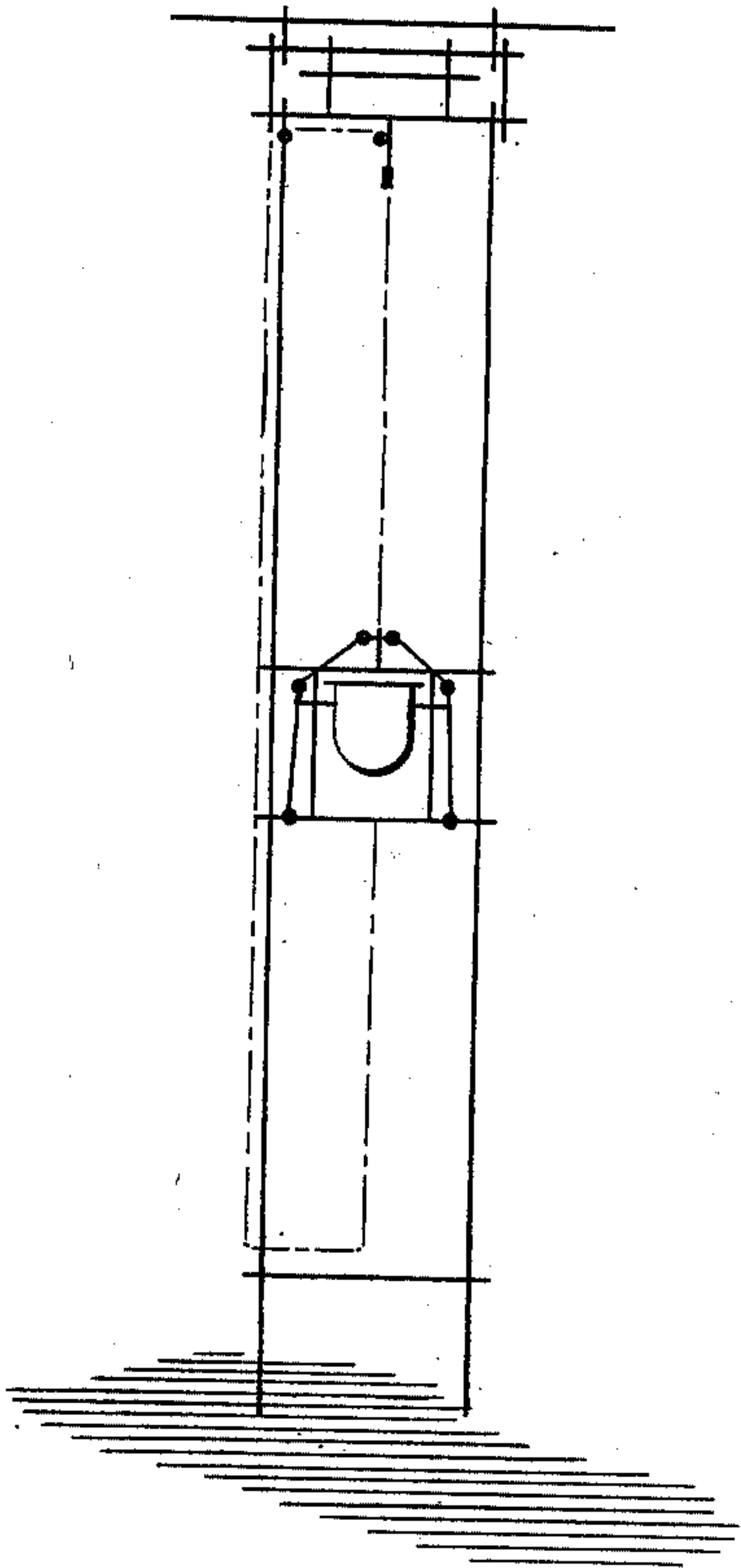


Fig. 4.

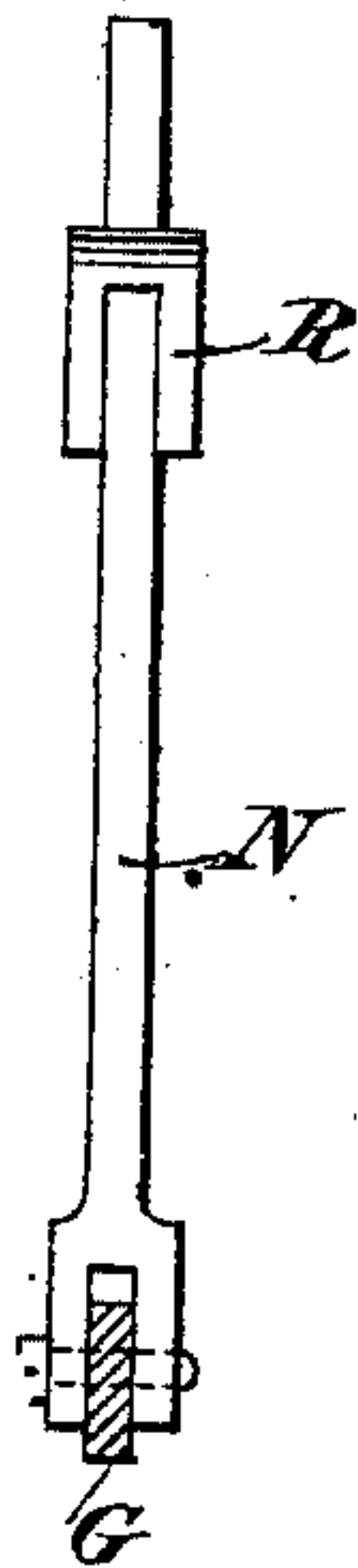
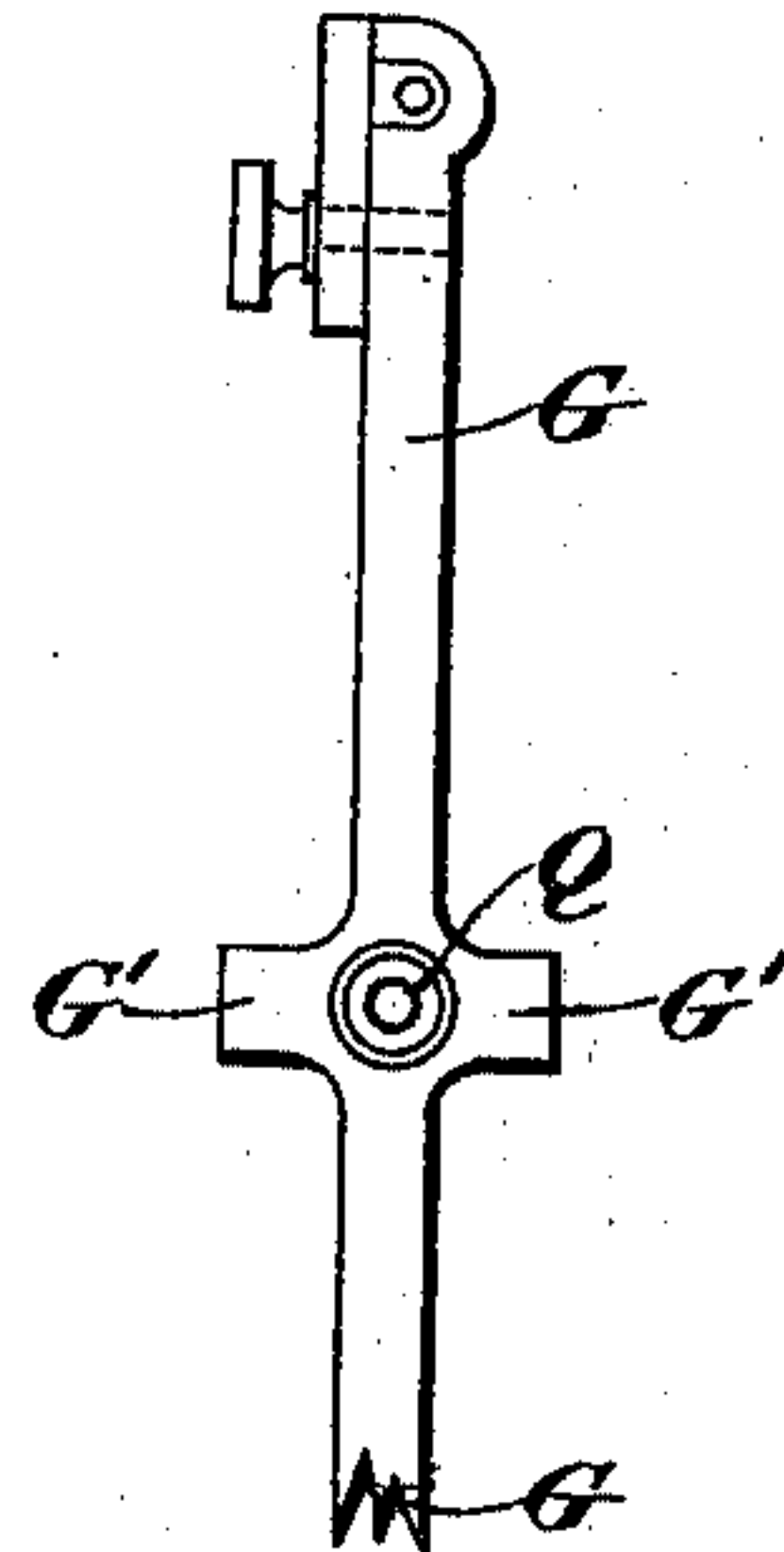


Fig. 5.



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UNITED STATES PATENT OFFICE.

WALLACE JOHN REYNOLDS, OF LONDON, ENGLAND, ASSIGNOR TO THE
EVOY PATENT COMPASS (PARENT) COMPANY, LIMITED, OF SAME PLACE.

SHIP'S COMPASS.

SPECIFICATION forming part of Letters Patent No. 670,733, dated March 26, 1901.

Application filed February 5, 1900. Serial No. 4,132. (No model.)

To all whom it may concern:

Be it known that I, WALLACE JOHN REYNOLDS, a subject of the Queen of Great Britain, residing at 1 Aldgate avenue, city of London, England, have invented certain new and useful Improvements in Ships' Compasses, of which the following is a specification.

This invention relates to certain improvements connected with ships' compasses, especially for what are known as "overhead compasses"—i. e., those that can be raised high above the hull of a vessel for self-adjustment of the card magnetically and then when steady be fixed, so that the deck-binnacle and cabin compasses can be adjusted therefrom—the object being that captains and master mariners can adjust the ship's compasses without the necessity of employing outside aid or of being detained for the usual adjustment by special scientists, as at present.

My invention will be understood from the following description, aided by the annexed drawings, in which—

Figure 1 is a part-sectional elevation of such a compass in position near the upper end of its travel and near the "jumper-stay;" Fig. 2, a part-sectional end view, and Fig. 3 an end view, of the card-unlocking appliances; Fig. 4, an end view of the link; Fig. 5, a plan of the guide-leg with easy-release end for unshipping from strained rope; Fig. 6, a diagram of the apparatus.

A is a compass-card balanced on a pin B, projecting from a bridge C, within a weighted bowl D of the usual construction. This bowl D is suspended on axles E E for sway motion in two directions only and not on double gimbals, like ordinary compasses. The axles E are of box-like formation, held between two uprights F F, constituting the frame, the upper and lower ends having extensions G, with guide-eyes to slide up and down strained ropes H, fitted to the deck of a vessel and to a cross-bar I, respectively, and from which the overhead compass is hung by rope J or as desired. From a cross-bar I depends a rod I', which carries, in addition to a guide-pulley K for the hauling-up rope J, a couple of spring-legs L L, (see Figs. 2 and 3,) with abutment-shoulders M M, the legs L L having a slight yielding action when pressed against.

To the lower part of the frame F a couple of arms N N are pivoted. These by links N' N' make the connection with a traveler-thimble or sleeve P, which moves upon a tubular rod Q, projecting from the frame F, through and to which one end of the hauling-up rope J is affixed. Each of the arms N N has a spur R to act as stops to the inward motion of the arms N N by bearing in contact with the frame-legs F F. The spurs R R have holes in them for the passage of pins S S, the outer ends of which project and are each provided with a nut S' to loosely secure same to the spurs R, the inner ends of the pins S S being within the bowl D and carrying dished disks T T, centrally arranged with the position of the compass-card. The pins S S are scored or grooved at the parts within the box-like axles E E and are furnished with rubber or other diaphragms U U, the edges of which are nipped in the joints of the box-like axles E E, said diaphragms serving to prevent escape of liquid from the pivoted box-like axles E.

The cross-bar I is weighted to produce steadiness and is suspended by links W W from an upper cross-bar X, hooked or otherwise attached to the jumper-stay Y. The upper and lower cross-bars X I are in a sense further connected by quadrant-ended guides Z Z, held at their respective distances apart by a weighted rod Z'. These connections produce steadiness and absorb all tremulous motion which might be imparted from the vibrations or oscillations from the ship to which the compass apparatus is fitted.

I have not shown the apparatus as fitted to a ship; but it can readily be gathered that when suspended, as indicated, from the jumper-stay Y the two strained ropes H H are secured by tightening tackle or parbuckle to the deck of a vessel. The hauling-rope J has one end attached to the upper part of frame F and the other end to the lower part of same frame, the slack being about level with the deck. It can easily be conceived how the up-and-down travel of the overhead compass can be controlled.

The compass-card A during the hauling-up and hauling-down operations is fixed by the pressure of the two springs V V acting upon

the spurs R R and forcing the arms N N inward, the arms R R pushing the pins S inward; but so soon as the apparatus is raised high enough the sleeve P will first come in
 5 contact with the end I² of the rod I', the onward motion depressing the sleeve P and opening out the links N' N', and also the arms N N, for the spurs R R by action on the nuts S' to withdraw the pins S, and thus free the
 10 compass-card, and by this time the projections G' of the frame F have entered between the shoulders M of the springs L for holding the appliances in their elevated position and the compass-card in a released condition.
 15 The compass-card is now free to adjust itself magnetically out of the influence of the magnetic action of the ship, and on a lowering of the appliances the card immediately becomes again fixed by action of the springs V on the
 20 spurs R, so that the arms N N again press in the pins S S, and with them the dished disks T T, to hold the compass-card in its self-adjusted position for enabling the reading to be taken when the compass and its appurte-
 25 nances are lowered onto the deck or other part of a ship.

a is a pin projecting inside the compass-bowl for engaging a notch or recess in the disk T, which disk is marked with the lubber-
 30 line, so that the disk being prevented revolving a proper reading can be taken.

What I claim, and desire to secure by Letters Patent, is—

1. In a ship's compass, the combination with
 35 the compass-card A and bowl D, of the disks T in the bowl for supporting the card, pins S connected to said disks and projecting oppositely through the walls of the bowl and having heads at their outer ends, arms N pivoted
 40 to the framework having spurs R engaged by

said heads, springs V secured to the framework and bearing against said spurs, a rod on the framework, a traveler slidable on said rod, and links connecting the traveler with
 45 said arms.

2. In a ship's compass, the suspension appliance consisting of the jumper-stay Y having links connected thereto, the rod X sustained by said links, a second series of links carried by said rod, the weighted rod I supported by said second links, said weighted
 50 rod having quadrant-shaped links Z attached thereto, said quadrants engaging the rod X, a weighted bar Z' carried by the quadrant-links, a bar I' depending from bar I, and
 55 springs L on said bar I' having abutment-shoulders M, as set forth.

3. In a ship's compass, the combination with the compass-card A, of the bowl B, disks T in the bowl for supporting the card, pins S
 60 connected to the disks and projecting oppositely through the walls of the bowl and having heads at their outer ends, arms N pivoted to the framework and provided with spurs for engaging said heads, springs V connected
 65 to the framework and bearing against said spurs, a rod on the framework, a traveler slidable on said rod, links pivoted respectively to said traveler and arms, projections on the framework, bar I having depending
 70 rod I', and spring-arms secured to said depending rod having shoulders to receive said projections.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit-
 75 nesses.

WALLACE JOHN REYNOLDS.

Witnesses:

RICHARD CORE GARDNER,
 WM. O. BROWN.