

No. 664,497.

Patented Dec. 25, 1900.

S. D. PATRICK.
COMPASS ATTACHMENT.
(Application filed July 26, 1900.)

(No Model.)

Fig. 1.

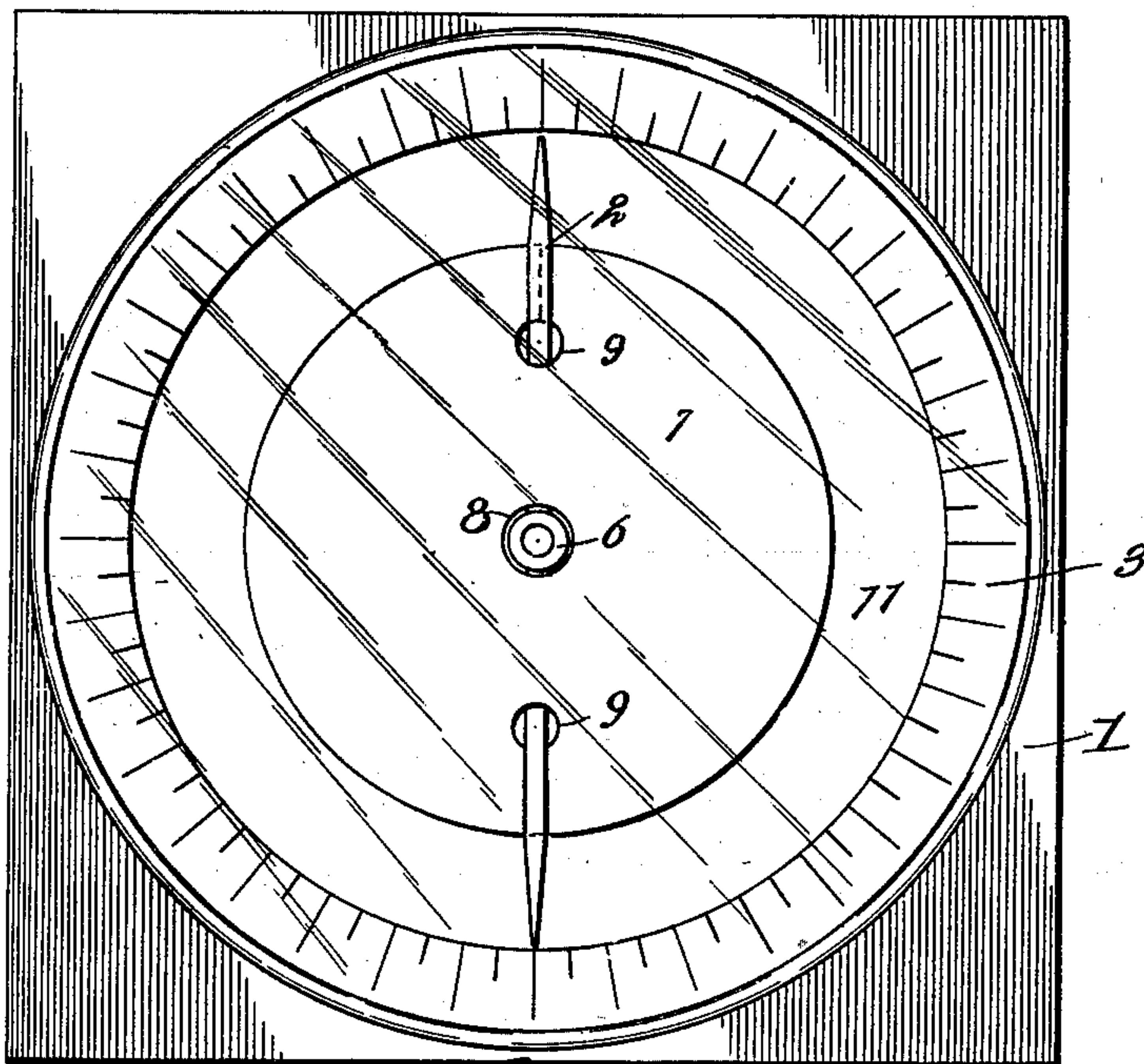


Fig. 2.

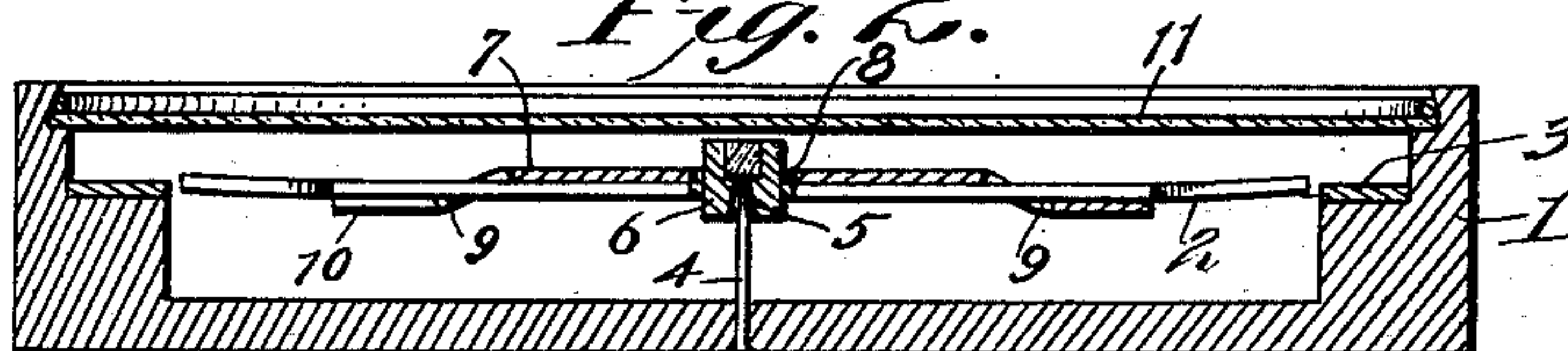
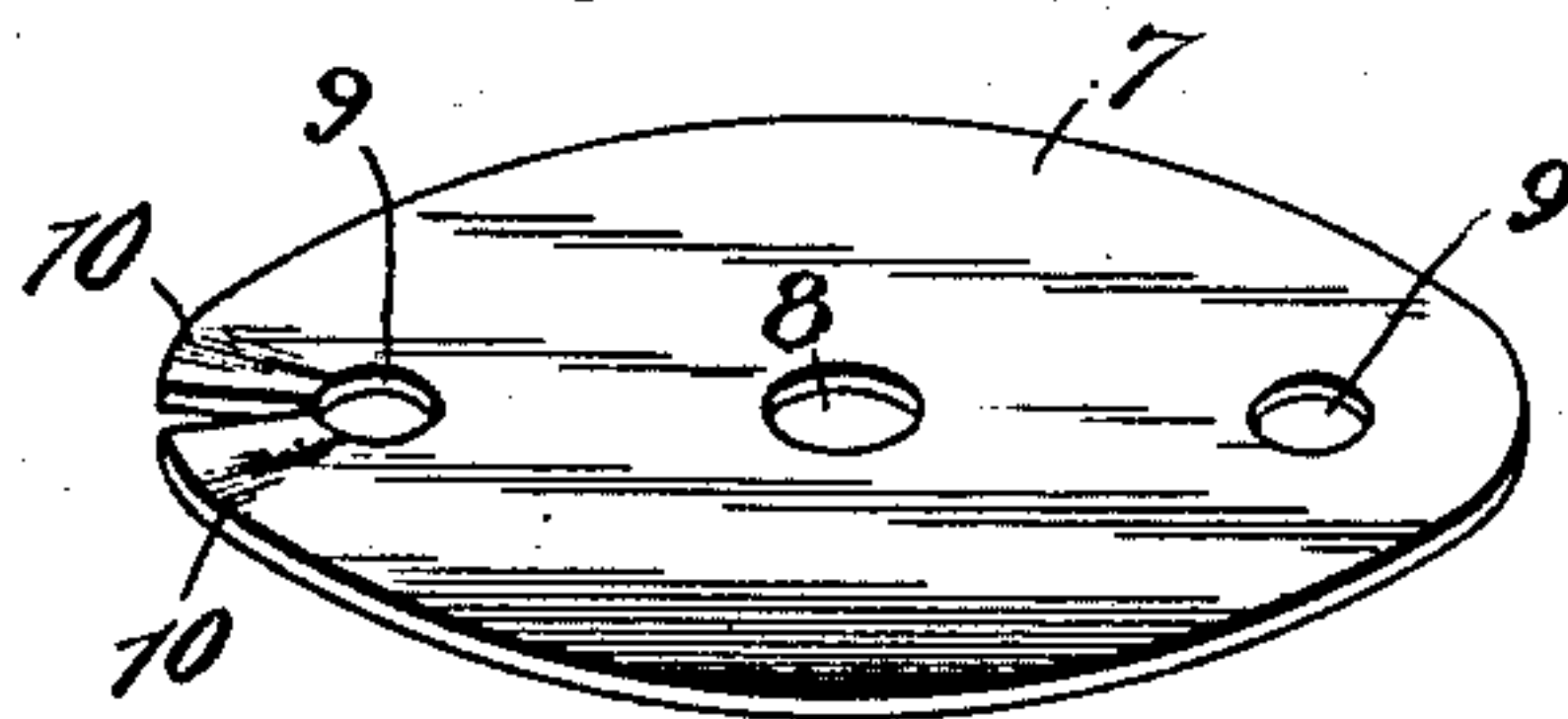


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

SIMEON D. PATRICK, OF LITCHFIELD, MINNESOTA.

COMPASS ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 664,497, dated December 25, 1900.

Application filed July 26, 1900. Serial No. 24,952. (No model.)

To all whom it may concern:

Be it known that I, SIMEON D. PATRICK, a citizen of the United States, residing at Litchfield, in the county of Meeker and State of Minnesota, have invented a new and useful Compass Attachment, of which the following is a specification.

This invention relates to compasses, and has for its object to provide improved means for maintaining the magnet-needle level and reducing the fluctuations thereof caused by movement of the case or box containing the needle. It is furthermore designed to provide such means in the form of an attachment which is arranged for convenient application to and removal from a needle, and is particularly designed for use in connection with a hand-compass, in which the magnetic needle is mounted upon a pivot, although it may be applied to the ordinary mariner's compass, and in either application of the device no change is required in the needle nor in the case or binnacle containing the needle.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a top plan view of a compass having the present attachment applied to the magnetic needle thereof. Fig. 2 is a detail sectional view illustrating the connection between the attachment and the needle. Fig. 3 is a detail perspective view of the leveling-disk.

Corresponding parts are designated by like characters of reference in all of the figures of the drawings.

Referring to the drawings, 1 designates the box or casing of an ordinary hand-compass, which is preferably formed by a block of wood having a circular socket formed therein for the reception of the magnetic needle 2 and the degree-ring 3, the latter preferably resting upon an annular shoulder, as indicated in Fig. 2 of the drawings. Rising cen-

trally from the bottom or back of the socket is a pivot-pin 4, which is received within a suitable socket 5, formed at the middle of the needle, so as to pivotally support the latter and permit the same to turn freely within the casing or box. The socket 5 is preferably formed in a separate sleeve 6, which is secured within an opening formed in the middle of the needle, and this sleeve projects above the needle, so that the pivotal support of the latter may be located above the plane of the needle, thereby forming a stable support therefor. The foregoing parts form no part of the present invention and have been illustrated to more adequately set forth the application and operation of the attachment.

In carrying out the invention there is provided a light disk 7, formed of aluminium, paper, or other light material not subject to magnetism. A central perforation 8 is formed in the plate or disk, and the pair of diametrically opposite perforations 9 are formed adjacent to the outer marginal edge of the plate. From one of the outer perforations 9 extends outwardly a radial incision which produces the opposite pliable lips 10.

To attach the plate to the needle, the lips 10 are bent in opposite directions, after which one extremity of the needle is passed through the opposite outer perforation from the under side of the plate, the socketed sleeve or stud 6 being received within the central perforation 8, and finally the other extremity of the needle is inserted laterally through the incision and into the other outer perforation, and the pliable lips are then bent together beneath the needle, so as to prevent the adjacent end of the latter from working out of the perforation. It will be observed by reference to Fig. 1 of the drawings that the perforations are slightly larger than the width of the needle, and the central perforation is larger than the socketed stud 6, so that the disk may be adjusted longitudinally of the needle in order that the latter may be correctly balanced. By reference to Fig. 2 it will be seen that the portions of the plate adjacent to the outer perforations are bent or deflected downwardly upon the same side of the plate, so as to accommodate the ends of the needle and to permit of the intermediate portion of the latter fitting as closely as possible to the un-

der side of the plate. The action of this plate is to add weight to the needle, and thereby decrease the fluctuations of the needle by a movement of the box or casing. Also the opposite spaces between the back of the box and the plate and between the latter and the glass cover 11 form air-cushions, which retard the vertical rocking motion of the needle, as the plate presents a much greater area than the comparatively thin needle.

From the foregoing description it will be seen that the present plate may be conveniently applied to any ordinary compass-needle without altering the latter or the box containing the same and when applied tends to steady the needle, so as to more correctly cooperate with the degree-scale and without impairing the sensitiveness of the needle.

What is claimed is—

1. A compass, having an intermediately-pivoted magnetic needle, and a balancing-plate carried by the needle, arranged substantially concentric with respect to the pivotal support of the needle, projecting radially in all directions from said support, and also having an adjustment longitudinally in opposite directions upon the needle.

2. The combination with a compass-needle,

of a balancing-plate, having a pair of diametrically opposite perforations, the opposite end portions of the needle extending through the respective perforations.

3. The combination with a compass-needle, of a balancing-plate, having diametrically opposite perforations, the needle extending loosely through the perforations.

4. The combination with a compass-needle, having a central projecting pivotal support, of a balancing-plate, having a central opening receiving the projecting support, and a pair of diametrically opposite perforations receiving the respective opposite ends of the needle.

5. A balancing-plate for compass-needles, having diametrically opposite perforations, and a diametric incision extending from the outer edge of one of the perforations to the adjacent marginal edge of the plate.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SIMEON D. PATRICK.

Witnesses:

CHAS. A. BIRKE,
FRANK SWAN.