

(Model.)

G. BLANCHARD.
COMPASS NEEDLE.

No. 332,780.

Patented Dec. 22, 1885.

Fig 1

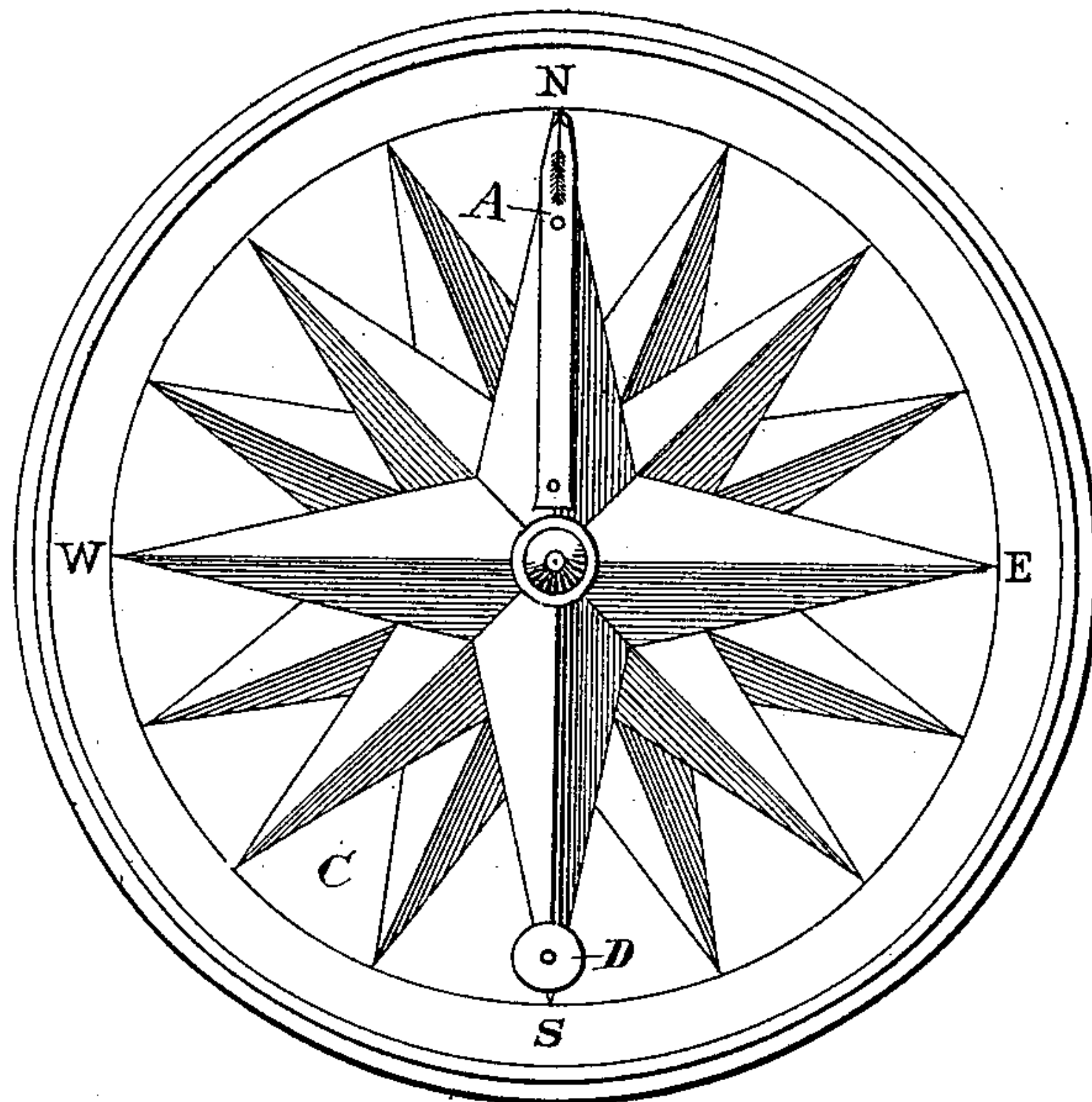
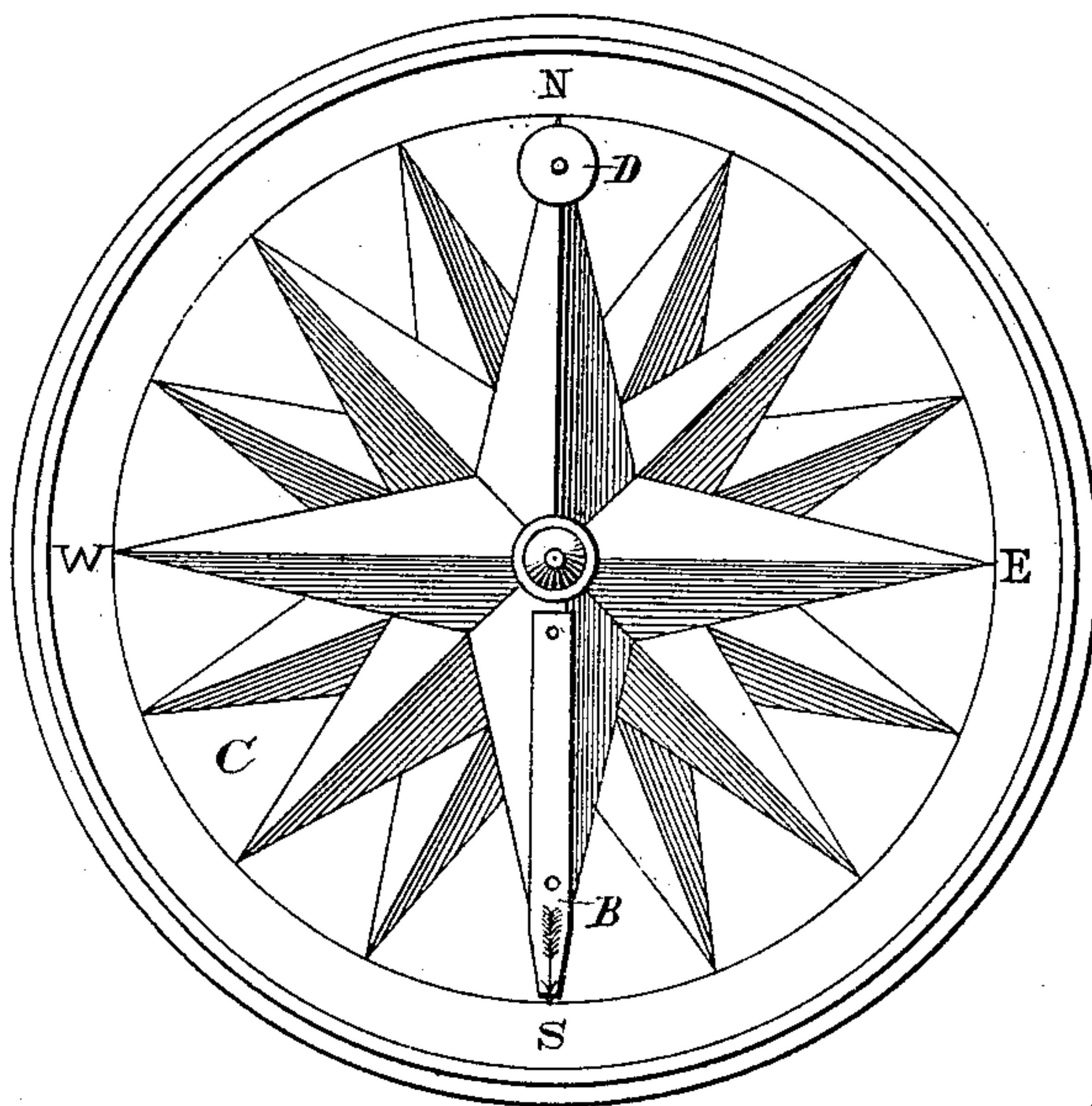


Fig. 2.



Witnesses:
Osac Jennings
David. Banks

Inventor
George Blanchard

UNITED STATES PATENT OFFICE.

GEORGE BLANCHARD, OF NEW YORK, N. Y.

COMPASS-NEEDLE.

SPECIFICATION forming part of Letters Patent No. 332,780, dated December 22, 1885.

Application filed October 13, 1883. Serial No. 108,937. (Model.)

To all whom it may concern:

Be it known that I, GEORGE BLANCHARD, a citizen of the United States, residing at New York, county and State of New York, have
5 invented a new and useful Improvement in Needles for Compasses, of which the following is a specification.

It is well known that the best of mariner's compasses are subject to oscillation and variation by reason of local attraction and electric storms, as well as by both celestial and terrestrial magnetism. These influences are so powerful that frequently magnetic needles have been known to change entirely their polarity, rendering them utterly useless and even
15 dangerous. The whole world knows too well the evil results in the loss of many a ship with all her cargo, passengers, and crew.

To remedy these evils is the object of my
20 invention, which consists, broadly, in a magnetic needle which is attracted by but one of the magnetic poles. I make two needles, one of which is a north needle exclusively. The other is a south needle exclusively.

Referring to the drawings making a part
25 of this specification, Figures 1 and 2 are both under side views of compass-cards with my improved needles attached thereto. Fig. 1 illustrates the north needle and Fig. 2 the
30 south needle.

C represents the ordinary compass-card, with the cardinal points of the compass denoted, as usual, by the letters N, S, E, and W. The north-pointing needle, Fig. 1, is denoted by A, and the south-pointing needle,
35 Fig. 2, by B.

D is a weight, attached adjustably in a slot of the extended non-magnetic end opposite to the needle. The adjustment of this weight to
40 balance the needle is old.

To enable others skilled in the art to make and use my invention, its structure is as follows:

I magnetize a piece of steel, and I fasten
45 this upon the dial leading from the pivot to the perimeter of one side of the dial only—that is, the needle in my compass is mounted radially on the card. To make a north-pointing needle I place the positive end at the edge
50 of the dial and the negative at the pivot. To make a south-pointing needle I reverse this,

or apply the negative end of the needle to the perimeter of the card, and the positive end of the needle at the pivot. I hereby have the strongest polar grip upon my needle, thereby
55 giving the greatest stability and the very least of oscillation or variation; and I counteract or do away with at least from fifty to seventy-five per cent. of all local attraction without interfering with desired polar attraction, but
60 rather rendering it decidedly stronger. This can be demonstrated by powerful horseshoe-magnets, which, when brought into proximity with the best mariner's compasses now known on shipboard, or anywhere to be found on
65 sale by nautical-instrument dealers, cause the needles in them to oscillate just as electric storms cause them to, and this occurs whether the magnets be passed over them in the direction of their lengths or at right angles thereto,
70 or be passed around them in either direction, with either a slow or rapid motion; but when thus applied to my improved needles they have no perceptible effect.

My needles have seventy-five per cent. advantage over all the best compasses known in maritime circles in doing away with local attraction.

To counterpoise my needle I attach an adjustable weight to the opposite side of the
80 compass-card, as shown at D.

To make a compass for miners' or surveyors' purposes, my needle may be applied to a piece of light wood or any other suitable material, and mounted on any pivot, weighting
85 the light wood at the opposite end to counterpoise the needle.

A great advantage in using compasses having my needles is that where there might be a doubt as to the true bearing, my two compasses are a test one of the other. Suppose
90 my two compasses to be mounted, say, five feet, more or less apart on the ship. By reference to them the needles will be found parallel.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A compass-card having a magnetic needle radially attached thereto wholly to one side of
100 the pivot, as and for the purpose described.

2. The combination, in a mariner's or sur-

veyor's compass, of a compass-card suitably pivoted, with a compass-needle radially affixed thereon and wholly to one side of the pivot, substantially as described.

- 5 3. The combination of an ordinary compass-card or other suitable supporting material, and a magnetic needle radially affixed thereto and wholly to one side of the pivot of said compass-card or supporting material, as and
10 for the purpose set forth.

4. A magnetic needle, in combination with a compass-card, upon which the said needle is radially attached wholly at one side of the pivot, and a suitable counterpoise, as and for the purpose set forth.

GEORGE BLANCHARD.

Witnesses:

DENIS KEENAN,
W. B. READ.