

(No Model.)

A. MITCHELL.
REFLECTOR FOR COMPASS BOXES.

No. 565,011.

Patented Aug. 4, 1896.

Fig. 1.

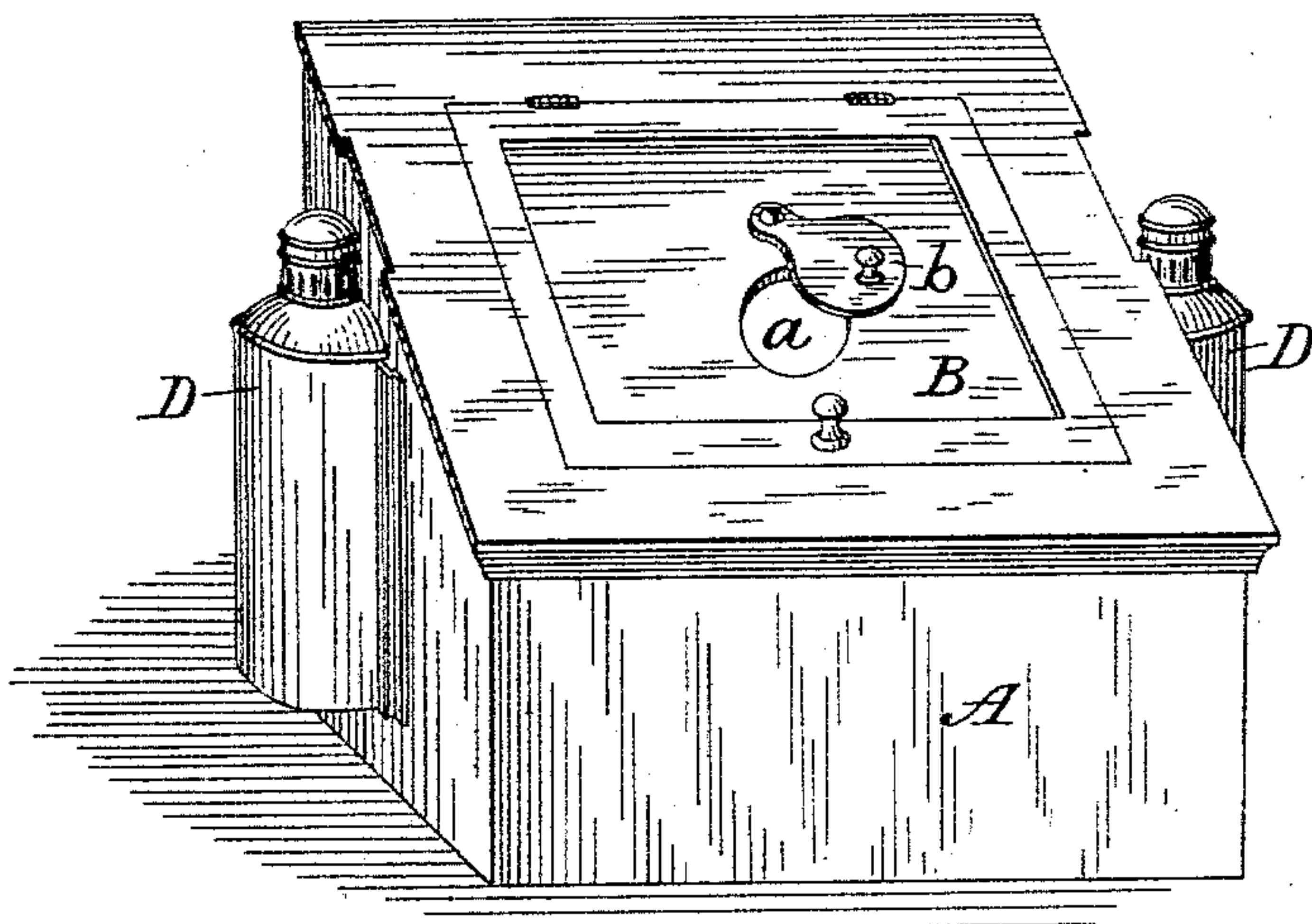


Fig. 2.

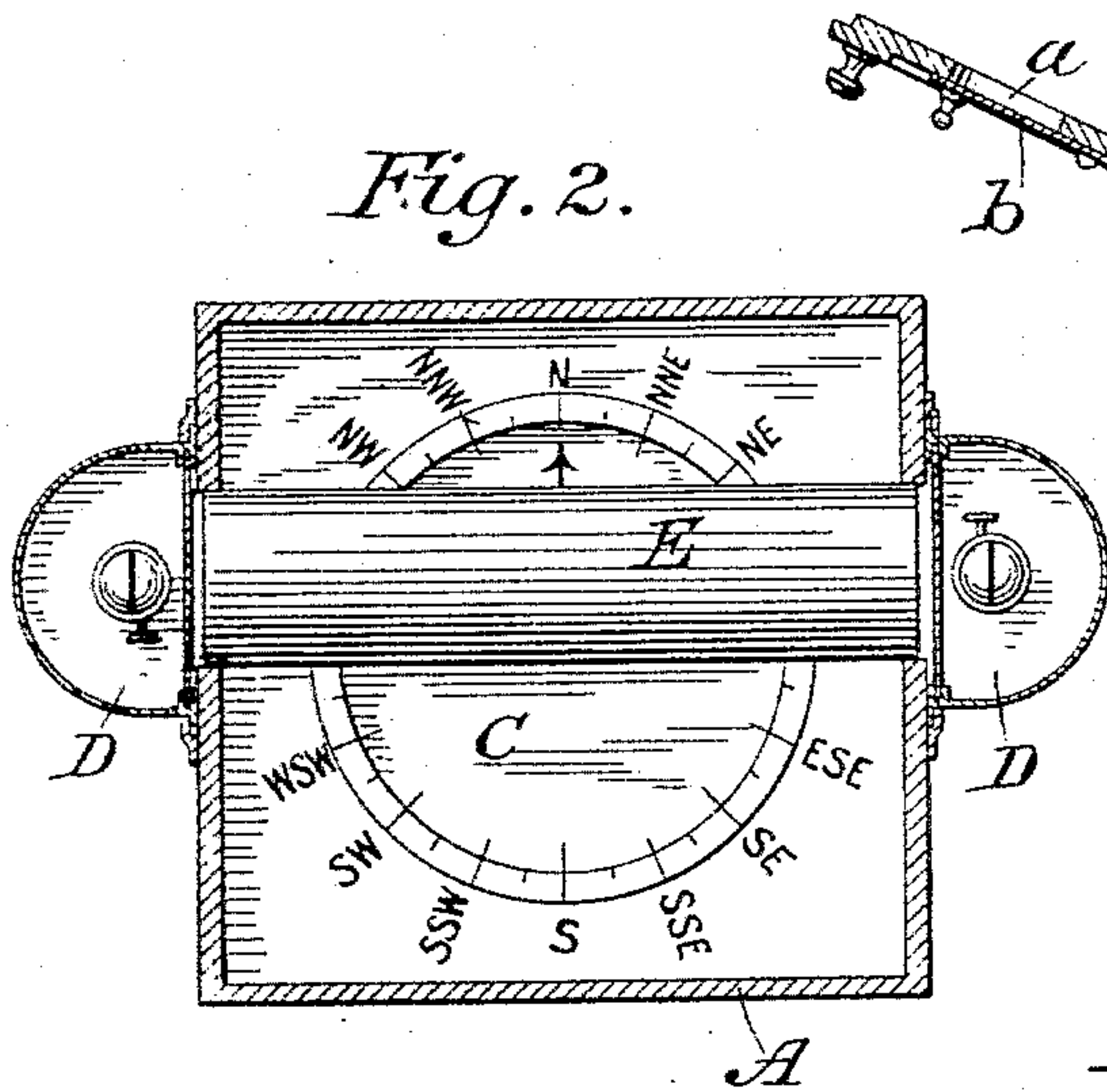
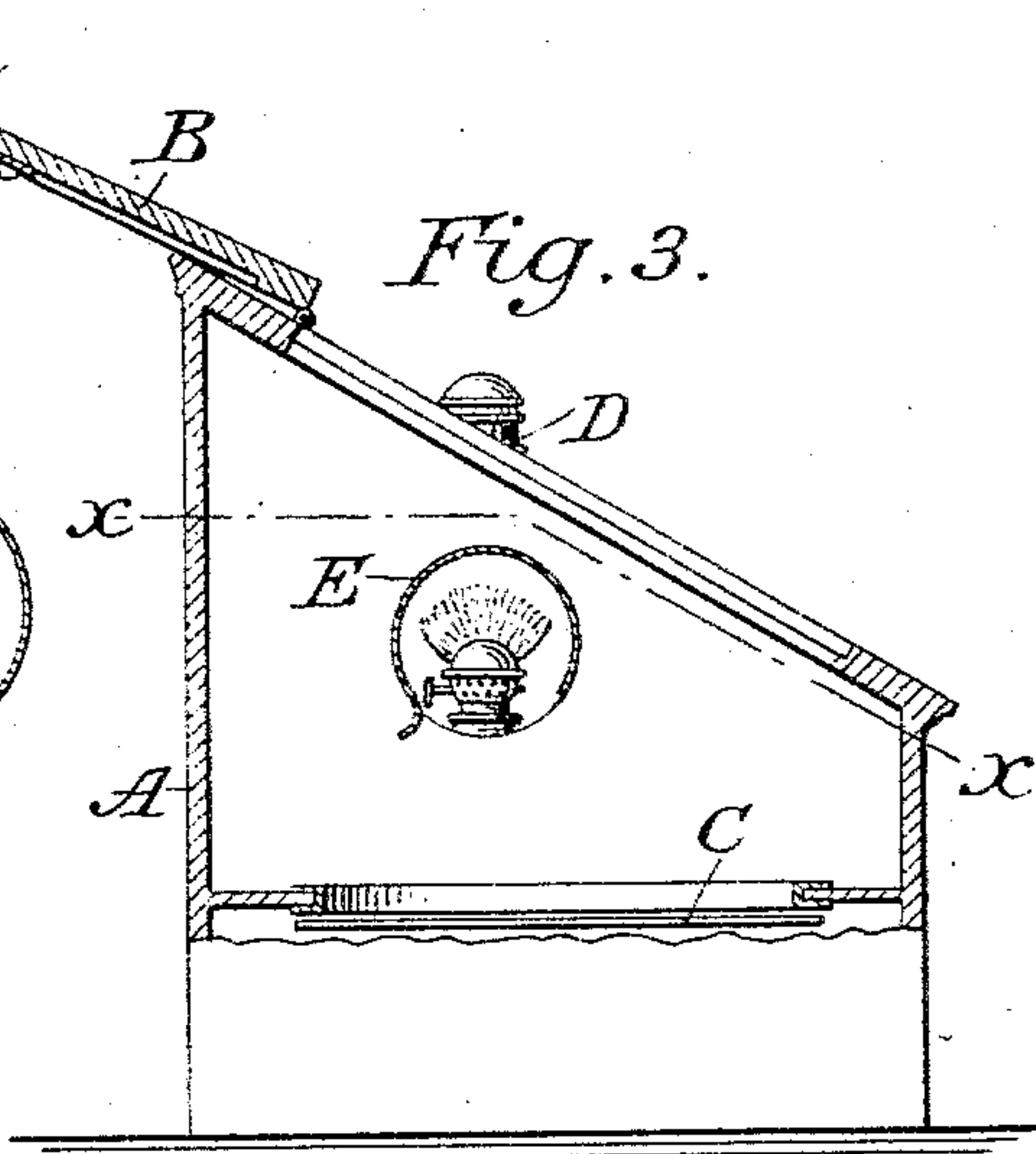


Fig. 3.



Attest:
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UNITED STATES PATENT OFFICE.

ABRAM MITCHELL, OF SHELTER ISLAND, NEW YORK, ASSIGNOR OF ONE-HALF TO ARTHUR S. FRENCH, OF BROOKLYN, NEW YORK.

REFLECTOR FOR COMPASS-BOXES.

SPECIFICATION forming part of Letters Patent No. 565,011, dated August 4, 1896.

Application filed March 16, 1896. Serial No. 583,275. (No model.)

To all whom it may concern:

Be it known that I, ABRAM MITCHELL, a citizen of the United States, and a resident of Shelter Island, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Reflectors for Compass-Boxes, of which the following is a specification.

My invention relates to reflectors for use in compass-boxes, especially in such as are employed on shipboard, and are required to be lighted or illuminated, so that the compass-card may be distinctly seen at night.

The ordinary ship's compass-box is illuminated from the exterior and is provided with a lid which may be raised upon occasion, as when it is required to take cross-bearings, &c., a small aperture in the lid affording a slight view of the card, sufficient to determine the course of the ship. The lid and the small aperture are used, because the glare of the light in the box renders it impossible for the observer to discern objects in the darkness for a few seconds after reading the compass, and this, while at all times it is annoying and inconvenient, sometimes may lead to serious accident.

The object of my invention is to prevent the light within the box from affecting the sight of the observer, and to accomplish this the invention involves the application of a reflector within the compass-box, the same being calculated to direct all the light from the lamps down upon the compass-card, so that it may be clearly seen, and allow no light to pass to the eye of the observer except such as is reflected from the card and therefore softened to such degree as to obviate all the disadvantageous effects above alluded to, enabling one to dispense with the lid or cover entirely, if desired.

In the drawings, Figure 1 is a perspective view, and Fig. 2 a section and plan view, of a compass-box having my improved reflector applied therein, this view being taken on line *xx* of Fig. 3. Fig. 3 is a cross-section.

In all the figures like letters of reference, wherever they occur, indicate corresponding parts.

A represents the compass-box, which in the most ordinary form has a hinged lid, (represented at B,) the same being supplied with an

aperture, as *a*, and this having a suitable cover, as *b*.

C represents the compass-card. This is illuminated at night by lamps D D, one on each side of the box, the light from the lamps entering through openings through the walls of the box, all the light being thrown therein.

Ordinarily the lid B remains closed, and the card is viewed through aperture *a*, after opening the cover *b* a very little, so as not to allow too much light to strike the eye; and even with this precaution the observer finds it difficult to immediately discern objects after the observation, and particularly upon a very dark night.

The hinged lid B is only opened when necessary to take cross-bearings on any object, but this is frequently necessary, and at these times the full light from the lamps strikes the eyes, with corresponding injurious or detrimental effects.

E is a reflector of any opaque substance which I employ to obviate the disadvantages above referred to. It is located far enough above the card C and at one side of its diameter so that the entire card may be viewed without difficulty from the exterior of the box, and it extends from one side to the other between the openings which admit the light to the box.

In the form shown in the drawings the reflector is in general tubular shape, the lower portion being open, as indicated. This throws all the light from the lamps down upon the card and screens the eyes, so that no light strikes the eyes, except such as is first reflected by the card. This particular form of reflector breaks up the light by numerous reflections within itself, and thus renders it less glaring upon emerging through the opening in the lower part.

Of course the mere shape of the reflector might be changed, and its size and the size of the opening in the bottom will depend upon the size of the box and the power of the lamps.

With the improved reflector in place the lid may be kept entirely open all the time, as in Fig. 3, or may be omitted from the box altogether.

The improved appliance has been found in

practice to answer all the purposes of the invention as previously set forth, and is, moreover, simple and cheap, and may be easily applied to new boxes as well as to old ones.

5 Having now fully described my invention, what I claim as new herein, and desire to secure by Letters Patent, is—

The compass-box having an opening at top, perforations in its side walls and exterior side
10 lamps applied on said walls, the tubular reflector open along its lower portion, said reflector being mounted in the box, over the compass-card and at one side thereof, and

extending between the openings in the side walls of the box to receive and direct the
15 light from the lamps, the parts named being arranged, constructed and combined, substantially as shown and for the purposes specified.

Signed at New York, in the county and
State of New York, this 11th day of March,
A. D. 1896.

• ABRAM MITCHELL.

Witnesses:

W. J. MORGAN,

WORTH OSGOOD.