

E. S. Hidden.

Side & Deck Lights.

N^o 42,087.

Patented Mar. 29, 1864.
Fig: 1.

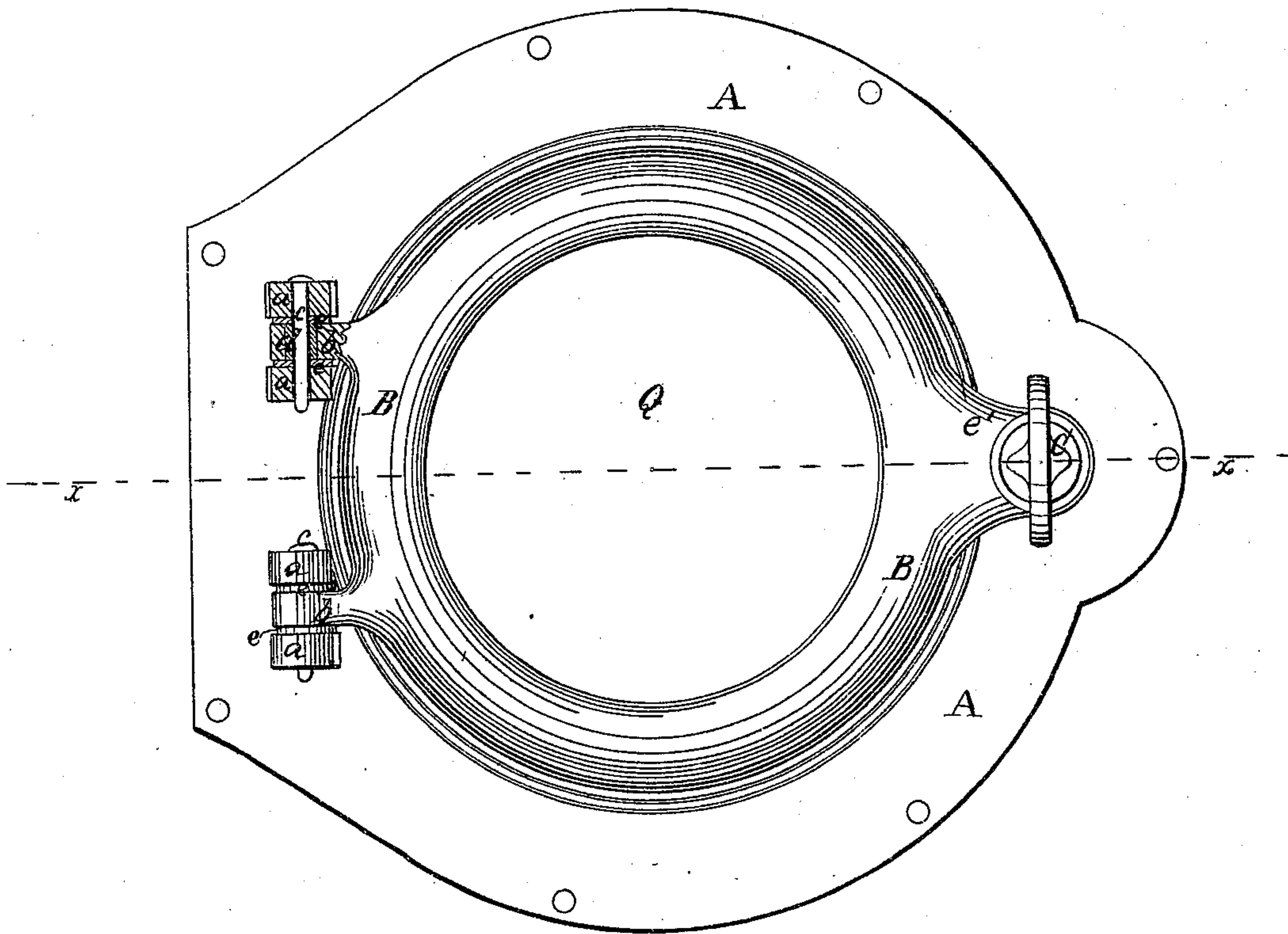
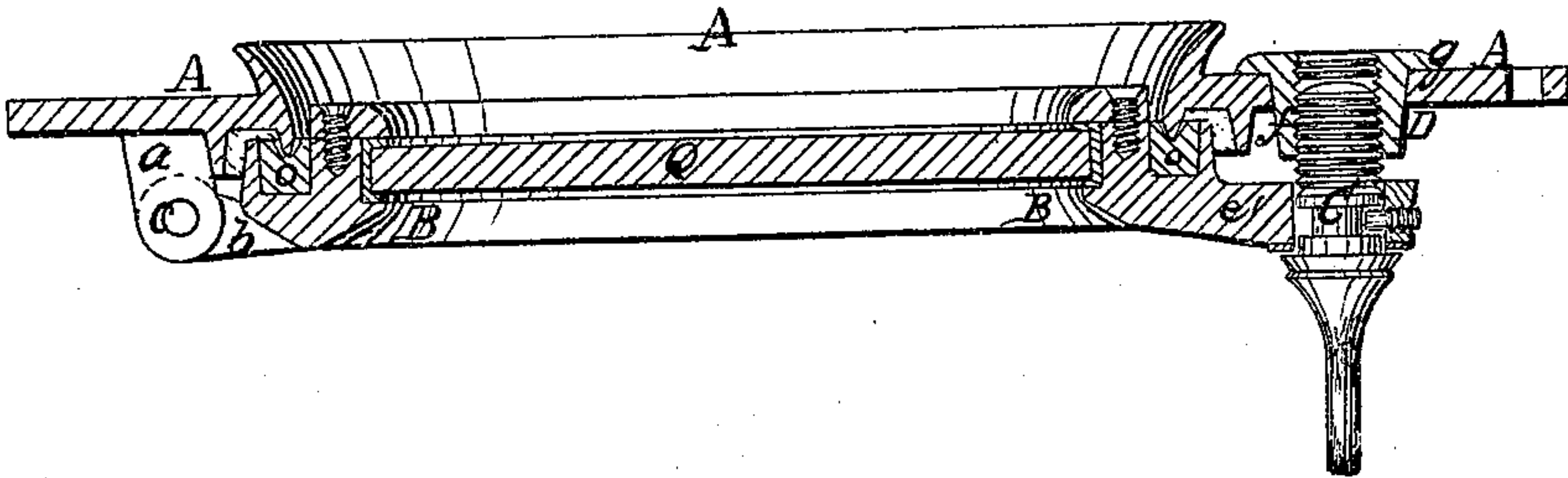


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

E. S. HIDDEN, OF NEW YORK, N. Y.

IMPROVED DECK AND SIDE LIGHT FOR SHIPS.

Specification forming part of Letters Patent No. 42,087, dated March 29, 1864.

To all whom it may concern:

Be it known that I, E. S. HIDDEN, of the city, county, and State of New York, have invented a new and improved deck and side light, commonly called a "dead-light," for ships and other vessels; and I do hereby declare that the following, taken in connection with the drawings, is a full, clear, and exact description thereof.

In the drawings, which represent one of the various forms in which my invention has been embodied by me, Figure 1 is a plan of the light from the inside of the vessel, with one of the hinges shown in section. Fig. 2 is a section through the same on the line *x x* of Fig. 1.

All modern dead-lights, so far as I know, consist of two principal parts—namely, a metallic plate or casing, with an aperture therein, firmly secured to the deck or side of the vessel, and a frame or glass-supporter containing a plate of glass and capable of being opened or shut and of being held tight against the plate, suitable packing being interposed so that the joint between the two shall be water-tight when the frame is shut and fastened. This construction demands that the frame shall be hinged to the plate, and also a fastening of some kind to compress the packing and hold the frame shut against the force of the sea, and all side and deck lights have hinges and fastenings.

Up to the present time, so far as I can discover, the plates, frames, hinges, and fastenings of side and deck lights have been made wholly of some alloy of copper, under the impression that it was absolutely necessary that the whole metallic part of the light should be made of some metal but little liable to corrosion by salt water. In consequence of this general belief, which has hitherto been acted upon by myself as a manufacturer of such lights, these lights are very expensive, and are, especially on passenger-steamers where large numbers of them are used, a serious item in the cost of fitting the vessel.

By attentive examination of these lights, and the manner in which they wear and corrode, I have discovered that the plate which is attached to the vessel and the light-frame may be made of iron, and be sufficiently prevented from corrosion by galvanizing, painting, or enameling, provided the fastening or

the actually working parts thereof, and the hinges on the working parts thereof be constructed of brass or other suitable composition but little liable to corrosion.

And my invention in its most perfect form consists in a side or deck light composed as to the plate and frame of iron, and provided with hinges and fastenings of brass or other metal, or composition equivalent therefor in characteristics, of sufficient strength and small liability to corrosion, constructed substantially in the manner hereinafter described.

In the light shown in the drawings the plate is represented at *A A* and the frame at *B B*, both made of iron. Four lugs of iron, *a a a a*, project inward from the plate, and may be made in one piece therewith. These lugs have holes bored through them for the passage of pins *c c*. The glass frame *B B* is made in two pieces, secured by screws, and carries the glass *Q*, which makes a water-tight joint with the frame, suitable cement or packing being used. This frame has in it a recess which contains a ring of packing, *o o*, and from the frame project two iron lugs, *b b*, which are perforated and so formed and arranged as to enter between each pair of the lugs *a a a*. A projection, *e'*, is also of iron and may be made in one piece with the frame.

The lugs *b b* are bushed with brass or equivalent metal at *d* and have brass washers *e e* interposed between them, and the lugs *a a* and pins *c* are to be shoved in, as shown in the drawings, thus completing two hinges.

Now, by considering this construction it will be apparent that the pin may rust fast in the lugs *a a*, but that the lugs *b* will always move freely on the pin, and thus the light may be opened and shut, even if the frame and plates should be rusted or corroded. It will also be evident that the bushing might be left out of the lugs *b* if the lugs *a* were properly bushed, in which case the pin would turn in the latter; and it will also be evident that the lugs attached either to the plate or the frame might, be made wholly of brass or composition, and either riveted, screwed, or otherwise secured to the iron of the plate or frame, and in all of these and other similar formal changes the construction would be substantially the same for securing the result—viz., a hinge not liable to stick fast by corrosion.

In the light shown in the drawings a brass

or equivalent metal nut, D, is shown as secured to the plate by a flange, g, but it may be fastened in any proper manner, and this nut has a screw, f, cut in the interior thereof. In the glass-frame is fastened by a pin, a thumb-screw, U, of brass or equivalent metal, and this screw has a washer of brass between its head and the projection e', this washer and those in the hinges being used not as absolutely necessary, but as extra precaution against the sticking fast of the acting moving parts. The nut may be fastened by a hinge, as in some side-lights, or may be secured in an iron socket fastened by a hinge, protected as before described, to the plate, or it may be secured in an iron socket making part of or fastened rigidly to the plate, the object being to have a brass or composition nut thread or socket properly secured for the action of a brass screw or inclined plane fastener, such as are used in the various kinds of side-lights, so that all parts of the fastening (and I call the screw and nut or their equivalents a fastening) which move in or rub on one another may be free to do so without danger of sticking from corrosion.

By examining the drawings in the light of the foregoing description it will be perceived that corrosion of the iron frame and plate, oc-

curing in spite of galvanizing, painting, or enameling, will not prevent the opening, shutting, or securing of the frame water-tight, that the light with the non-corrosive fastening and hinges, and iron frame and plate will be as sufficient for all practical purposes as one made wholly of composition, and that it will be much cheaper, as the difference in cost of workmanship will be far inferior to the saving accruing from the low price of iron as compared with brass or similar composition.

Some of the advantages thus set forth may be attained using only non-corrosive hinges or a non-corrosive fastening or fastenings but I prefer to use both in combination with an iron plate and frame.

I claim as of my own invention—

A side and deck light composed of an iron frame fitted for supporting a glass, non-corrosive hinges and fastenings, or either of them, and an iron frame that may be attached to the side of the vessel, the whole being constructed and possessing characteristics substantially as hereinbefore set forth.

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Witnesses:

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