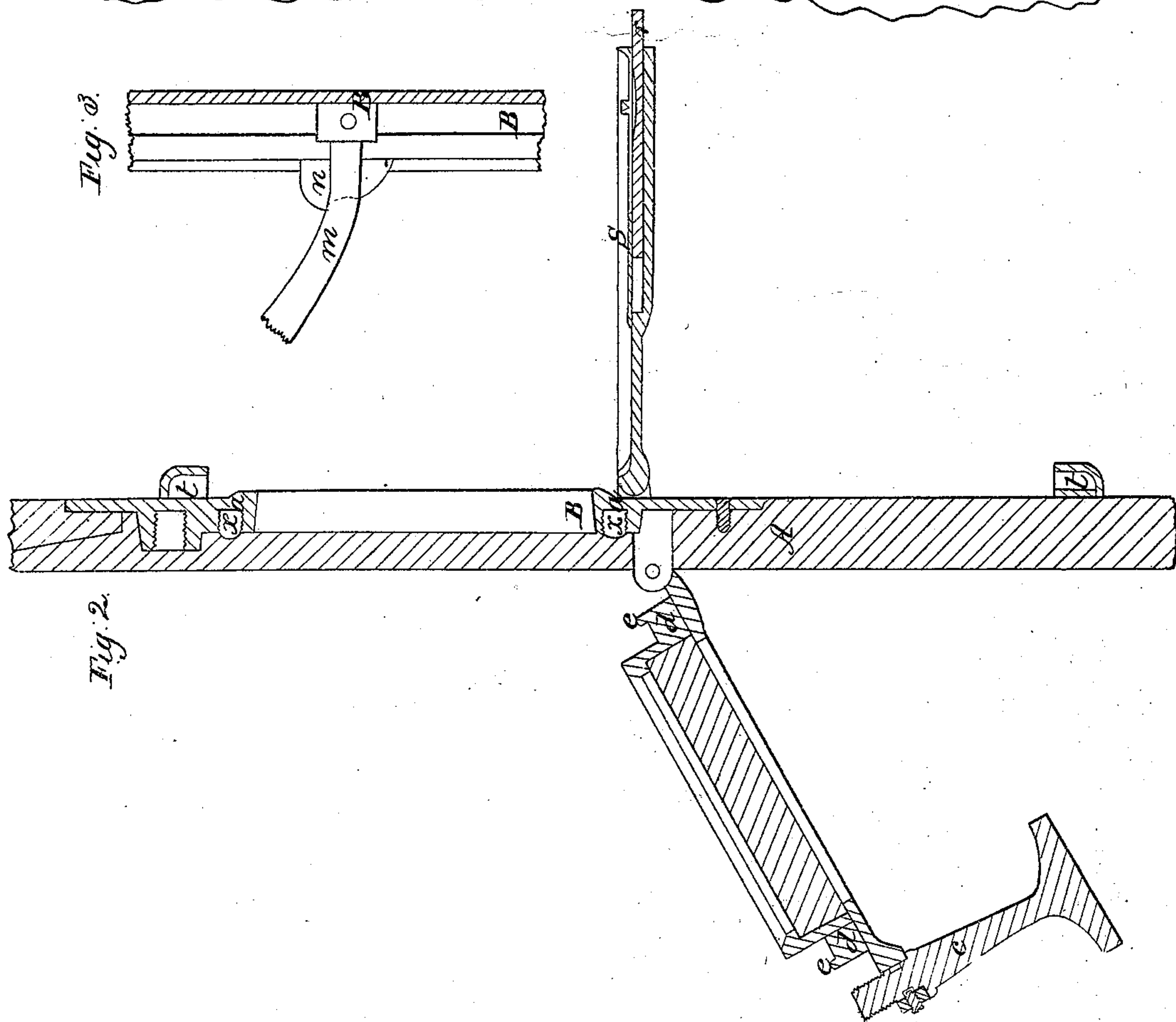
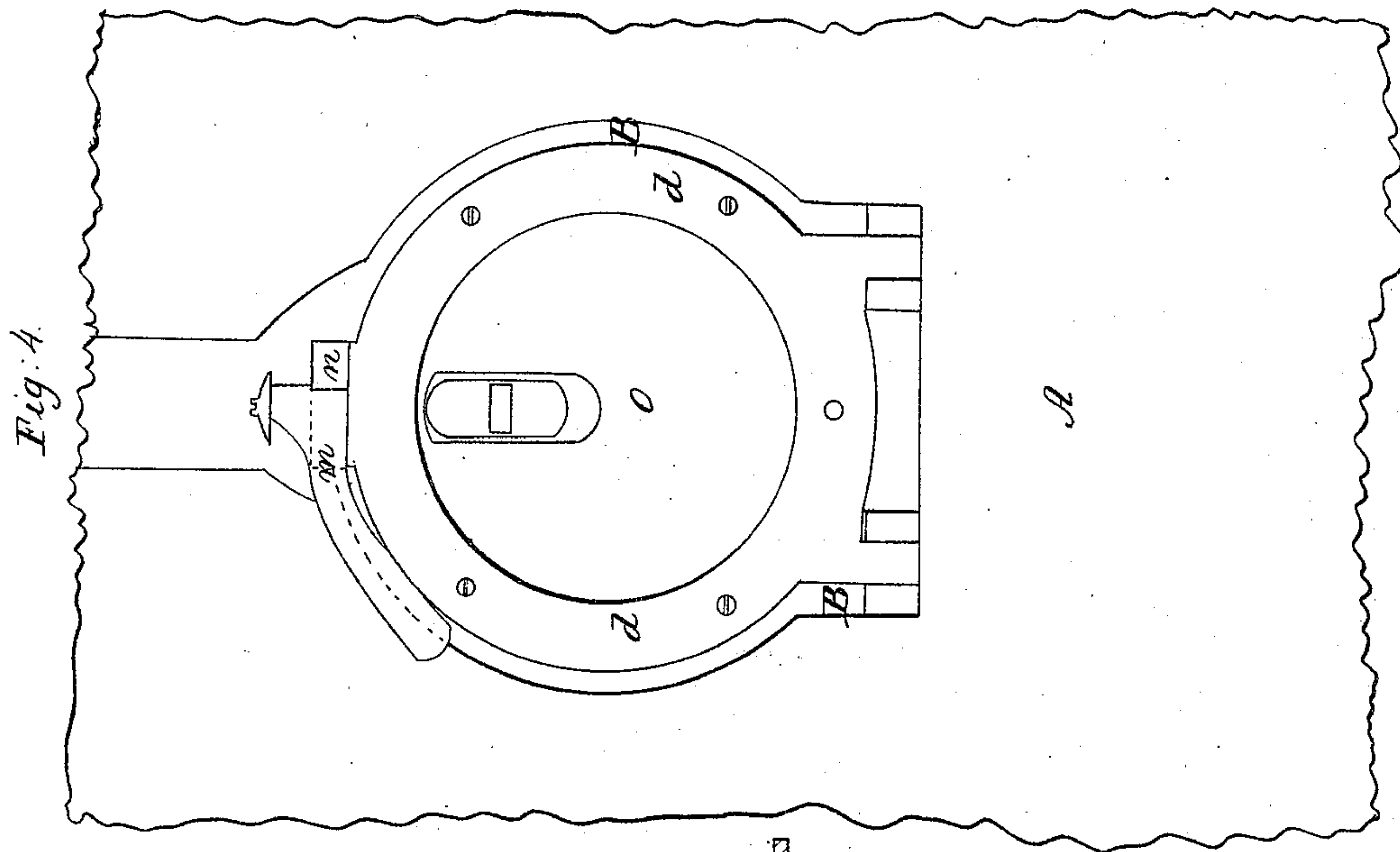


# *E. Hidden, Ship Light.*

*N<sup>o</sup> 5,879.*

*Patented Oct. 24, 1848.*





# UNITED STATES PATENT OFFICE.

ENOCK HIDDEN, OF NEW YORK, N. Y.

## SHIP'S LIGHT.

Specification of Letters Patent No, 5,879, dated October 24, 1848.

*To all whom it may concern:*

Be it known that I, ENOCK HIDDEN, of the city, county, and State of New York, have invented certain new and useful Improvements in the Mounting of Glass Lights for the Sides of Vessels and for other Purposes, of which the following is a full, clear, and exact description, reference being had to the annexed drawings of the same, making part of this specification, in which—

Figure 1 is a view of the inner side of the apparatus applied to a detached portion of the side of a vessel.

Fig. 2 is a section taken vertically through the apparatus, the guard door and glass-frame being opened for the purpose of ventilation. Fig. 3 is a transverse sectional view showing the manner of fastening the glass frame by means of a lever and inclined plane.

The same letters indicate the same parts in all the figures.

The glass lights in the sides and stern of a ship are usually mounted in frames which are secured to the casing of apertures for the admission of light and air into the hold, which frames open and shut on hinges in order that they may perform the double office of windows and ventilators. Heretofore it has been found exceedingly difficult to make the joint between the hinged frame and the casing perfectly water-tight and cases are by no means uncommon where the leakage has been so considerable as to damage the cargo and even to endanger the safety of the vessel itself. To prevent the recurrence of such accidents as these is the object of my present invention which I accomplish by very simple but effectual means. which consist in providing a permanently elastic and durable seat around the casing of the aperture for the hinged glass frame to shut against; this elastic seat or cushion I form by making a groove in the casing which is creased on the sides, and then filling the same heaping full of strips of caoutchouc or gum elastic cut from a sheet or web of the prepared article; I then place a flat ring of metal upon the gum and clamp it down tight, which compresses it into all the creases and thoroughly fills every part of the groove; in this state I place the casing in an oven heated to three hundred degrees, more or less, of Fahrenheit's thermometrical scale and bake the gum until all the moisture and uncombined

volatile matter is evaporated and the strips or shreds are agglutinated together and form one solid mass; the case is then withdrawn from the oven and cooled after which the rings are unclamped and the gum will be found to be so solid and so firmly embedded in the groove that it cannot be removed without considerable difficulty. This process I call "baking-in" the gum and it is very much expedited by clamping a number of the cases together and baking all of them at the same time.

While this baking process does not in any degree impair the elasticity of the gum it effectually destroys or removes all its stickiness, so that chips, weeds, and other obstructions, have no tendency to adhere to it as they do to the unbaked gum upon the surface of which they accumulate to an extent which prevents the frame from closing tight.

In the accompanying drawings A represents a portion of the plank or side of a vessel to which my improved glass light is applied.

B is the casing which surrounds the aperture for admitting light and air into the hold, this casing is secured to the vessel's side by screws or otherwise; on the inner side of the casing a groove (a) is formed between two projecting concentric rims the sides of the grooves being furrowed creased or roughened for the purpose of retaining the gum (x) more firmly as before described. On one end of the casing a female boss projects in which a female screw is made to receive the male screw (c) which holds down and compresses the glass frame upon the gum (x). On the other end of the casing standards project to which the glass frame is secured by joint pins, which form the hinges on which it turns; the glass frame (d) is in the form of a flat ring with a suitable groove on its inner edge to receive the glass, and having a flange or projecting rib (e) on its inner side concentric with the aperture (o) in the casing and shutting upon the middle of the ring of baked gum in the groove (a) the rib (e) is compressed into the gum by turning down the thumb screw (c) so that the joint is perfectly water tight.

A more expeditious and equally secure and permanent method of fastening and compressing the glass frame upon the gum is to employ a lever (m Figs. 1 and 3) hinged by



one end to the casing, and having a notch on its side which projects over the edge of the glass frame and catches upon an inclined plane (*n*) on the front edge of the same, 5 which inclined plane it depresses together with the frame as it moves along over it until it arrives at the top where it enters a curved depression and remains at rest; thus, the two fold operation of compressing the 10 frame into the gum and then holding it there, is performed by simply moving the outer end of the lever (*m*) upon its hinge from one side of the frame to the other through an arc of about 120°.

15 For the purpose of excluding the light and also as a means of protecting the glass from violence I secure a hinged door (*s*) (Fig. 2)

on the outside of the casing this door is fastened open, or shut, by means of a bolt (*r*) which is slidden into catches or cavities (*t t* 20 Fig. 2).

Having thus described my improved mounting for the glass lights of ships what I claim therein as new and desire to secure by Letters Patent, is— 25

Securing the caoutchouc by baking and compression in the creased groove of the casing, to form an elastic seat for the glass frame to be shut down and compressed upon, to make a watertight joint.

ENOCH HIDDEN.

Witnesses:

P. H. WATSON,  
STEPHEN W. WOOD.