

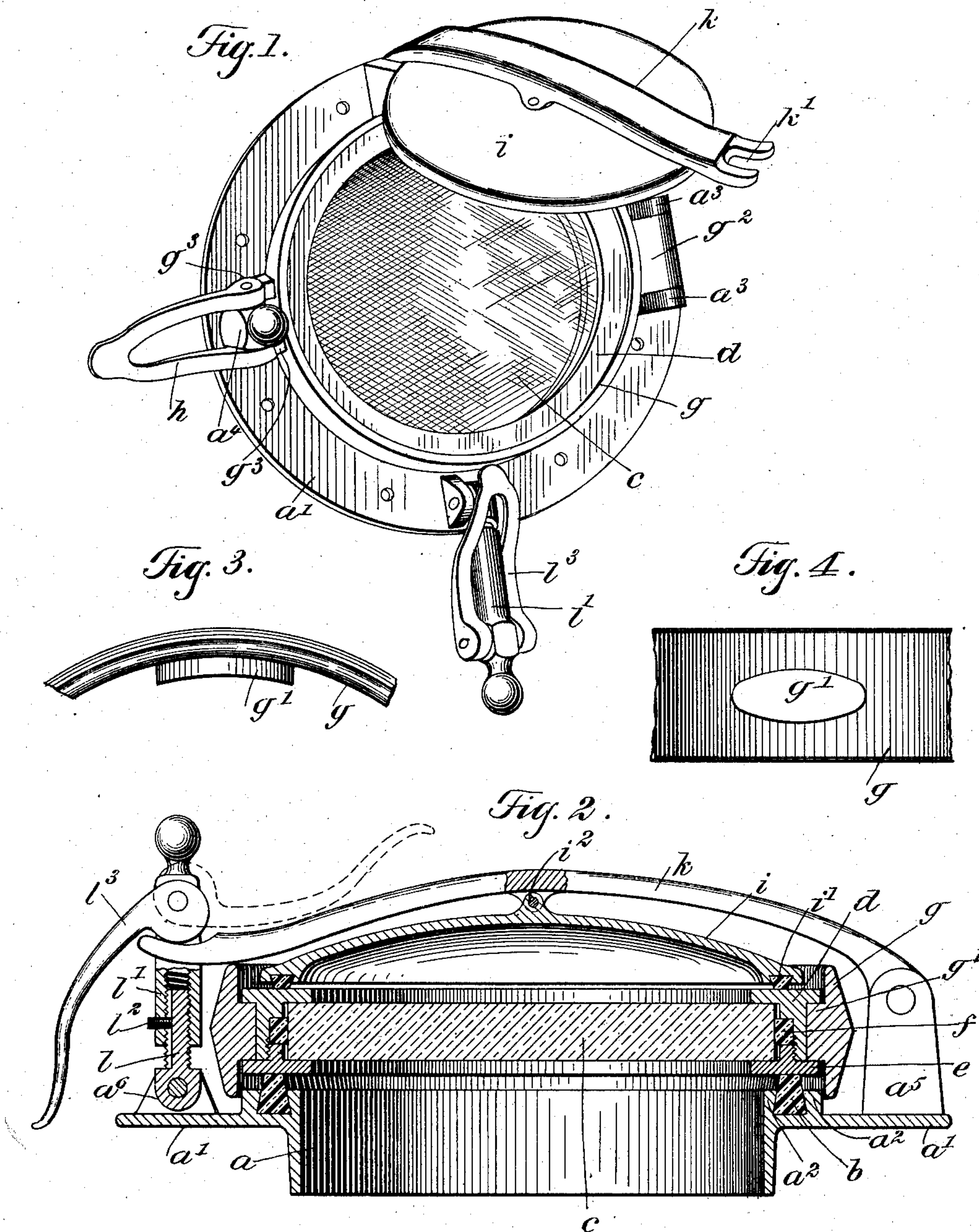
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C. F. PETERSEN.
PORT LIGHT.

APPLICATION FILED APR. 2, 1903.

NO MODEL.



WITNESSES:

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CHRISTIAN FREDERIK PETERSEN, OF WILMINGTON, DELAWARE.

PORT-LIGHT.

SPECIFICATION forming part of Letters Patent No. 736,772, dated August 18, 1903.

Application filed April 2, 1903. Serial No. 150,724. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN FREDERIK PETERSEN, a citizen of the United States, and a resident of Wilmington, in the county of Newcastle and State of Delaware, have invented a new and Improved Port-Light, of which the following is a full, clear, and exact description.

This invention relates to an improved construction for closing the port-lights in the sides of marine vessels, and it embodies in its general form a glass and glass-frame connected to the body of the device by a gimbal-ring and which is hinged to the body and provided at its free side with a releaseable clamp for holding it in place, and an opaque or metallic cover, which parts may be used concurrently with or independent of the glass, as desired, and by means of which the port-light may be hermetically closed.

This specification is an exact description of one example of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the invention. Fig. 2 is a cross-section thereof. Fig. 3 is a fragmentary plan of the gimbal-ring, and Fig. 4 is a fragmentary elevation of the gimbal-ring.

The body of the device is formed, preferably, of an integral mass of metal and comprises a bushing a and a flange a' , projecting from the inner end thereof. At the base of this flange are formed two annular ribs a^2 , and between these ribs is placed an annular gasket b , of rubber, this gasket projecting slightly beyond the flanges, as illustrated in Fig. 2.

c indicates the glass, and this is held in a frame comprising two clamping-rings d and e , which are screwed together, and between which is fitted an annular gasket f , of rubber, putty, or other material, making a water-tight connection, this gasket being contracted by the pressure of the sections d and e against the periphery of the glass plate c . The annular sections d and e of the glass-frame are provided with inwardly-disposed flanges embracing the glass c and with outwardly-disposed flanges between which sit the round-

ing studs g' of the gimbal or clamping ring g , this ring projecting beyond each side of the glass and the frame, and when the port-light is closed the inner edge of the ring g of the glass-frame embraces the outer flange a^2 , as Fig. 2 illustrates. This ring g mounts the glass and its frame and allows the glass a certain rocking movement in the ring, which enables the glass-frame to be positioned true on the gasket b , thus effecting a water-tight joint. Projecting from the ring g of the glass-frame is a lug g^2 , which is pivoted to studs a^3 , projecting from the flange a' of the body of the device, by which means the glass, its frame, and the ring g are mounted to swing into opened or closed position. Opposite the lugs a^3 a fastening-cam h is located, this cam being pivoted on a swinging link a^4 , pivoted to the flange a' and arranged to engage a forked projection g^3 of the ring g , by means of which device the glass-frame and ring g may be clamped down firmly on the gasket b , as indicated in Fig. 2.

The cover i is preferably formed of metal and is concavo-convex in cross-section, as illustrated in Fig. 2. Said cover is provided on its inner face with an annular rubber gasket i' , which bears when in active position on the section d of the glass-frame, thus closing the port-hole not only against leakage, but against the transmission of light. The said cover is fastened at its middle by means of a pin i^2 or by any desired device to an arm k , which is pivoted to a stud a^5 , projecting from the flange a' , this arm extending across the cover i and having a bifurcated free end k' . With this end works the device for clamping the arm k into active position, and such device comprises a threaded pin l , fulcrumed on lugs a^6 , formed on the flange a' . Said pin l is screwed into a mating section l' , and this section is provided with a lock-screw l^2 , which works in a longitudinal groove in the pin l . These parts l l' form a swinging link, the length of which may be adjusted at will. On said link is mounted a bifurcated cam-lever l^3 , and the bifurcated end k' of the arm k is arranged to straddle the link, so that the cam l^3 may bear thereon, thus clamping the arm down into active position, as indicated in Fig. 2. By this device the port-hole may be hermetically closed by simply clamping the

glass-frame and gimbal-ring in position, and owing to the arrangement of the gimbal-ring with the glass-frame and the hinge $g^2 a^3$, opposite the clamping device h , an equal pressure is exerted on the glass and frame, and the engagement thereof with the gasket b is consequently perfect. To deaden the port-light—that is to say, to close it against the transmission of light—the cover i should be thrown into position and fastened by the cam-lever l^3 . This also further insures against leakage through the port-hole. It will be observed that the hinge of the arm k is located intermediate the parts g^2 and h and that the cam-lever l^3 is located opposite the hinge of said arm. Therefore when both the glass-frame and cover-plate are fastened in position the strain is applied on crossing lines, thus making a most effective closure. When pressure is exerted on the closure-plate i , the form of this plate and its arrangement with respect to the other parts cause its periphery to bear down equally at all points on the glass-frame. Owing to this novel arrangement, the port-hole may be closed and held closed against the heaviest strains.

The device is applied to the shell of a ship in the usual manner, the bushing a fitting in the port-hole proper and the flange a' being secured by rivets or otherwise to the inside of the shell.

Various changes in the form, proportions, and minor details of my invention may be resorted to at will without departing from the spirit and scope thereof. Hence I consider myself entitled to all such variations as may lie within the intent of my claims.

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

1. The combination of a main or body portion having a port-opening and a packing-gasket surrounding the same, a glass and glass-frame, the latter being arranged to bear on said gasket, means for holding the glass-frame in position, substantially as described, the said glass-frame comprising two rings screwed together with an internal packing-gasket fitting between them, said rings having inwardly-extending flanges embracing the top and bottom sides of the glass.

2. A port-hole cover comprising a cover proper of concavo-convex cross-sectional form, a swinging arm connected with the central portion of the cover, a link formed of adjustable sections, and a cam-lever mounted on the link and adapted to engage the free end of the arm.

3. A port-hole closure comprising a body portion having a port-opening and an annular gasket surrounding the same, a glass and frame, the frame comprising two inner sec-

tions engaged together and inclosing the glass, a ring encircling the glass-frame, means for holding the ring in place, a cover-plate adapted to engage the outer side of the glass-frame, a swinging arm to which the cover-plate is fastened, and means working with the free end of said arm to clamp it in position.

4. A port-hole closure comprising a body portion having a port-opening and an annular gasket surrounding the same, a glass and frame, the frame comprising two inner sections engaged together and inclosing the glass, a ring encircling the glass-frame, means for holding the ring in place, a cover-plate adapted to engage the outer side of the glass-frame, a swinging arm to which the cover-plate is fastened, and means working with the free end of said arm to clamp it in position, the said ring having a gimbal-like connection with the glass-frame.

5. A port-hole closure, comprising a ring, means for mounting the ring, diametrically opposite projections extending inwardly from the inner periphery of said ring, and a closure-frame having an annular groove in its outer edge into which said projections extend for clamping the frame into operative position over the port-hole.

6. A port-hole closure comprising a glass, a glass-frame having peripheral flanges, a ring having opposite internal studs fitted between the said flanges to form a gimbal-like connection, and means for mounting the ring.

7. A port-hole closure, comprising a glass, a frame therefor and a ring pivotally connected to said frame at opposite sides, said ring having hinge and clamping means at opposite sides thereof on a line at right angles to a line extending through the aforesaid pivot-points, as set forth.

8. A port-hole closure, comprising a body portion having a port-opening surrounded with an annular recess, an annular gasket held in said recess, a glass and a frame therefor, the frame comprising inwardly and outwardly extending annular flanges at its top and bottom sides, said inwardly-extending flanges embracing the glass, a ring encircling the glass-frame, said ring having at opposite sides inwardly-extending projections received between the outwardly-extending flanges of the glass-frame, and means for holding and clamping said ring around the opening in the body portion of the closure, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHRISTIAN FREDERIK PETERSEN.

Witnesses:

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CLIFFORD V. MANNERING.