

No. 699,817.

Patented May 13, 1902.

F. J. RUSSELL.
WATER TIGHT FIXTURE FOR ELECTRIC LIGHTS.

(Application filed Feb. 10, 1902.)

(No Model.)

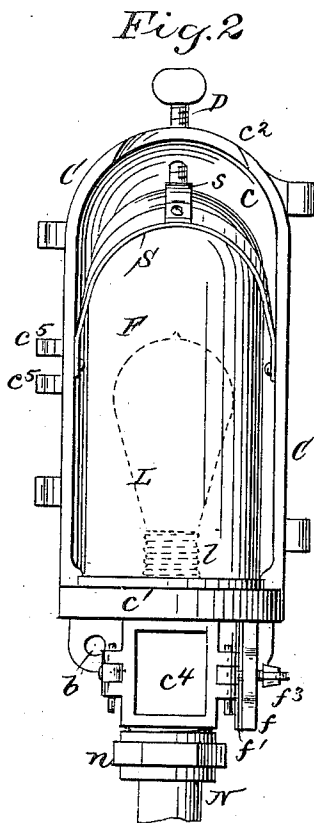


Fig. 2.

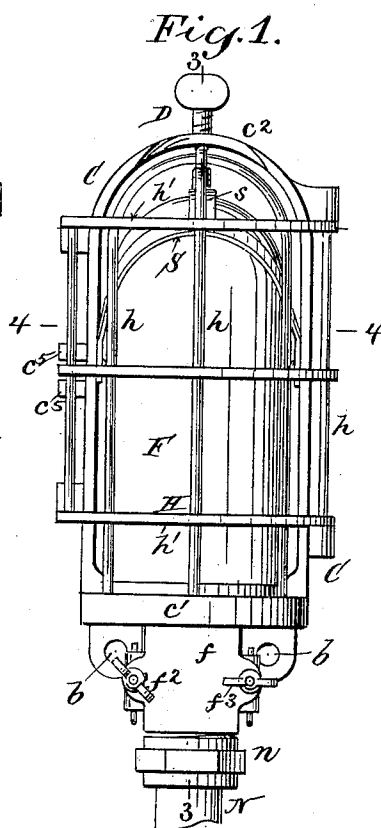


Fig. 1.

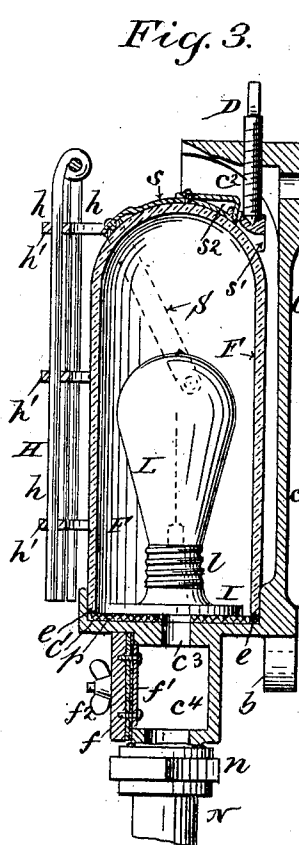


Fig. 3.

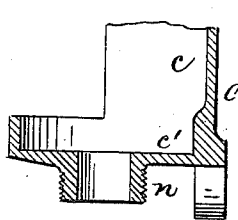


Fig. 5.

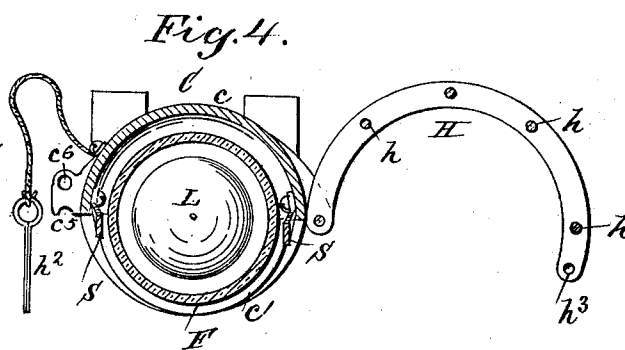


Fig. 4.

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WATER-TIGHT FIXTURE FOR ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 699,817, dated May 13, 1902.

Application filed February 10, 1902. Serial No. 93,364. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. RUSSELL, a citizen of the United States, residing in the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Water-Tight Fixtures for Electric Lights, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My improvements relate to means for protecting electric-light lamps and their terminal connections and while applicable generally to fixtures occupying exposed positions are designed more particularly for use in marine vessels and like situations where it is desirable to exclude moisture, prevent corrosion, short-circuiting, &c.

The invention consists in the combination and arrangement of parts hereinafter described and claimed specifically.

In the accompanying drawings, Figure 1 is an elevation of my improved device; Fig. 2, a similar view with the cover removed; Fig. 3, a sectional elevation upon plane of line 3 3, Fig. 1; Fig. 4, a transverse section upon plane of line 4 4, Fig. 1, showing the cover thrown open; Fig. 5, a sectional elevation showing a modification of the end disk.

I prefer to make my casing C with a body *c*, which is substantially semicylindrical internally, terminating at one end in a disk *c'*, and at the other in an arch *c''*. The bottom or rear side of the casing C, is formed with bolt or screw holes *b b* or other mechanical expedients which will admit of its being secured to a suitable support.

Attached to the inner side of the disk *c'* is the terminal-holder of insulating material, I, with the terminals of which electrical connection is made through the opening *c''*, the holder I having the receptacle *l* mounted upon it in the usual way for the reception of the lamp L.

The opening *c''* leads into a fuse-box *c''*, secured to or forming a part of the disk *c'*, or through a threaded union-nipple *n*, as in Fig. 5, into a suitable conduit N. Where the fuse-box *c''* is combined with the disk *c'*, the union-nipple *n* is formed on the fuse-box. In either

case the union-nipple *n* affords a means of coupling to the conductor-conduit N.

The inner side of the disk *c'* is provided with a gasket or annular packing *p*, preferably though not necessarily extending under the terminal-holder I, its main function being to effect a water-tight joint with the edge *e* of the transparent shield F.

The body of the transparent shield F is 60 preferably cylindrical, the closed end being hemispherical or otherwise formed to receive a stirrup S, by which the shield may be positively and forcibly held with its edge *e* against the gasket or packing *p* by means of a clamp D, consisting of a screw or other mechanical expedient mounted on the arch *c''*.

The stirrup S is pivotally connected to the casing C, preferably below the closed end of the transparent shield, especially when said closed end is hemispherical in form, as shown in the drawings, so that the stirrup may be swung back to afford ample space for the insertion or withdrawal of the transparent shield into or from the casing and also to allow the stirrup to properly clear the hemispherical end of the shield when the stirrup is swung into or out of engagement with the transparent shield.

By making the stirrup of elastic metal it may be readily sprung into or out of position over the hemispherical end of the transparent shield even when the fit is close; but in order to facilitate still further the application or removal of the stirrup when the latter is to extend over beyond the center of the transparent shield, I make the inner or free end of the bearing-arm *s* with an articulated section *s'*, which constitutes the bearing-block for engagement with the clamping device D. As illustrated in the drawings, the articulated section or bearing-block *s'* consists of a slotted piece held loosely by a loop *s''*, formed in the end of the arm *s*, although this construction may obviously be modified without departing from the spirit and intent of my invention in this respect, the essential features in this connection consisting in a bearing-piece for the clamping device coupled loosely to the stirrup proper for the purpose of facilitating the adjustment of the stirrup as a whole, as above indicated.

Hinged or linked to one side of the casing is a cover H, approximately or substantially semicylindrical in shape and adapted to fit over the front of the casing and inclose and protect the parts therein against contact with extraneous objects. This cover H is preferably though not necessarily made in the form of a grating consisting of longitudinal bars h and transverse rails h' or any other form of open-work, or, if desired, it may be made in one continuous piece where the lamp is to be used only temporarily and is subjected to exceptional danger from contact with external objects when not in use. In either case a suitable fastening device is provided by means of which the cover H may be secured in position over the casing, as a coupling-pin h^2 , passing through a hole h^3 in the end of the center rail and through corresponding holes c^6 c^6 , formed in the lugs c^5 c^5 on the casing C.

Where the fuse box or chamber c^4 is interposed between the disk c' and the union-nipple n , as shown in the drawings, it is provided with a cover f , packing f' , and clamping devices f^2 f^3 for the purpose of forming a water-tight joint for the protection of the interior of the fuse-box and the interior of the transparent shield F, with which the fuse-chamber communicates through passages in the terminal-holder I.

By my construction and arrangement of parts I attain water-tight protection for the electric-light fittings and connections, as well as protection against mechanical contact with external objects. At the same time I support my transparent shield at both ends, and thereby lessen the chances of breaking from shock or jar as compared with devices heretofore in use in which the shield is supported only at one end. It will be seen that this feature of retaining and supporting the transparent shield at both extremities is a distinguishing feature of my construction and arrangement of parts, and not only increases the safety and stability of the parts, but also enables me to obtain a positive seal or water-tight joint, since any required degree of power may be applied evenly and axially to force the transparent shield against its seat.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a casing, of substantially semicylindrical shape internally, formed with an end disk to which is secured an electric terminal-block and lamp-receptacle, an annular gasket on the inner side of said end disk, a substantially cylindrical transparent shield closed at one end, the edges of the other end resting against said annular gasket, a stirrup for straddling the closed end of said transparent shield, and means for pressing and holding the said stirrup against the transparent shield for the purpose of effecting a water-tight joint between the shield and the casing, substantially as set forth.

2. The combination of a casing, of substantially semicylindrical shape internally, formed with an end disk to which is secured the electric terminal-block and lamp-receptacle, an annular gasket on the inner side of said end disk, a substantially cylindrical transparent shield closed at one end, the edges of the other end resting against said annular gasket, a stirrup for straddling the closed end of said transparent shield, said stirrup being pivotally connected to the casing, and means for pressing and holding the said stirrup against the said transparent shield for the purpose of effecting a water-tight joint between the shield and the casing, substantially as set forth.

3. The combination of a casing, of substantially semicylindrical shape internally, formed with an end disk to which is secured an electric terminal-block and lamp-receptacle, an annular gasket on the inner side of said end disk, a substantially cylindrical transparent shield closed at one end, the edges of the other end resting against said annular gasket, a stirrup for straddling the closed end of said transparent shield, said stirrup being pivotally connected to the casing, and a screw passing through said casing and bearing against said stirrup and holding said transparent shield against the said gasket to form a water-tight joint, substantially as set forth.

4. The combination of a casing, of substantially semicylindrical shape internally, formed with an end disk to which is secured an electric block and lamp-receptacle, an annular gasket on the inner side of the said end disk, a substantially cylindrical transparent shield, formed with a closed hemispherical end and having the edges of the other end resting against said annular gasket, a stirrup for straddling the closed hemispherical end of the transparent shield, said stirrup pivotally connected to the casing below the position of the hemispherical end of the transparent shield for the purpose set forth, and means for pressing the stirrup against the closed end of the transparent shield to effect a water-tight joint between the latter and the casing, substantially as described.

5. The combination of a casing, of substantially semicylindrical shape internally, formed with an end disk to which is secured an electric terminal-block and lamp-receptacle, said end disk being formed with an external fuse-chamber, an annular gasket on the inner side of said end disk, a substantially cylindrical transparent shield, closed at one end, the edges of the other end resting against said annular gasket, a stirrup for straddling the closed end of said transparent shield, and means for pressing and holding the said stirrup against the transparent shield for the purpose of effecting a water-tight joint between the shield and the casing, as set forth.

6. The combination of a casing of substantially semicylindrical shape internally,

formed with an end disk to which is secured an electric terminal-block and lamp-receptacle, said end disk being formed with an external fuse-chamber, provided with a removable water-tight cover, an annular gasket on the innerside of said end disk, a substantially cylindrical transparent shield formed with one open end and one closed end, the edges of the open end resting against said annular gasket, a stirrup for straddling the closed end of said transparent shield, and means for pressing and holding the said stirrup against the transparent shield, for the purpose of effecting a water-tight joint between the shield and the casing substantially as set forth.

7. The combination of a casing, of substantially semicylindrical shape internally, formed with an end disk to which is secured an electric terminal-block and lamp-receptacle, an annular gasket on the inner side of said end disk, a substantially cylindrical transparent shield closed at one end, the edges of the other end resting against said annular gasket, a stirrup for straddling the closed end of the transparent shield, means for pressing and holding the said stirrup against the said transparent shield, and a cover connected with the casing and adapted to inclose and protect the parts within the casing, together with means for securing the said cover in position substantially as set forth.

8. The combination of a casing of substantially semicylindrical shape internally, formed with an end disk to which is secured an electric terminal-block and lamp-receptacle, an annular gasket on the inner side of

said end disk, a substantially cylindrical transparent shield closed at one end, the edges of the other end resting against said annular gasket, a stirrup for straddling the closed end of the transparent shield, means for pressing and holding the said stirrup against the said transparent shield, and a cover formed of an open grating connected with the casing and adapted to inclose and protect the parts within, together with means for securing the said cover in position, substantially as set forth.

9. The combination of a casing, of substantially semicylindrical shape internally, formed with an end disk to which is secured an electric terminal-block and lamp-receptacle, an annular gasket on the inner side of said end disk, a substantially cylindrical transparent shield formed with a closed hemispherical end, the edges of the other open end resting against said annular gasket, a stirrup for straddling the closed hemispherical end of the transparent shield, said stirrup being made in two sections loosely connected together, one section of which is pivotally connected to the casing below the position of the hemispherical end of the transparent shield for the purpose set forth, and means for pressing the stirrup against the closed end of the transparent shield to effect a water-tight joint between the latter and the casing substantially as set forth.

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Witnesses:

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