

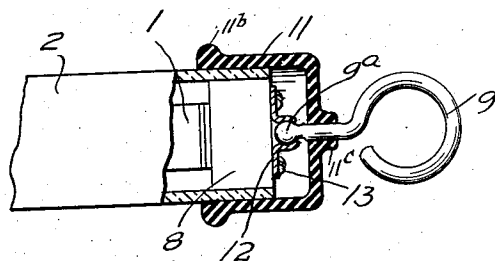
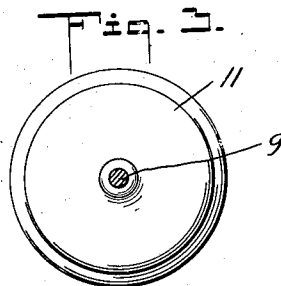
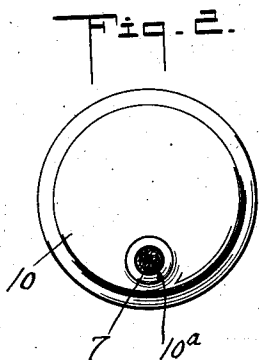
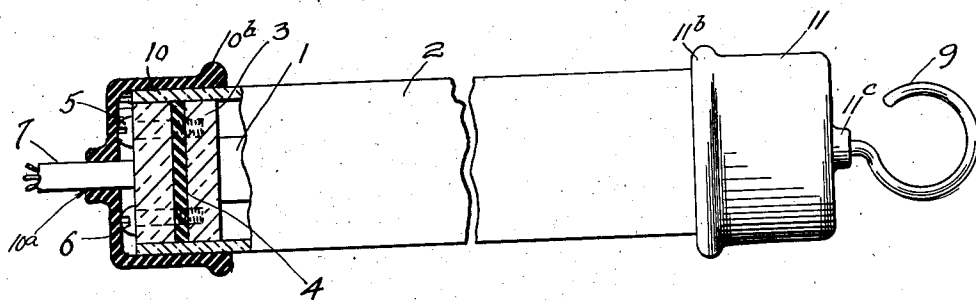
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2,429,850

INSPECTION LIGHT

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2,429,850

INSPECTION LIGHT

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3 Claims. (Cl. 240—11.4)

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This invention relates to portable inspection lights, such as disclosed in Patent No. 2,347,174, issued to me and Kenneth M. Cross on April 25, 1944.

Such devices are found very useful, if not indispensable where construction work is performed within limited and crowded spaces as, for example, within the fuselage and wings of airplanes under construction.

It is a requirement of such devices that the lighting element thereof be hermetically sealed within a transparent tube. It is furthermore necessary so to construct the device that all danger of shortcircuits is eliminated. Also, it is essential that the device be protected against damage or breakage during operations within such limited spaces.

To this end, the invention resides in the combinations hereinafter fully described and illustrated in the accompanying drawings, of which:

Fig. 1 is a side view, partly in section, of a device embodying the invention;

Fig. 2 is a left end view of the device;

Fig. 3 is a corresponding right end view of the device; and

Fig. 4 illustrates a modification of a part of the device, the importance of which is hereinafter fully explained.

As disclosed in the patent above referred to, the device comprises a fluorescent lighting element 1, which is held confined within a transparent tube 2. Because of the conditions under which the device is used, it is necessary to utilize material for this tube which will resist rough handling and a plastic composition, such as Lucite, has been found adapted for this purpose. A Lucite plug 3 is fitted into one end of the tube, and it is made in two parts, between which a resilient washer 4 is placed. Screws 5, 6 are seated therein to clamp this washer between the plug portions in an effort thereby to provide a removable gas and vapor tight closure for the tube. In addition, an insulated cable 7 extends through the plug to carry current to the lighting element. The other end of the tube is permanently closed by a plug 8, also preferably made from plastic material, such as Lucite, and cemented or fused in position therein. A hook 9, by means of which the device may be held suspended, is anchored on the outer surface of this plug.

It is, however, found difficult, even when this tube assembly is made with great care, to obtain perfect sealing and dependable current insulation. It is also found that the ends of the tube

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are subjected to severe punishment in the handling of the device and so become badly battered and worn before the other parts of the device show signs of wear. In order to overcome these difficulties, I have found it necessary to provide means for covering and thereby more completely sealing the ends of the tube, and such means may take the form of resilient caps 10, 11, which are closely fitted, tightly to seal the tube ends. The cap 10 is made with an off-center passage 10^a for the cable connections to the lighting element, and a cap perforation is centrally placed in the cap 11 to pass the hook 9. With these caps in position, complete hermetical sealing is assured and all danger of short circuits eliminated.

The caps serve the additional purpose of protecting the tube when the device is laid on the floor or other suitable supporting surface, in which position only the caps contact the surface and the tube is elevated therefrom. In order not to make the material of the caps unduly thick and heavy, and yet to raise the tube a substantial distance above the supporting surface, it may be well to place raised beads 10^b, 11^b along the open edge of the caps. Similar beads may also be placed around the cap perforations more firmly to encompass the cable 7 and hook 9.

Where the device is in use within crowded spaces, it is often found difficult to locate supports for the device, so as to release both hands for more essential work. It so happens, however, that the inner walls of planes often are so ribbed that the operator can place the device diagonally between adjacent ribs in the best position to illumine the particular parts operated upon. In such cases, the resilient caps also perform an important function, in that they not only protect the ends of the device, but it is found that the friction exerted by these resilient cushions help to maintain the device firmly in position between vertically directed ribs.

The hook 9, while essential as a supporting means, would prevent such diagonal seating if rigidly mounted in the plug 8. It is for this reason found preferable to mount the hook on a swivel joint in order that it may be free to swing out of the way when the device is so diagonally seated. To this end, the hook is shown fitted at the inner end with a ball-shaped head 9^a which is free to rotate, within fixed limits, in a socket 12, and the latter is fastened to the plug by means of screws 13. The hook is, in such manner, given sufficient freedom of movement in all directions, without sacrificing its supporting qualities.

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And the bead 11^c yieldingly maintains the hook axially extending from the plug.

From the foregoing description it is seen that I have produced an extremely simple and yet effective device for completely sealing and protecting the ends of a tubular light fixture, which may be readily detached for replacement of the fluorescent element of the fixture or other necessary repairs. And while a preferred form of the invention is illustrated, I reserve the right to embody modifications within the scope of the claims hereto appended.

I claim:

1. The combination with a light fixture comprising, a transparent cylindrical casing closed at the ends thereof, of a socket member secured to the outer surface of one end of the casing, a hook terminating at its inner end in a ball-shaped head seated for limited swinging movement within said socket member, and a resilient cap tightly closing said casing end, said cap having a passage for the said hook, and a bead rising from the edge of said passage for tightly encompassing the hook and yieldingly maintaining it axially extending from the casing.

2. The combination with a light fixture comprising a transparent cylindrical casing, of a socket member secured to one end of said casing, a hook having a spherical head mounted in the socket of said member for freedom of swinging movement therein in all directions within fixed limits, and a resilient cap for tightly closing the end of the casing, said cap having a passage for

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the said hook, the resilience of the cap maintaining the hook yieldingly projected.

3. The combination with a light fixture comprising a transparent cylindrical casing, of a socket member on one end of said casing, a hook having a spherical head seated in the socket of said member and having freedom of swinging movement therein in all directions within fixed limits, and a resilient cap for tightly closing the end of the casing, said cap having a passage for the said hook and a bead rising from the edge of said passage tightly to encompass the hook and yieldingly to maintain it axially extending from the end of the casing.

JOSEPH J. W. STEPHENS.

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