

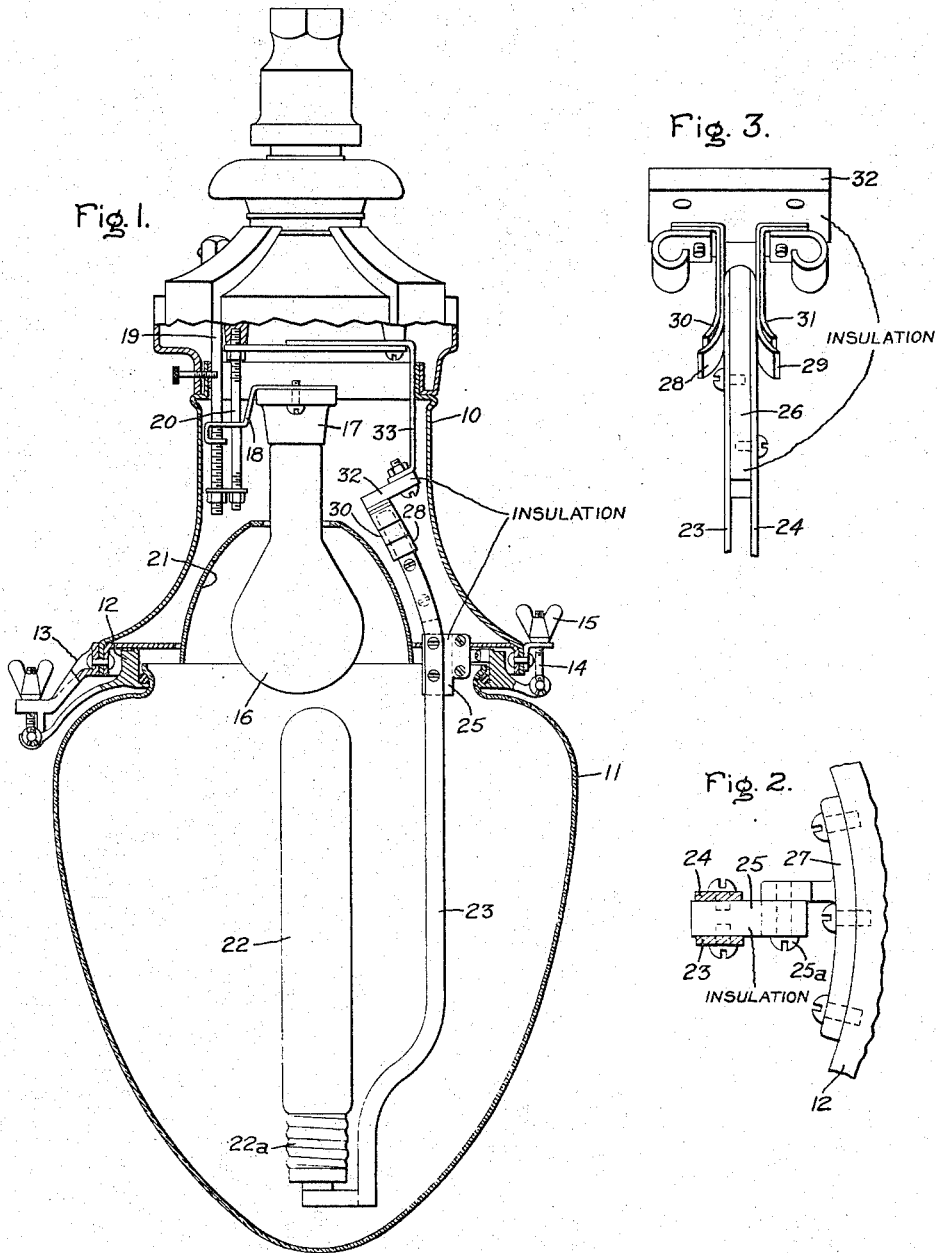
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LIGHTING UNIT

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LIGHTING UNIT

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My invention relates to lighting units and more particularly to lighting units wherein incandescent lamps and electric discharge lamps, such as the sodium vapor or mercury arc lamps, are used.

One object of my invention is to provide an improved arrangement of the incandescent and discharge lamps within the unit.

Another object of my invention is to provide an improved mounting of the discharge lamp and its current leads.

Other objects and the advantages of my invention will be apparent and the invention itself will be better understood from the following description, when considered in connection with the accompanying drawing, and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

In the accompanying drawing, Fig. 1 illustrates a vertical cross section of a lighting unit embodying my invention, and Figs. 2 and 3 are enlarged views of details also shown in Fig. 1.

Referring to the drawing in detail, Fig. 1 illustrates a lighting unit comprising a bell-shaped housing 10 arranged for suspension. A globe 11 is attached to the lower end of housing by a globe holder ring 12 which is hinged at one side to a bracket 13 and locked into position at the other side by a hinged bolt 14 and thumb nut 15.

An incandescent lamp 16 is adjustably mounted in the casing 10. The lamp 16 is screwed into a porcelain screw socket 17 which is mounted on the bracket 13. The bracket in turn is vertically adjustable by being held by a post 19 and a guide rod 20. A reflector 21 is also mounted in the casing 10. The light source in lamp 16, when in focus with this reflector, is entirely above the globe 11 and throws its light downwardly to be diffused by the globe 11.

In the globe 11 I mount, vertically, an elongated electric discharge lamp 22 which may be a mercury vapor lamp for example. The light given off by such lamps usually lacks certain rays of the spectrum resulting in a peculiar color. Thus the mercury light lacks the red rays of a complete spectrum and gives off a green light, and sodium lacks everything but the yellow rays and is monochromatic. The advantage in the use of these lamps lies in the fact that they are very efficient and can be consequently manufactured for producing a large amount of light without an undue increase in the size of the lamp as compared to the ordinary incandescent lamps. It is, therefore, desirable to manufacture a lighting unit having a discharge lamp as the main source of light and a

second lamp such as an incandescent lamp for example as the complementary light to furnish the necessary complementary color for offsetting the deficiency in the color spectrum of the discharge lamp.

In accordance with my invention, I mount the incandescent lamp within the reflector and casing so that its light is projected into the globe and thereby mingled with the light emanating from the discharge lamp. With this arrangement the source of the complementary light, in the present case, the filament of the incandescent lamp, is not visible, yet the light therefrom is mingled with that of the discharge lamp. This is especially useful in decorative lighting wherein the visibility of the filament, or light source, is objectionable.

This arrangement also results in a color correction of the light generated by the discharge lamp with a comparatively small expenditure of energy in the complementary lamp. The mounting of the complementary light source, or lamp, above the globe and entirely within the casing confines the light within a comparatively narrow beam which is projected downwardly into and through the diffusing globe, so that substantially all of this complementary flux intermingles with that portion of the discharge lamp flux which is projected below the lighting unit.

The region where color correction is most desirable, in street lighting, is that region which is below the suspended unit and above the street pavement wherein the faces of the pedestrians move. The deficiency in the color spectrum of the light is most noticeable on the facial features and such deficiency becomes most noticeable under the light source where the light intensity is greatest. Therefore, by substantially confining the complementary light flux to this region which is a comparatively small portion of the region into which the light of the discharge lamp is projected, the necessary complementary light flux and its source may be made proportionally smaller than the main source, which in the present instance is the discharge lamp, and, therefore, the efficiency of the unit remains substantially unaffected.

In accordance with another phase of my invention, I mount the discharge lamp on a supporting bracket which comprises the current leads and support this bracket in turn on the globe holding collar. When the globe holder is released so as to swing on its hinge, the discharge lamp moves with it. In that position of the globe, either or both the incandescent and the discharge lamps may be renewed. The discharge lamp is also discon-

nected at this position of the globe since the conductors are removed from a pair of oppositely arranged contacts located in the casing.

Referring to Fig. 1, the elongated mercury lamp 22 is provided with a screw socket 22a which is supported by the bracket comprising current conductors 23 and 24. The conductors in the present construction are made of strips of low resistance metal, such as copper, and are separated by insulating blocks 25 and 26.

The insulating block 25 is attached to a bracket 27 by screws 25a and the bracket 27 is attached to the globe holder collar 12. This is clearly shown in Fig. 2.

The conductors 23 and 24 project above the block 25 and are separated at their ends by the block 26 which is rigidly fastened to them. When the globe is raised and locked in its closed position, the ends of these conductors engage respectively the oppositely arranged contacts 28 and 29 in the manner of a knife blade switch as illustrated in Fig. 3. The contacts 28 and 29 are reinforced respectively by springs 30 and 31 mounted on an insulating block 32. This block 32 is fastened to a bracket 33 inside of the casing 10. The contacts are mounted between the casing and reflector above the edge of the reflector so that there is no danger of an operator touching these contacts in case the lighting unit is energized while it is being serviced.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. In a lighting unit, the combination of a casing, an electric lamp mounted therein, a diffusing globe, a holder for said globe attached to said casing, a second lamp mounted in said diffusing globe and conductors for carrying current to said second lamp and projecting from said globe into said casing, and means whereby said conductors are simultaneously disconnected from the lamp circuit with the removal of the globe holder from said casing.

2. In a lighting unit, the combination of a casing, an electric lamp mounted therein, a diffusing globe, a holder for said globe attached to said casing, a second lamp mounted in said diffusing globe, a support therefor attached to said globe holder, conductors on said support projecting from said second lamp into said casing, and a switch in said casing moved to open position when said globe holder is detached from said casing.

3. In a lighting unit, the combination of a casing, an electric lamp mounted therein, a diffusing globe and holder therefor attached to said casing, a second lamp mounted in said diffusing globe, a support therefor comprising a pair of electrical conductors attached to said globe holder

and projecting above said holder into said casing when said globe holder is attached to said casing, and a pair of cooperating contacts mounted in said casing engaging the said conductors only when said globe holder is attached to said casing.

4. In a lighting unit, the combination of a casing, an electric lamp mounted therein, a diffusing globe, a holder for said globe hinged to said casing, a second lamp mounted in said diffusing globe, a pair of conductors for supporting said second lamp attached to said holder at a point opposite to the hinge for said holder, a pair of contacts mounted in said casing for engaging the ends of said supporting conductors whereby the said second lamp is energized only when said globe holder is in closed position.

5. In a lighting unit, the combination of a casing containing an electric lamp and reflector therefor, a diffusing globe and holder therefor, means for attaching said holder to said casing, a second lamp mounted in said globe, an insulator attached to said holder, a pair of conductors for supporting said second lamp mounted upon said insulator, the ends of said conductors projecting into said casing behind said reflector, and a pair of contacts mounted in said casing behind said reflector for engaging the ends of said conductors.

6. In a street lighting unit, the combination of a casing and a diffusing globe supported thereby, an electric discharge lamp having a light deficient in one or more of the colors of the spectrum mounted substantially in the center of said globe, a downwardly facing reflector mounted in said casing directly above said discharge lamp, a complementary light source mounted in said reflector and wholly within said casing for supplying substantially the deficiency of said spectrum, said reflector directing the light from said second lamp downwardly into said diffusing globe whereby by the use of a comparatively small lamp the light from said first lamp is complemented in the vicinity directly below the lighting unit without the complementing light source being visible.

7. In a lighting unit, the combination of a casing, a diffusing globe adjacent and attached thereto, a main source of light comprising an electric discharge lamp mounted substantially within and in the center of said globe, a secondary source of light mounted wholly within said casing and above said discharge lamp and substantially invisible when both lamps are energized, and a reflector in said casing for projecting the light of said secondary lamp downwardly into said globe where the light flux of the complementary light source is confined to and intermingled with the flux of the discharge lamp which is projected through the diffusing globe below said lighting unit.

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