Fitting for Lighting Purposes.

To all whom it may concern:

Be it known that I, Haydn Thies Harrison, a subject of the King of Great Britain and Ireland, residing at Westminster, England, have invented Improvements in or Relating to Fittings for Lighting Purposes, of which the following is a specification.

This invention relates to fittings for street lighting purposes of the type comprising upper and lower reflectors with an interposed source of light.

The present invention has for its object to provide improved fittings of the type referred to whereby the luminous flux from a single light source can be concentrated and directed into those fields where increased power is required, the illumination that results being of a more uniform character than usual.

The invention also has for its object to prevent any shadow being cast below the lamp fittings.

For these purposes, fittings for lighting purposes are constructed as will now be described with the aid of the accompanying drawings whereof Figs. 1 and 2 are diagrammatic views, at right angles to each other, illustrating partly in section one arrangement of lamp fitting according to the invention. Fig. 3 is a view similar to Fig. 1 of another arrangement. Fig. 4 shows partly in vertical section and partly in side elevation a hanging street lantern with a lamp fitting of the kind shown in Figs. 1, 2 and 3, the view being similar to Fig. 2.

As shown in Figs. 1 and 2, the lamp fitting comprises an upper concave condensing reflector e and a source of light consisting of a high power incandescent lamp d having a bulb provided with a horizontal filament arranged to produce a flat horizontal radiant area substantially at the focus of the said reflector e and in a horizontal plane containing the lower edge of the said reflector, and lower downwardly diverging reflecting surfaces b arranged below the said upper reflector e and formed of thin sheet material having parallel outer and inner faces whose vertical upper ends coincide with the centre of the radiant area and having between their inner faces an unobstructed vertical passage open to and below the lamp bulb and through which light rays from the radiant area can pass to the ground or space below the lamp fitting. The lamp is suspended from above so that its holder will not cast a shadow downward.

Each reflector b is, in this particular case, cut away as at c, so that the pair of reflectors may actually meet at the apex, but if desired each reflector need not extend beyond the position represented by the dot and dash line b' in Fig. 2. The rays of light proceeding from the said horizontal radiant area of the lamp filament into the upper hemisphere above are concentrated by the reflector e which is shown as a short focus parabolic reflector. The rays of light concentrated by the upper reflector e are reflected downward and received by the pair of plane reflectors b arranged as shown so that illumination due to the reflected rays will take place in two directions, as for example up and down a road. It will be clear from Fig. 1 that the reflectors 5 will offer practically no obstruction to the rays which naturally emanate from the lower part of the lamp so that the lower portion of the lamp within the confines of the reflectors is not affected so far as its illuminating qualities are concerned, it being only the rays which are collected by the concentrating reflector e and diverted to the directive reflectors b that serve to modify the illumination resulting from the remainder of the lamp.

In Fig. 3, a truncated conical directing reflector b'' is employed the virtual vertex being coincident with the center of the horizontal radiant area of the filament of the lamp a''.

A truncated pyramidal directing reflector could obviously be arranged in a similar manner to the conical one.

In Fig. 4, a fitting arrangement of the kind illustrated in Figs. 1 and 2, is embodied in a hanging street lantern d the electric lamp being carried by a holder a' within the metal suspending cap or cover d'. The parabolic reflector e is supported by a ring f carried by the lantern d. The lower glazed portion of the lantern is carried by a ring f' that is normally held in the raised position shown, for closing the lantern, by catches one of which is shown at f'', but can, by disengaging the catches therefrom, be allowed to descend on fixed guide rods one of which is shown at f''', to admit of access being gained to the interior of the lantern.
What I claim is:—

1. In an electric lamp fitting, the combination of an upper concave condensing reflector, an electric incandescent lamp having a horizontal filament arranged to produce a flat horizontal radiant area substantially at the focus of said reflector and in a horizontal plane containing the lower edge of said reflector, and lower downwardly diverging reflecting surfaces arranged below said upper reflector and formed of thin sheet material having parallel outer and inner faces whose virtual upper ends coincide with the center of the radiant area and having between their inner faces an unobstructed vertical passage open to and below the lamp bulb and through which light rays from the radiant area can pass to the ground or space below the lamp fitting, substantially as described for the purpose set forth.

2. In an electric lamp fitting, an upper parabolic reflector having a short focus, an electric incandescent lamp extending through the top of said reflector and having a horizontal filament arranged to produce a flat horizontal radiant area substantially at the focus of the reflector and coplanar with the lower edge of said reflector, and lower downwardly and outwardly reflecting surfaces arranged below said upper reflector and formed of thin sheet material having parallel outer and inner faces whose virtual upper ends coincide with the center of the radiant area, and having between the inner faces an unobstructed vertical passage open at the bottom and having the lamp bulb at the top, substantially as described for the purpose set forth.


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