

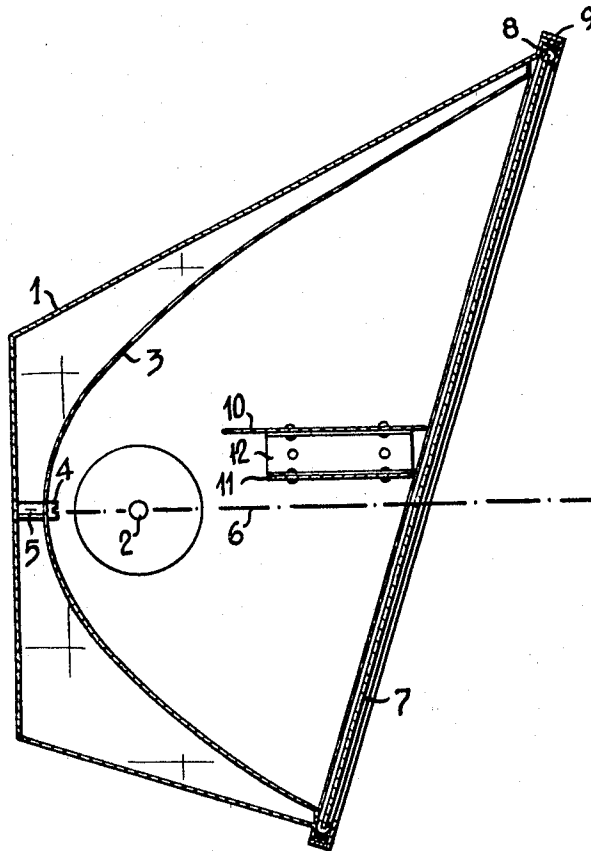
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ILLUMINATING FLOODLIGHT

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ILLUMINATING FLOODLIGHT

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2 Claims. (Cl. 240—1.2)

ABSTRACT OF THE DISCLOSURE

A floodlight mounted on a pole for use primarily in airports, including a reflector and screening plates. The floodlight which provides illumination of the area extending from the base of the pole to a substantial distance forwardly thereof while screening out rays of light tending to be reflected upwardly which could temporarily blind aircraft pilots.

The present invention has for its object an illuminating floodlight or projector, chiefly for airport parking places, large motor car parks and generally speaking all areas where safety or local conditions forbid the use of high supporting means for illuminating purposes. The improved floodlight according to the invention is of the type including a casing containing a linear luminous source and a cylindrical reflector having a substantially parabolic cross-section. The novel feature of the invention consists in that the reflector is constituted by two sections of unequal lengths extending to either side of its optical plane passing through the axis of the luminous source and the axis of the parabola, the casing being closed by a transparent cover member whose plane is oblique with reference to said optical plane.

Through this arrangement, it is possible to obtain a comparatively uniform illumination of a large area and to illuminate by means of a single apparatus the whole space extending from the base of the pole carrying the apparatus up to a large distance to the front thereof.

The accompanying drawing illustrates by way of example a preferred embodiment of a floodlight according to the invention. The single figure of said drawing is a transverse cross-section of said floodlight.

The floodlight illustrated comprises a casing 1 containing a linear source of light 2 and a cylindrical reflector 3 having a substantially parabolic cross-section. The surface of said reflector is thus constituted by a portion of a cylindrical surface generated by a straight line parallel with the longitudinal axis of the light source 2, which axis is seen endwise in the drawing. Said straight line or generating line follows a parabolic curve lying in a plane perpendicular to the axis of the light source.

Said reflector 3 is made of a treated sheet of aluminum forming the reflecting surface, said sheet being secured to the rear of the casing 1 by means of screws 4 and stays 5. The upper and lower edges of said aluminum sheet resiliently engage the inner upper and lower surfaces of the casing.

The upper section of the reflector 3, that is the portion lying above the optical plane 6 of the projector passing through the axis of the source of light, extends further outwardly and upwardly from the plane 6 than the lower section of the reflector located underneath the plane and consequently the plane defining opening of the projector is oblique with reference to said plane 6. Said opening is closed by a glass pane 7 of which the periphery is fitted inside a packing 8 of a yielding material, which packing is clamped between the outer edge of the casing 1 and a frame 9.

When the floodlight is to illuminate an airport parking

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place, it is important for the luminous source facing a pilot arriving along a taxiway to be concealed to said pilot, since the latter is still in a dark area and risks being temporarily blinded. To this end, the floodlight includes two elongated plates 10 and 11 forming screens, said plates extending in parallelism with and above the optical plane 6. The longitudinal axis of these two plates is parallel with the axis of the luminous source 2. Said plates are secured at each of their ends to a U-shaped member 12 screwed into a corresponding lateral wall of the casing 1.

In order to reduce to the utmost the parasitic rays escaping upwardly through the opening closed by the glass pane 7, the upper surfaces of the plates 10 and 11 are of a dull black colour and cannot reflect any light. In contradistinction, their lower surfaces are reflecting so that the rays cut off by the screens formed by said plates 10 and 11 are directed downwardly.

The main beam passing out of the floodlight is constituted by the rays reflected by the reflector 3, which rays are substantially parallel and ensure the illumination of the ground over an area which is at a comparatively large distance to the front of the floodlight. As to the area extending between the area illuminated by said beam and the floodlight itself, it is subjected to the impact of the rays passing directly out of the source 2 and of the rays reflected by the lower surfaces of the plates 10 and 11.

Of course, the casing 1 is secured in an angularly adjustable manner on a support which is not illustrated.

I claim:

1. A floodlight primarily for use in airport areas comprising,

(a) a casing including a rear wall, top and bottom walls diverging from said rear wall, end walls and an open front, said top wall extending forwardly to a point beyond the outer edge of the bottom wall so that the outer edges of said top and bottom walls lie in an oblique downwardly facing plane,

(b) a reflector extending longitudinally in length and concave in section and having an optical plane substantially horizontally disposed and secured within the casing facing the open front thereof, said reflector being substantially in the shape of a parabola in cross section, the upper portion of the reflector lying above said optical plane being of greater length than the lower portion of the reflector lying below said optical plane, the edges of both of said upper and lower portions of the reflector terminating adjacent the related edges of said top and bottom wall of the casing,

(c) a linear source of light within said reflector and secured to said casing, said source of light lying in said optical plane substantially in registry with the parabola focus of the reflector, the surface of said reflector having generatrices parallel to the axis of the source of light,

(d) a horizontal planar screening plate mounted between end walls of said casing and between the upper and lower portions of said reflector, said screening plate disposed adjacent, above and parallel to the optical plane of said light source, said screening plate extending from a point adjacent said casing open front rearwardly to a point spaced from said light source whereby all light issuing from said light source above said optical plane and to the rear of said screening plate is reflected from the upper portion of said reflector and projects uninterruptedly from the front of said casing in a forward and downward direction while light issuing from said light source above said optical plane and forward of the rear of said screening plate is reflected from the undersurface thereof and projects from the front of said casing in a for-

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ward and downward direction, and all of the light issuing from said light source below said optical plane is directed uninterruptedly in a forward and downward direction from the front of said casing, and

(e) a transparent cover member secured to the edges of the upper and lower walls of said casing to close the open front thereof.

2. A floodlight primarily for use in airport areas according to claim 1, including a pair of said screening plates above the optical plane of said light source, the lowermost of said screening plates extending rearwardly a lesser distance than the uppermost of said screening plates and said plates having a nonreflective upper surface and a reflective lower surface.

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References Cited

UNITED STATES PATENTS

1,493,426	5/1924	Bowman	240—46.31
1,528,279	3/1925	Tolman	240—46.31
2,827,561	3/1958	Kennedy	240—90 XR
3,254,205	5/1966	Cobb	240—3

FOREIGN PATENTS

627,417	6/1927	France.
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