Oct. 6, 1959 D. L. CALMES 2,907,870

WIDE BEAM FLOODLIGHT

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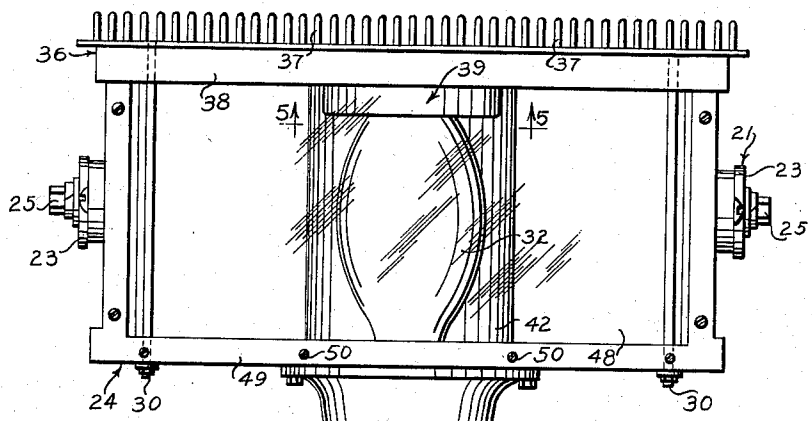


Fig 1

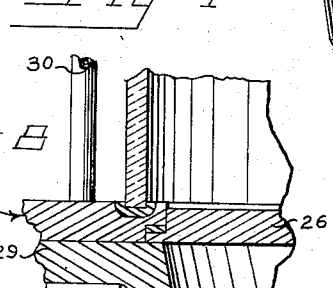


Fig 6

Fig 8

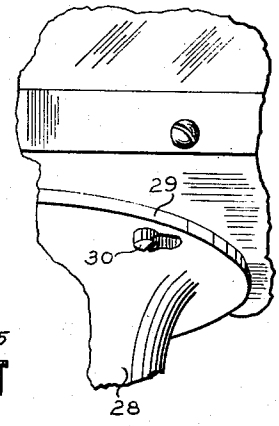
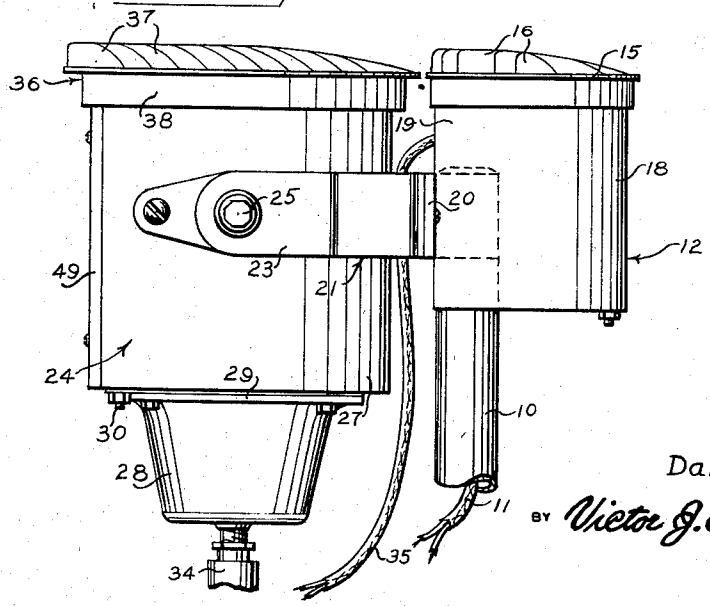


Fig 2



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Fig 3

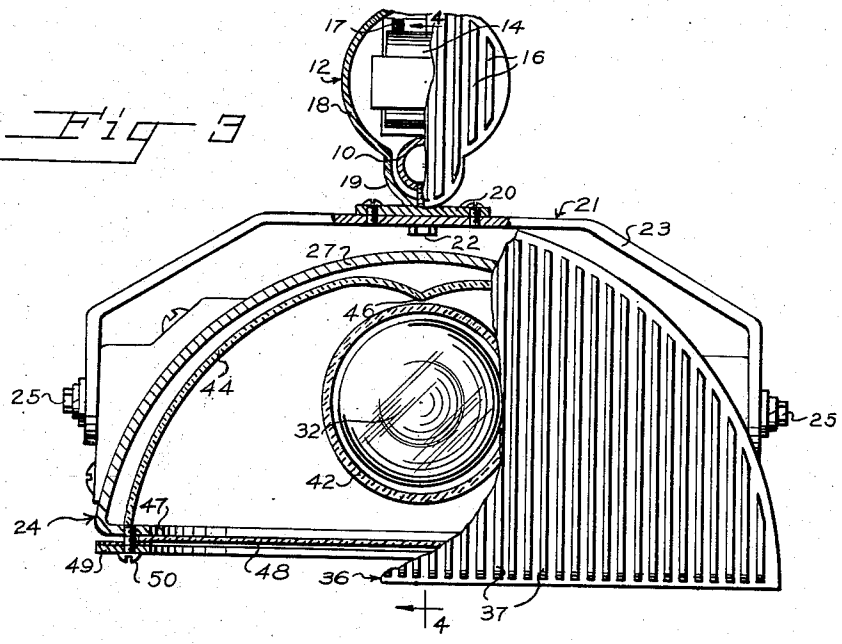


Fig 5

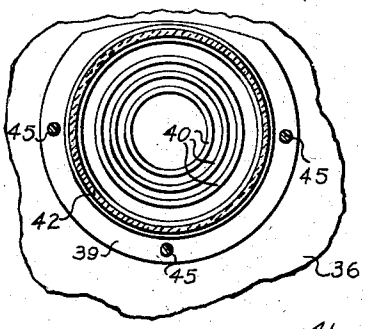


Fig 4

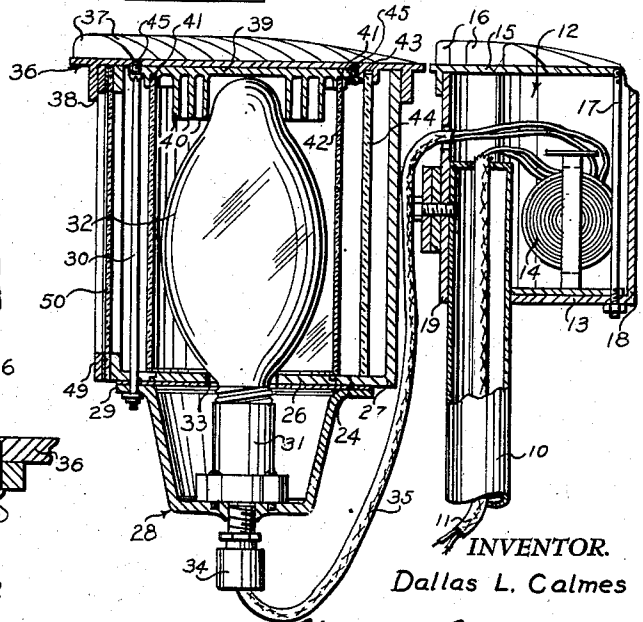
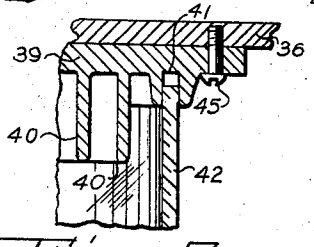


Fig 7



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2,907,870

Patented Oct. 6, 1959

2,907,870

WIDE BEAM FLOODLIGHT

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Application June 27, 1956, Serial No. 594,217

2 Claims. (Cl. 240—3)

This invention relates to illuminating means and more particularly to a wide beam floodlight.

The object of the invention is to provide a wide beam floodlight which is constructed so that heat will be efficiently dissipated and whereby there will be protection from explosions or the like.

Another object of the invention is to provide an illuminating mechanism which includes in one unit a lamp or bulb as well as the ballast so that the entire unit is compact, the device of the present invention including a novel reflector which insures that all of the light rays will be efficiently reflected towards the desired direction, there being an improved means for dissipating heat from the hot lamp so that there will be no damage or breakage to the various parts.

A further object of the invention is to provide a wide beam floodlight which includes a housing and contains the lamp or bulb, and whereby the housing can be pivoted or adjusted as desired so that the beam of light can be directed in any desired direction.

A further object of the invention is to provide a wide beam floodlight which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application and in which like numerals are used to designate like parts throughout the same.

Figure 1 is a front elevational view of the wide beam floodlight, constructed according to the present invention.

Figure 2 is a side elevational view of the assembly of the present invention.

Figure 3 is a top plan view of the floodlight, with parts broken away and in section.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a sectional view taken on the line 5—5 of Figure 1.

Figure 6 is a fragmentary elevational view illustrating the connection between the socket enclosure and the housing.

Figure 7 is a fragmentary sectional view illustrating certain constructional details of the apparatus.

Figure 8 is a view illustrating the bottom portion of the housing.

Referring in detail to the drawings, the numeral 10 designates a hollow post or member which may have wires 11 extending therefrom, and the wires 11 may be connected to a suitable source of electrical energy. Mounted on the upper end of the member 10 is a hollow casing 12 which includes a horizontally disposed bottom wall 13. The casing 13 is adapted to hold ballast 14 therein. Arranged on the upper end of the casing 12 is a closure member 15 which has a plurality of spaced apart dissipating fins 16 thereon. The closure member 15 is retained in place on the casing 12 by means of securing elements such as bolts 17 which extends between the bottom wall 13 and the closure member 15,

Figure 4. The casing 12 includes an enlarged portion 18 in which is seated the ballast 14, and the casing 12 further includes a smaller portion 19 which receives the upper end of the member 10. Formed integral with the casing 12 or secured thereto is a plate 20, Figure 3, and a bracket 21 is secured to the casing and plate 20 through the medium of a suitable securing element such as the bolt 22.

The bracket 21 includes a pair of spaced apart arms 23 which are connected to a hollow housing 24 by means of bolts or pins 25. Thus, by loosening the bolts 25, the housing 24 can be adjusted whereby the direction in which the light rays are discharged can be regulated or controlled as desired.

The housing 24 includes a horizontally disposed bottom wall 26 and a curved side wall or back wall 27. Arranged below the bottom of the housing 24 is a hollow enclosure 28, and the enclosure 28 is provided with a horizontal flange 29 on its upper surface which may be secured to the bottom of the housing 24 in any suitable manner, as for example by means of bolt and nut assemblies 30, Figure 4. A socket 31 is arranged in the enclosure 28, and a lamp or bulb 32 is positioned in the housing 24. The lower portion of the lamp 32 extends down through an opening 33 in the bottom wall 26 of the housing, and the lower end of the lamp 32 threadedly engages the socket 31. A bushing 34 depends from the socket 31, and conductor wires 35 lead from the bushing 34 to the ballast 14.

Mounted on the upper end of the housing 24 is a cover which is indicated generally by the numeral 36, and the cover 36 is provided with a plurality of heat dissipating fins 37 on the upper end thereof. Depending from the cover 36 is a flange 38 which snugly engages the upper portion of the housing 24. Secured to the undersurface of the cover 36 is a body member 39, and the body member 39 may be secured to the cover 36 by means of securing elements 45. Depending from the body member 39 is a plurality of concentrically arranged rings 40 which also help to dissipate the heat generated by the lamp 32. The body member 39 is provided with a groove 41 which snugly receives therein the upper end of a transparent cylinder 42, and the cylinder 42 surrounds the lamp 32 so as to offer added protection with the device. There is further provided in the cover 36 a groove 43 which receives therein the upper end of a reflector 44. As shown in Figure 3, the reflector 44 is provided with an intermediate outwardly offset portion 46 which serves to insure that all of the light rays will be sufficiently directed outwardly.

The front of the housing 24 is open as at 47, and a transparent lens 48 extends over the cutout or opening 47. A frame 49 is provided for retaining the lens 48 in its proper position, and the frame 49 may be secured to the front portion of the housing 24 through the medium of suitable securing elements such as the bolts or screws 50.

From the foregoing it is apparent that there has been provided a wide beam floodlight. In use the wire 11 may lead to a suitable source of electrical energy and with the lamp or bulb 32 energized the light rays will be directed outwardly through the opening 47 in the front of the housing 24 and these light rays will pass through the transparent plate or lens 48 so that the desired area can be efficiently and effectively illuminated. The casing 12 for the ballast 14 is mounted on the upper end of the member 10, and the housing 24 is arranged contiguous to the casing 12 as shown in the drawings. There is provided the heat dissipating fins 37 and 16 as well as the heat dissipating rings 40 which serve to insure that heat from the lamp 32 will be properly dissipated so that there will be no damage to the various parts

which may result from excessive heat. The lamp 32 is enclosed in the transparent cylinder 42 so that the cylinder 42 acts as a safety enclosure for the lamp 32 and it is especially advantageous when the device is to be used in neighborhoods which require special precautions against explosive hazards. Furthermore, the reflector 44 is shaped so as to include the outwardly extending intermediate offset portion 46 and this construction of the reflector 44 insures that all of the light rays will be properly reflected or directed outwardly with maximum efficiency. By loosening the bolts 25, the housing 24 can be pivoted so that the light rays can be directed in the desired direction.

The present invention is constructed so that there is provided a compact unit whereby the ballast 14 is contiguous to the housing 24. The reflector 44 includes the intermediate offset portion 46 which insures that there will be no blind spots in the reflector whereby the light rays will be properly directed outwardly in the desired direction.

The lamp 32 is arranged in the transparent cylinder 42 so as to minimize danger from explosion as when the device is being used in areas where danger of gases may be present. The upper end of the cylinder 42 is snugly seated in the groove 41 in the body member 39 whereby the cylinder is maintained in its proper position. The reflector 44 is received in the groove 41 to be arranged in the cover 36 so that the reflector will be maintained in its proper position and the device can be readily assembled or disassembled as when parts are to be removed or replaced.

The parts can be made of any suitable material and in any desired shape and size. Suitable gaskets and washers can be used wherever required or desired. The various parts are preferably made of a material which is not effected by heat. With the present invention, an extremely wide beam of light will be directed outwardly through the opening 47 in the direction desired. The cylinder 42 creates a vapor tight enclosure so that the device can be used in hazardous locations. The rings 40 serve to dissipate heat so that this heat will be conveyed to the outer fins 37 on top of the housing. Gaskets may be arranged contiguous to the top and bottom of the cylinder 42. As shown in the drawings, the casing 12 which holds the ballast 14, and the housing 24 are arranged adjacent to each other on top of the member 19 so that a high lumen output is produced. By having the V-shaped or offset portion 46, the entire output of the lamp will be recovered.

The present invention is constructed so that there will be an economy in weight and overall size and the various parts such as the reflector can be removed and replaced without the necessity of replacing the entire unit. The heat dissipating fins insure higher efficiency and longer lamp life, and the ballast enclosure 12 is an integral part of the floodlight itself. Since the heat will be dissipated, there will be less deterioration of the parts through crumbling and melting of the parts or various components. The socket 31 is arranged in the separate enclosure 28 so that there will be less chance of the porcelain cracking from the heat of the lamp. By having the ballast arranged as described, less installation is required since a separate weather proof installation for each component is not necessary. Thus, one fixture does the work of a lot of fixtures. As previously described, the present invention provides an extremely wide beam of useful light.

I claim:

1. A wide beam floodlight comprising a member, a casing secured to said member, a ballast positioned within said casing, a housing positioned adjacent to said casing, a lamp positioned within said housing and electrically connected to said ballast, a transparent cylinder positioned within said housing and surrounding said lamp, a reflector positioned within said housing behind said lamp, said reflector having a curved shape and being provided with an outwardly offset portion intermediate its ends, heat dissipating means embodying fins on top of said casing and on top of said housing, concentric rings for conveying heat away from the interior of said housing to the fins on top of said housing, a socket enclosure positioned below said housing, and a bracket secured to said casing and embodying angularly arranged arms connected to the sides of said housing.

2. A wide beam floodlight comprising a member, a hollow casing mounted on said member and including a bottom wall, a ballast positioned within said casing, a closure member mounted on said casing, a plurality of heat dissipating fins positioned on the top of said closure member, conductor wires extending through said member and connected to said ballast, a housing positioned adjacent to the upper end of said member and spaced from said casing, said housing embodying a bottom wall and a side wall, an enclosure positioned below said housing and embodying a flange secured to the lower surface of said bottom wall, there being a central opening in the bottom wall of said housing, a lamp positioned within said housing and having a portion thereof projecting through the opening in the bottom wall of said housing, a socket positioned in said enclosure, said lamp being mounted in said socket, conductor wires leading from said socket to said ballast, there being an opening in front of said housing, a transparent heat resistant lens extending across said last named opening, a frame secured to said housing for retaining said lens in place, a reflector positioned in said housing behind said lamp, a cover mounted on said housing, a plurality of heat dissipating fins on top of said cover, a flange depending from said cover and surrounding said housing, a transparent cylinder surrounding said lamp, a body member secured to the under surface of said cover and including a plurality of depending concentrically arranged heat dissipating rings, there being an annular groove in said body member for receiving the upper end of said cylinder, a bracket secured to said casing and embodying angularly arranged arms connected to the sides of said housing, said reflector having a curved shape and being provided with an outwardly offset portion intermediate the ends thereof.

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