United States Patent [19]

Grindle

[11] **3,755,665**

[45] **Aug. 28, 1973**

[54] **FLOODLIGHT**

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[22] Filed: **Sept. 25, 1972**

[21] Appl. No.: **291,781**

Related U.S. Application Data

[63] Continuation of Ser. No. 174,399, Aug. 24, 1971, abandoned.

[52] **U.S. Cl.** **240/41.55,** 240/3, 240/11.4, 240/25

[51] **Int. Cl.** **F21v 17/00**

[58] **Field of Search** ..... 240/41.55, 41.5, 240/25, 3, 1.2, 11.4, 73 R

[56] **References Cited**

UNITED STATES PATENTS

3,539,795	11/1970	Hawley	240/3
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Primary Examiner—Richard L. Moses
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[57] **ABSTRACT**

Floodlight housing is divided into front and rear sections along a diagonal line extending from the upper front edge to the lower rear edge of the housing. The rear section is hingedly connected at its bottom to the front section by means of a separable hinge device so that the rear section can be tilted back to allow access to the lamp for replacement thereof, and to enable the rear section to be entirely removed to permit full access to the electrical operating components mounted in the front section for servicing or replacement thereof.

10 Claims, 5 Drawing Figures

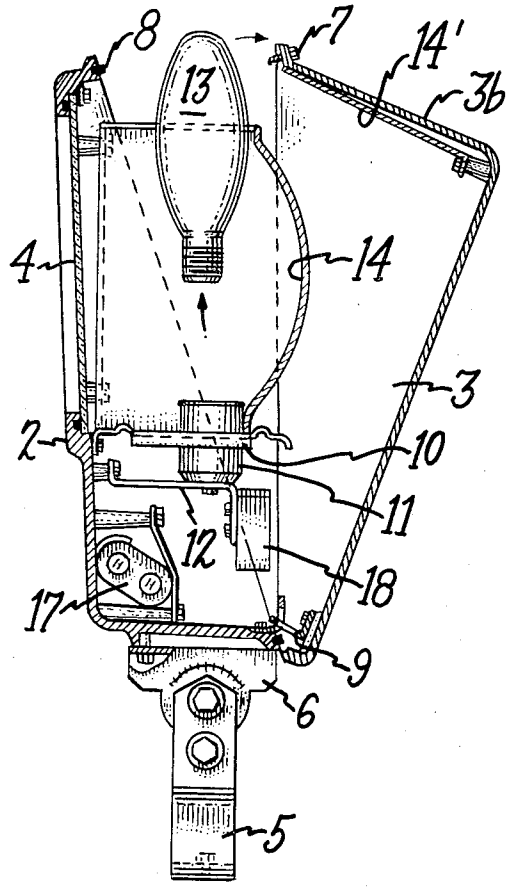


Fig. 1.

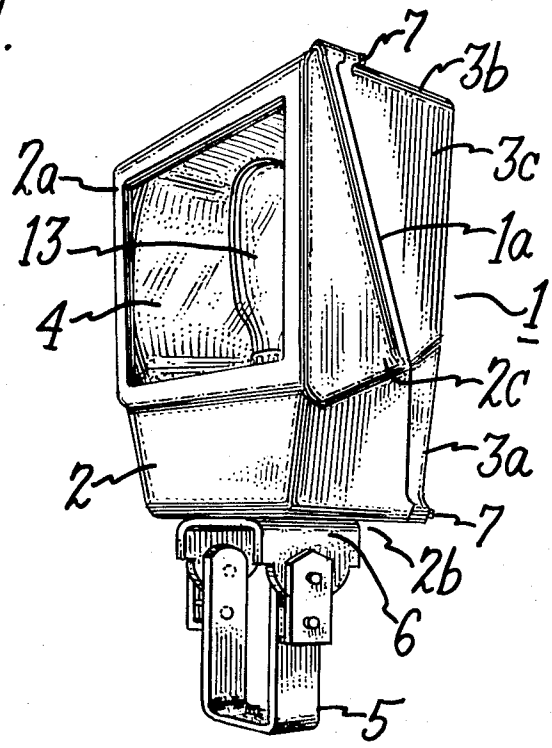
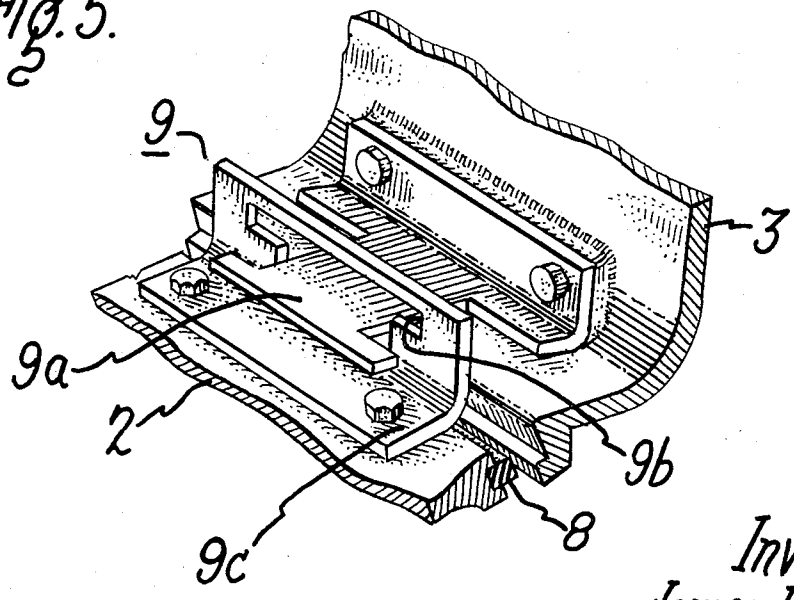


Fig. 5.



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Fig. 2.

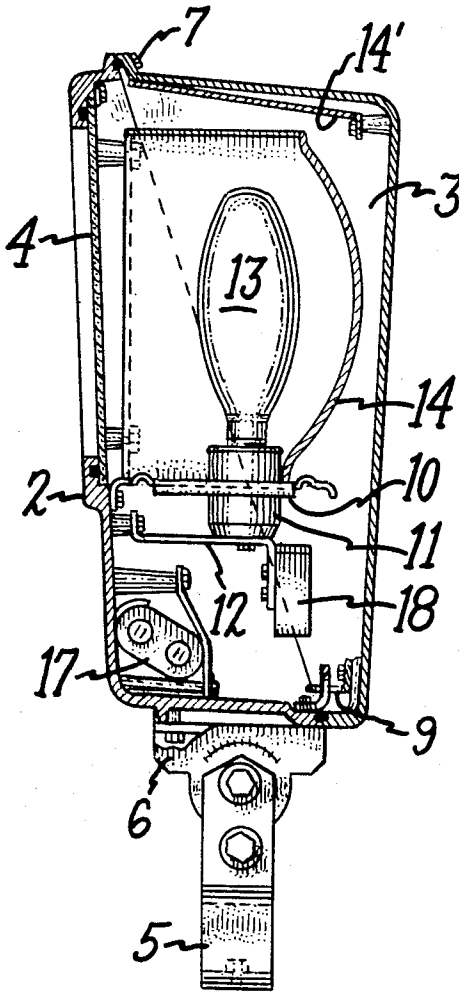
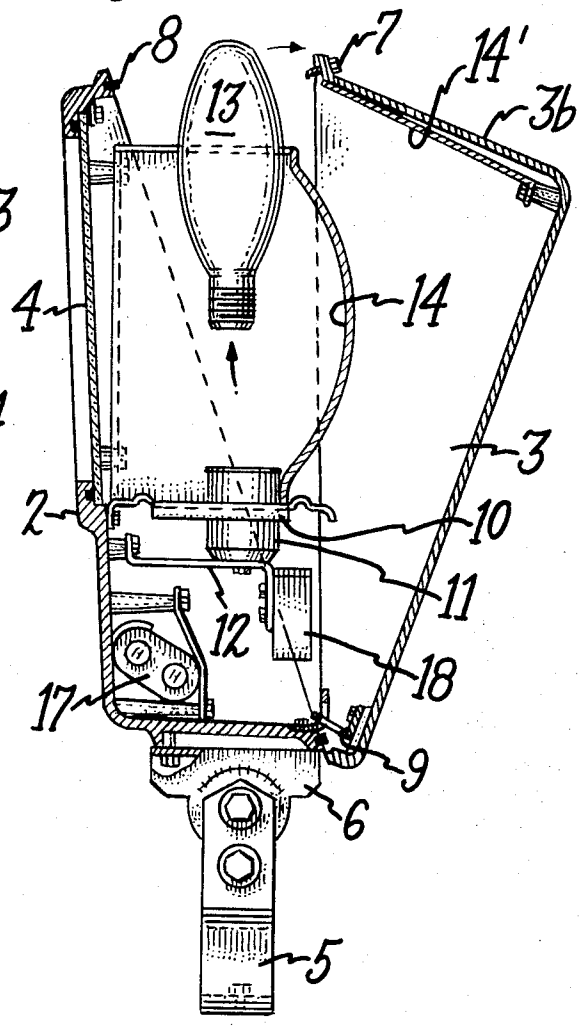
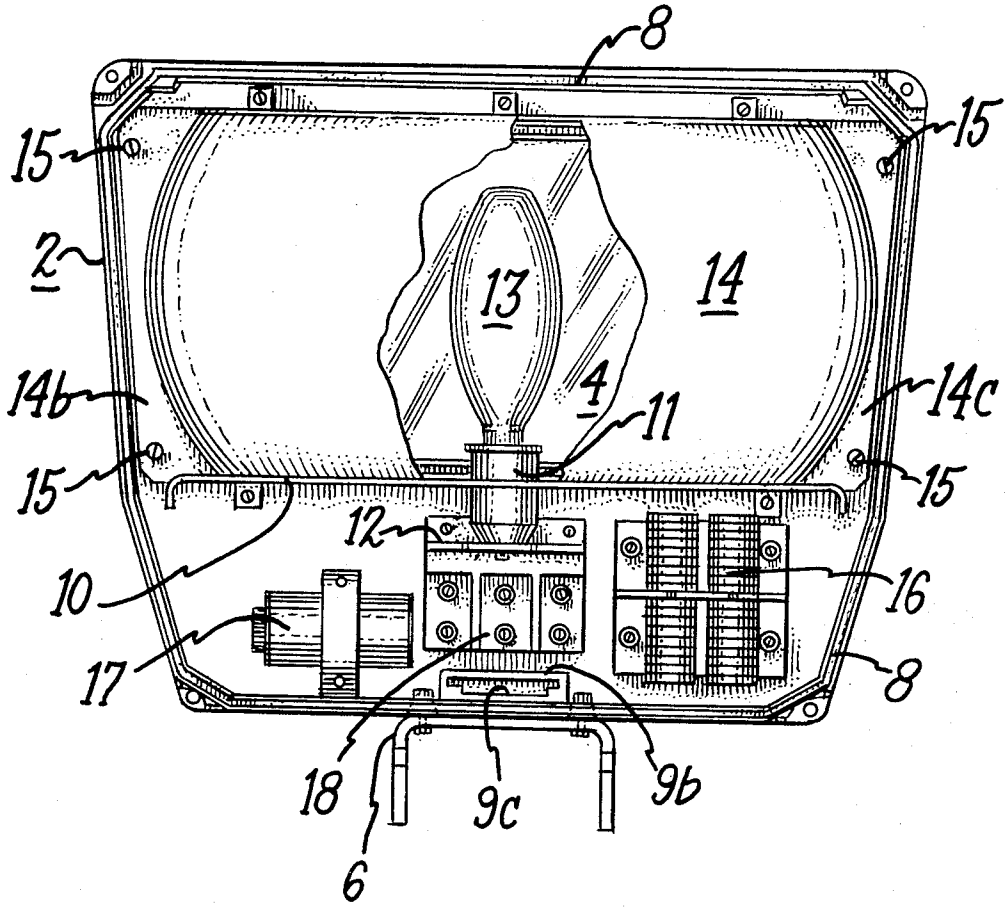


Fig. 3.



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Fig. 4.



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FLOODLIGHT

This is a continuation of application Ser. No. 174,399 filed Aug. 24, 1971 now abandoned.

The present invention relates to floodlights, and more particularly to a floodlight adapted for use in various outdoor lighting applications.

Floodlight devices of the above type conventionally comprise a housing with a glass-covered front and enclosing a light source and a reflector for directing the light from the source, and containing electrical components such as ballast circuit elements for operation of the light source when the latter is of the gaseous discharge lamp type. Known flood-lights of this type, however, have been subject to certain disadvantages, such as being relatively expensive and difficult to manufacture, cumbersome to install and inconvenient to maintain in the field, and lacking adequate adaptability and adjustability for various purposes and conditions.

It is an object of the invention to provide an improved floodlight of the above type, which is readily and economically manufactured and assembled, and is capable of rapid installation and simple maintenance.

It is another object of the invention to provide a floodlight construction of the above type having built-in electrical components for operating an electrical discharge lamp, and providing for ready installation of and access to such components for assembly, repair and servicing.

It is a particular object of the invention to provide a housing construction for a floodlight of the above type which is readily disassembled to provide access to the light source and associated operating components for easy removal and replacement.

Other objects and advantages will become apparent from the following description and the appended claims.

With the above objects in view, the present invention in one of its aspects relates to a floodlight which comprises a housing having top, bottom, front and rear walls, and opposite side walls, the housing being divided along lines of separaton extending diagonally along the side walls from the top of the front wall to the bottom of the rear wall, so as to comprise a rear section including the top wall and a front section including the bottom wall, the front section having a window therein, a reflector mounted on the front section facing the window, and a lamp removably mounted on the front section between the reflector and the window, the rear section being detachably connected to the front section for movement away therefrom to provide ready access to the lamp and the reflector.

The invention will be better understood from the following description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of an embodiment of the floodlight of the present invention;

FIG. 2 is a transverse sectional view of the FIG. 1 floodlight;

FIG. 3 is a similar sectional view showing the rear housing section of the floodlight in rearwardly tilted position;

FIG. 4 is a rear elevational view of the front floodlight housing section with the rear housing section removed; and

FIG. 5 is an enlarged detail view of the hinge device connecting the floodlight housing sections.

Referring now to the drawings, and particularly to FIG. 1, there is shown a floodlight constructed in accordance with the invention which comprises a generally rectangular housing 1 formed of a front housing section 2 and a rear housing section 3 which are separable along a dividing line 1*a* extending diagonally along the opposite side walls from the top of front wall 2*a* to the bottom of rear wall 3*a*. Thus, rear section 3 comprises rear wall 3*a*, top wall 3*b* and portions of the opposite side walls 3*c*, and front section 2 comprises front wall 2*a*, bottom wall 2*b* and the remaining complementary portions 2*c* of the opposite side walls. Front wall 2*a* has a rectangular window opening therein closed by a transparent window pane 4, such as tempered glass.

At its bottom, floodlight 1 has secured thereto a trunnion bracket 5 by which the floodlight may be mounted on any desired supporting surface. Trunnion bracket 5 is pivotally attached to flanged mounting bracket 6 fixed to the bottom wall 2*b* of floodlight housing 1, so that the floodlight may be adjusted to desired position about the pivot axis.

Rear housing section 3 is secured in assembly with front section 2 by means of screws 7 at the four corners of the housing, and the mating edges of the two housing sections are arranged in fluid tight sealing relation by means of intervening compressible gasket 8 (see FIGS. 3 and 4) mounted in a groove which extends around the rearward opening of front section 2. Rear section 3 is hingedly connected at its bottom portion to the adjacent portion of front section 2 by means of a separable hinge device 9, shown in detail in FIG. 5. The hinge device in the illustrated embodiment comprises a T-shaped projection 9*a* secured to rear section 3 which fits loosely into T-shaped slot 9*b* formed in an upstanding flange of lug 9*c* secured to front section 2. The arrangement is such that when rear section 3 is unscrewed from front section 2, it may be tilted back away from the front section as shown in FIG. 3 and held in that position by the engagement of projection 9*a* with the lower portion of the upstanding flange of lug 9*c*. The width of the upper portion of T-shaped slot 9*b* is greater than the maximum width of T-shaped projection 9*a*, and thus, to remove rear section 3 entirely away from front section 2, it need only be moved to upright position and raised slightly to enable the T-shaped projection 9*a* to be withdrawn rearwardly through the upper portion of T-shaped slot 9*b*.

As seen in FIG. 4, the interior of front housing section 2 is divided into upper and lower compartments by an elongated metal partition plate 10, which is suitably secured at its flanged front edge to front section 2 (see FIGS. 2 and 3) and extends acoss the interior of the assembled floodlight housing. In its central portion, plate 10 is formed with an aperture through which lamp socket or lampholder 11, mounted on bracket 12, passes from the lower compartment to the upper compartment and threadably receives the base of lamp 13 which extends upwardly in the upper compartment opposite window 4. Arranged extending around the rear and sides of lamp 13 is reflector 14, which is constituted by a one-piece member preferably made of aluminum with a concave front reflecting surface having a parabolic shape in both vertical and horizontal dimensions. Such a reflector is disclosed in greater detail in the patent to Wood - U.S. Pat. No. 3,350,554. As seen in FIG. 4, reflector 14, which has flanges 14*b*, 14*c* at its lateral margins, is secured by screws 15 to front

housing section 2. An auxiliary reflector 14' may be mounted on the underside of top housing wall 3*b* if desired or necessary, as shown in FIGS. 2 and 3, so as to reflect outwardly the upward light from the lamp.

Located in the lower compartment of the floodlight housing are electrical components of the ballast circuit associated with gaseous discharge lamp 13 for operating the same. These components include ballast transformer 16 and capacitor 17 which are secured by suitable bracket means to front housing section 2, as shown. Terminal board 18 is also mounted in the lower compartment, such as by attachment to bracket 12.

By virtue of the described arrangement, ready access to lamp 13 is provided by detaching rear housing section 3 from front housing section 2 and tilting rear section 3 backward about its hinge to the position shown in FIG. 3. Thus, lamp 13 is rendered readily accessible through the uncovered top of reflector 14 so that it can be removed upwardly as shown in FIG. 3 and replaced if necessary. To provide complete access to the remaining components mounted on the rear side of front housing section 2, rear section 3 is completely removed as described above, uncovering the entire rear side of front section 2 as seen in FIG. 4 and making all the components mounted thereon immediately and readily accessible for any necessary servicing and replacement operations. In addition to these advantages, the described diagonally divided two-part housing structure provides a large bottom surface on the front section for securing a support bracket or the like, as shown, for mounting the floodlight housing.

While the present invention has been described with reference to particular embodiments thereof, it will be understood that numerous modifications may be made by those skilled in the art without actually departing from the scope of the invention. Therefore, the appended claims are intended to cover all such equivalent variations as come within the true spirit and scope of the invention.

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

1. A floodlight comprising, in combination, a housing having top, bottom, front and rear walls, and opposite side walls, and divided along lines of separation extending diagonally along said side walls from the top of said front wall to the bottom of said rear wall, so as to comprise a rear section including said top wall and a front section including said bottom wall, said front section having a window therein, and a lamp removably mounted on said front section, said rear section being detachably connected to said front section for movement away therefrom to provide ready access to said lamp.

2. A floodlight as defined in claim 1, including electrical means mounted on said front section below said lamp for operating the lamp, said electrical operating means being accessible on removal of said rear section from said front section.

3. A floodlight as defined in claim 2, hinge means at the adjacent bottom portions of said front and rear sections hingedly connecting said sections, whereby said rear section may be tilted rearwardly away from said front section for permitting removal of said lamp through the top of said housing.

4. A floodlight as defined in claim 3, said hinge means comprising a pair of co-acting parts respectively secured to said front and rear sections and separable from one another to permit removal of said rear section from said front section.

5. A floodlight as defined in claim 4, said hinge means comprising means for limiting the extent of tilting of said rear section relative to said front section.

6. A floodlight as defined in claim 3, including a reflector mounted on said front section, said reflector being concave and extending around the rear and sides of said lamp, and defining an opening at its top through which said lamp may be removed.

7. A floodlight as defined in claim 2, including partition means secured to said front section and extending across the interior of the housing dividing the same into an upper compartment containing said lamp and a lower compartment containing said electrical operating means.

8. A floodlight as defined in claim 7, including lamp-holder means secured to said front section in said lower compartment, said lamp being removably mounted in said lamp-holder means.

9. A floodlight as defined in claim 1, and support means secured to said front section for mounting said housing.

10. A floodlight as defined in claim 9, said support means being secured to said bottom wall of said front section.

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