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the size of the parts. The spotlight apparatus is generally indicated at 1, and is supported upon a suitable standard 2 having a two-armed bracket 3 in which are pivoted trunnions 4 carried by the apparatus 1. Suitable means (not shown) may be provided for securing an adjustment of the angular position of the apparatus 1 in respect to the standard 2 and bracket 3 about the axis of the trunnions 4.

The spotlight apparatus 1 may be built up in any suitable form and be of any desired construction, usually sheet metal. As shown, it comprises a substantially octagonal casing 5 having a front end wall structure 6 containing a suitable lens 7 such as a Fresnel lens and also having a rear wall structure 8. Mounted in the rear wall structure 8 is a suitable ellipsoidal reflector 9 associated with which is a high intensity light source, here shown as an incandescent bulb 10. The bulb 10 is conventionally removably mounted in a suitable socket means 11 appropriate for the type of bulb used. It will be understood that conventional type conductors may be supplied in a manner not shown and one or more switches may be provided for controlling the operation of the bulb 10. While the light source is herein shown as an incandescent bulb, it will be understood that other types of light sources, including an electric arc, could be used if desired. Means are provided as shown for moving the lens 7 in a direction axial of the spotlight apparatus 1 for changing the focus in a conventional manner. As shown the lens 7 is held in an annular mounting means 12, which is slidably mounted in a suitable portion of the front end wall 6 and is connected through a bar 13 to a suitable operating handle (not shown) through a portion 14 rigid with the bar 13 and extending through an elongate slot 15 in the casing 5.

Disposed within the casing 5 is a suitable spread lens means shown conventionally at 16 and held in a suitable mounting generally indicated at 17 to the frame of the apparatus, i. e. the casing 5.

Intermediate the ends of the casing 5 there is disposed a transverse wall generally indicated at 18, this wall being suitably secured to the casing 5 in a manner not particularly illustrated and serving to support the iris shutter apparatus, horizontal cut off shutter apparatus of a substantially conventional nature, both as hereinafter described, and the iris shutter protecting means, which latter forms the particular subject matter of the present invention.

The iris shutter apparatus is indicated generally at 19 and per se may be of a conventional type. As such, it includes a plurality of individually adjustable segments 20, which are suitably shaped, mounted and pivoted, so that they may be all simultaneously adjusted and in effect define a substantially circular opening, the diameter of which is adjustably variable between a zero or fully closed position and a maximum diameter provided by the apparatus, all by a single adjustment. This adjustment in practice is effected by means of an annular member 21, Fig. 4, concentric with the iris shutter apparatus and having a radially outwardly extending tab 22 thereon, Figs. 2 and 3, to which may be connected a suitable operating and adjusting means hereinafter described. It will be understood that by moving the tab 22, so that a pintle 23 secured therein and designated in its three positions shown in Fig. 2, 23a, 23b and 23c, the iris shutter

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apparatus will be moved from its fully closed position corresponding to position 23a, through an intermediate position corresponding to 23b, to a fully open position corresponding to 23c.

Conventional means may be employed for moving the iris shutter apparatus between its several positions aforesaid and also many intermediate positions not particularly illustrated, in any desired manner. Such means in the present instance includes a link 24 shown at the fully closed position of the iris at 24a, Fig. 2, at an intermediate position at 24b, and at the fully open position of the iris at 24c. This link 24 is pivoted to the tab 22 at the pintle 23 aforesaid and is pivoted at its other end to a crank arm 25, which is shown in the three positions aforesaid at 25a, 25b and 25c, respectively. The crank arm 25 may be suitably secured to the inner end of a rotatable shaft 26, which is pivoted in the transverse wall 18 and also in a part of the rear wall structure 8. The shaft 26 carries at its outer end a suitable handle 27 by which the iris may be adjusted in a conventional manner.

Means may also be provided in a substantially conventional manner for providing a horizontal cut-off, so as to provide a light spot having substantially horizontal upper and lower boundaries, rather than a circular or oval spot. This means as shown comprises a pair of upper and lower shutters 28 and 29 respectively, mounted for substantially vertical simultaneous movement in suitable guides in the front (left as seen in Fig. 1) side of the transverse wall 18. These shutters may be of any suitable heat resistant material such as stainless steel. The guides in which the shutters are mounted are shown in Fig. 4 and may be considered as conventional in character.

For operating the horizontal cut-off shutters 28 and 29, these shutters are respectively connected to the lower ends of the links 30 and 31, the upper ends of these links being respectively pivoted to the opposite ends of a rocking beam 32, which is pivoted at its center to a suitable fixed part of the apparatus such as the transverse wall 18. For actuating this linkage, the link 31 is shown provided with a laterally extending projection, which is connected by a link 33 to the outer end of a crank arm 34. This crank arm is carried by an actuating shaft 35, which is suitably pivoted in the wall 18 and in the rear wall structure 8 and is provided with an actuating handle 36 at its rear end, accessible to the operator of the apparatus as in the case of the handle 27.

The apparatus thus far described in detail may be assumed to be entirely conventional as to type and novel only as to the particular size and possibly certain special arrangements thereof as will hereinafter be more particularly pointed out.

In devices of this kind, wherein an iris shutter is provided, it is substantially essential as aforesaid to protect the adjustable segments of the iris from damage by radiant heat generated by the light source. This is especially true when using a high intensity light source such as a 3,000 watt incandescent bulb. The iris shutter segments are constructed of material which will be to a maximum extent heat resistant, both as to melting down, and also as to warping or any other manner in which this material could be substantially damaged. Conventionally, these adjustable segments may be made of stainless steel, although the particular construction material is not a part of the present invention.

It may and often is desirable to provide venti-