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J. W. BRENKERT ET AL
FRAMING DEVICE FOR SPOT FLOOD LAMPS

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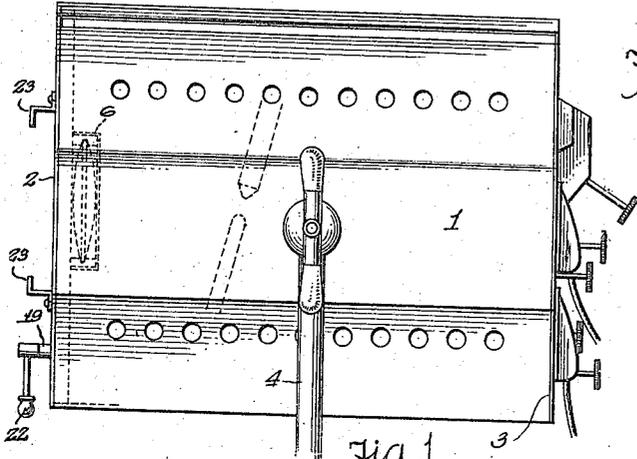


Fig. 2.

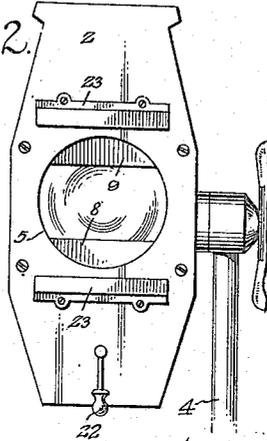


Fig. 1.

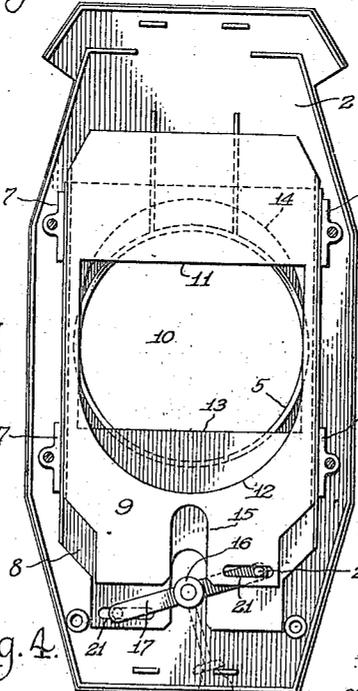
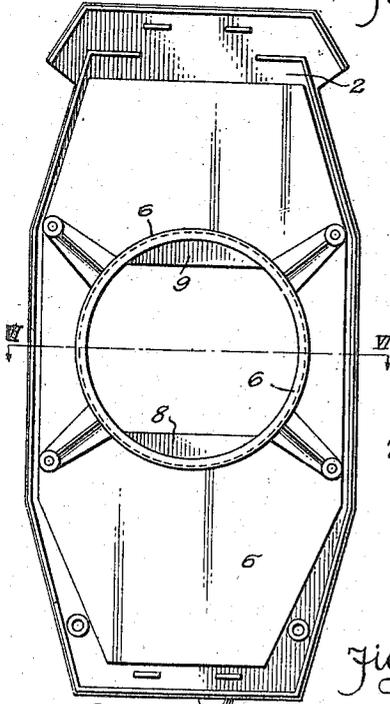


Fig. 4.

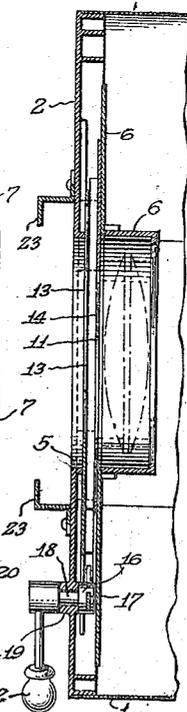


Fig. 5.

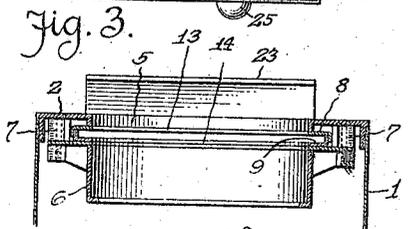


Fig. 6.

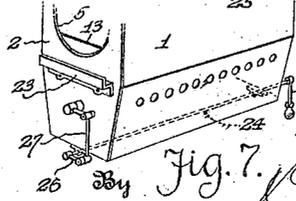


Fig. 7.

Inventors
Joseph W. Brenkert,
Karl Brenkert,

[Signature]
Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH W. BRENKERT, OF DETROIT, MICHIGAN, AND KARL BRENKERT, OF SAN DIEGO, CALIFORNIA.

FRAMING DEVICE FOR SPOT FLOOD LAMPS.

Application filed December 16, 1922. Serial No. 607,239.

To all whom it may concern:

Be it known that we, (a) JOSEPH W. BRENKERT and (b) KARL BRENKERT, citizens of the United States of America, residing at (a) Detroit, in the county of Wayne, State of Michigan, and (b) San Diego, in the county of San Diego, State of California, have invented certain new and useful Improvements in Framing Devices for Spot Flood Lamps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a framing device for spot flood lamps, and our invention aims to eliminate the use of cardboard and sheet metal frames heretofore employed for reducing the effective light projecting area of a lamp house aperture, said boards or frames ordinarily being manually manipulated exteriorly of a lamp house to either increase or decrease the size of a lamp house aperture, so that a ray of light may flood an entire stage, a proscenium, or be directed to a particular spot on or about the stage.

Our invention further aims to provide a built-in framing device embodying shutters or frames movable in synchronism, said shutters or frames having openings with the marginal edges of the openings cooperating either to increase or decrease the effective light projecting area of the lamp, within a housing which incloses the built-in framing device. The shutters or frames are supported for simultaneous operation by a mechanism operatable outside of the lamp house, at either end thereof, according to the manner in which the lamp housing is constructed, consequently an operator can easily and quickly shift the shutters or frames, either for dowsing or for producing a desired lighting effect on a stage, and it is in this connection that our frame or shuttering mechanism does not interfere with the use of a color wheel, iris shutter or any other attachment for producing a desired stage effect.

Our invention further aims to embody a framing device in a lamp house in such a manner that said device cannot bind or become distorted to the extent of becoming inoperable because of heat or other conditions within a lamp house. The movable parts of the framing device are shielded and

protected from intense heat and in one form of our invention are disposed so as to be operated by a minimum number of compactly arranged parts.

The above are a few of the features of our invention and others will appear as the nature of the invention is better understood by aid of the drawing, wherein—

Figure 1 is a side elevation of a lamp house in accordance with our invention;

Fig. 2 is a front elevation;

Fig. 3 is an enlarged elevation of the inner wall of the lamp house;

Fig. 4 is a similar view showing a lens holder removed and illustrating the slidable shutters or frames of our device;

Fig. 5 is a vertical longitudinal sectional view of the same;

Fig. 6 is a horizontal sectional view taken on the line VI—VI of Fig. 3, and

Fig. 7 is a perspective view of a portion of a lamp house illustrating a slight modification of our invention.

In the drawing, the reference numeral 1 denotes, by the way of an example, a lamp house having, among other things, a front wall 2, a rear wall 3, and a support 4 on which the lamp house is adjustably supported so that it may be tilted or bodily swung in a desired direction. The front wall 2 of the lamp house has a large aperture 5 and mounted in said lamp house, in spaced relation to the inner face of the front wall 2, is a lens holder 6. This lens holder can be conveniently attached to opposed guide bosses 7 carried by the inner face of the front wall 2, and slidable between the lens holder 6, the front wall 2, and the guide bosses 7 are channel shutters or frames 8 and 9, the latter being slidable in the former so that said shutters are somewhat telescopic and cannot become accidentally displaced on account of being sandwiched between the front wall 2 and the lens holder 6.

The shutters 8 and 9 are provided with openings 10 adapted to register, as shown in Fig. 4, the opening of the shutter 9 having an upper straight edge 11 and a lower semi-circular edge 12. The opening of the shutter 8 has a lower straight edge 13 and an upper semi-circular edge 14. The radius by which the semi-circular edges 12 and 14 are described corresponds to the radius of the wall aperture 5 so that when the shutters 8 and 9

are in extreme open positions the shutter opening will be in matched relation with the wall aperture 5.

The lower ends of the shutters 8 and 9 are reduced and provided with central vertical slots 15 providing clearance for the hub portion 16 of a rock arm 17 mounted on a shaft 18, journaled in a bearing 19 carried by the front wall 2 of the lamp house. The ends of the rock arm 17 have oppositely extending pins or studs 20 extending into slots 21 of the shutters 8 and 9, and on the outer end of the shaft 18 is a crank or handle 22 by which the shaft 18 can be rocked in the bearing 19 to actuate the arm 17 and cause the shutters 8 and 9 to be shifted in synchronism and in opposite directions, one of the shutters being raised while the other is lowered or vice versa.

By swinging the crank 22 in one direction the shutters 8 and 9 are shifted to a wide open position, providing an opening corresponding in area to that of the aperture 5, and by swinging the crank in an opposite direction the shutters 8 and 9 assume a closed position by reason of the straight edges 11 and 13 of the shutters moving towards each other. It is this last mentioned movement that permits of a flood of light being framed so that rays of light will be directed in a desired direction to illuminate a desired area. This will obviate the necessity of placing frames in front of the aperture 5, although the front wall 2 of the lamp housing has brackets or guides 23 permitting of color wheels, iris shutters and other devices being used in connection with the lamp house.

The crank or handle 22 is operatable at the front end of the lamp house, but as illustrated in Fig. 7, we may provide means for operating the shutters from the rear wall 3 of the lamp house. As an example of such means there may be a longitudinally disposed rock shaft 24 supported by the bottom wall of the lamp house with the rear end of the shaft 24 provided with a crank or handle 25 and the forward end of said shaft connected by a crank 26 and a link 27 to the crank or handle 22 of the shaft 18.

From the foregoing it will be observed

that we have devised framing shutters that are built in the lamp house and may be easily and quickly adjusted to instantly close light-tight, open to the full diameter of the lens, or partly closed to cause rays of light to exactly cover a desired area.

We have illustrated the framing shutter in connection with our lamp house made for high amperage service, but would have it understood that the shutter is capable of general use either in its exact form, or by a slight change or modification, therefore we do not care to confine ourselves to the precise construction shown, other than defined by the appended claims.

What we claim is:—

1. In a framing device for spot flood lamps wherein a lamp house has a front wall provided with an aperture:—frames slidable in the lamp house and having adjacent slotted ends contiguous to the aperture of the front wall of said lamp house, said frames having openings with marginal edges of said openings cooperating to either increase or decrease the effective light projecting area of the lamp house aperture, and means in the lamp house front wall below the aperture thereof adapted for engagement in the adjacent slotted ends of said frames for shifting said frames in synchronism.

2. A framing device as called for in claim 1, wherein said means includes a rock shaft journaled in the lamp house and a rock arm on said shaft having its ends loosely engaging in the slots of said frames.

3. In a lamp house, channel shutters one slidable in the other with the channel flanges of one of said shutters affording a space between said shutters, guiding means for said shutters, and rocking means in the space between said shutters adapted for raising and lowering said shutters.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH W. BRENKERT.
KARL BRENKERT.

Witnesses:

ABRAM B. BONMAN,
WILLIAM E. HALL.