A. T. KLIEGL.

STAGE FOOTLIGHTS.

APPLICATION FILED MAY 25, 1914.

1,141,122.

Patented June 1, 1915.

3 SHEETS—SHEET 1.

Fig. 1

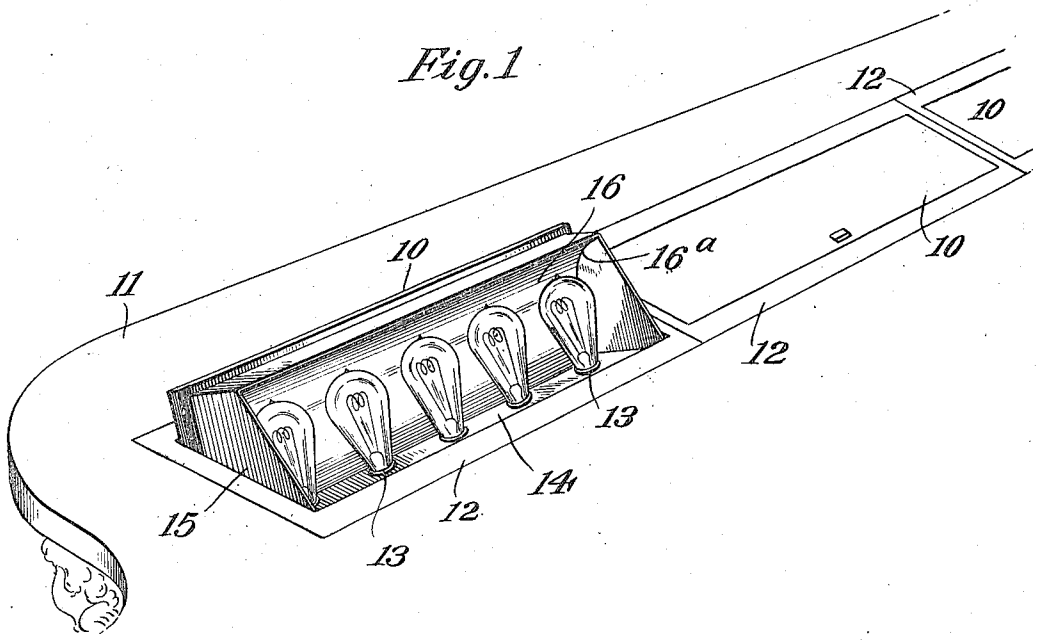
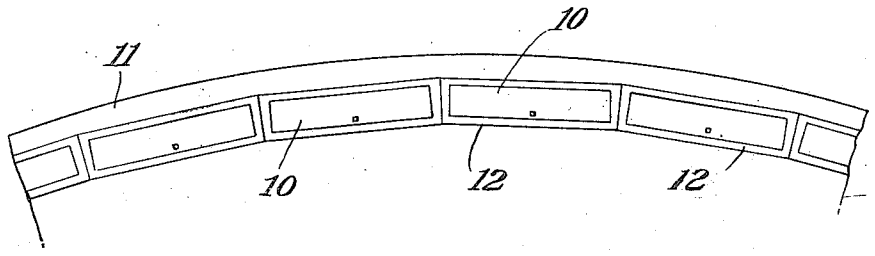


Fig. 2



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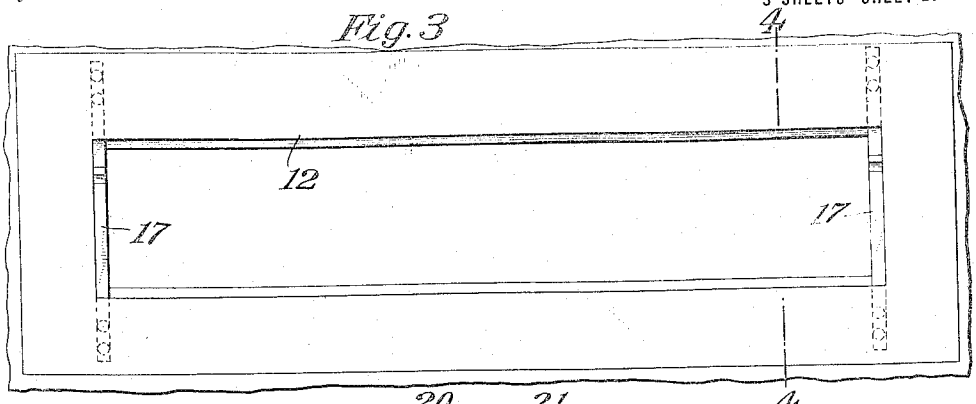
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3 SHEETS—SHEET 2.

Fig. 3



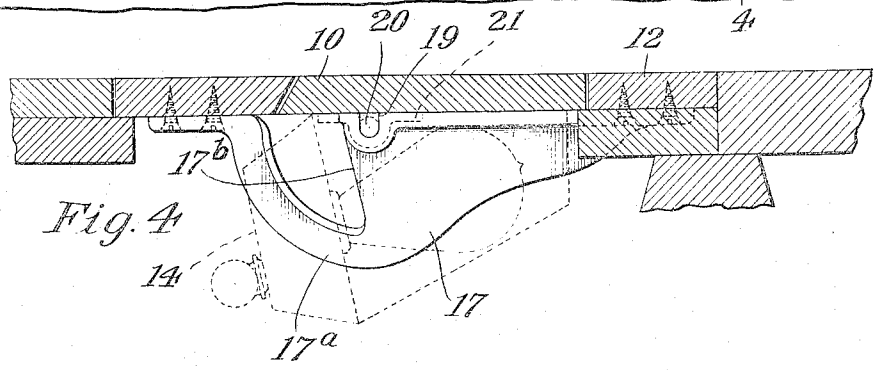
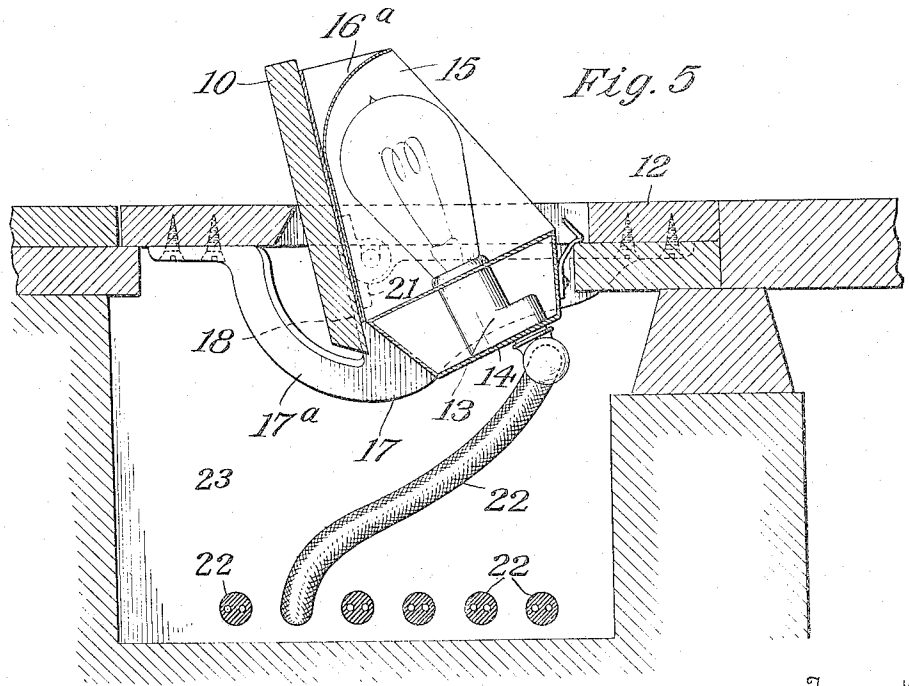


Fig. 4

Fig. 5



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3 SHEETS—SHEET 3.

Fig. 6

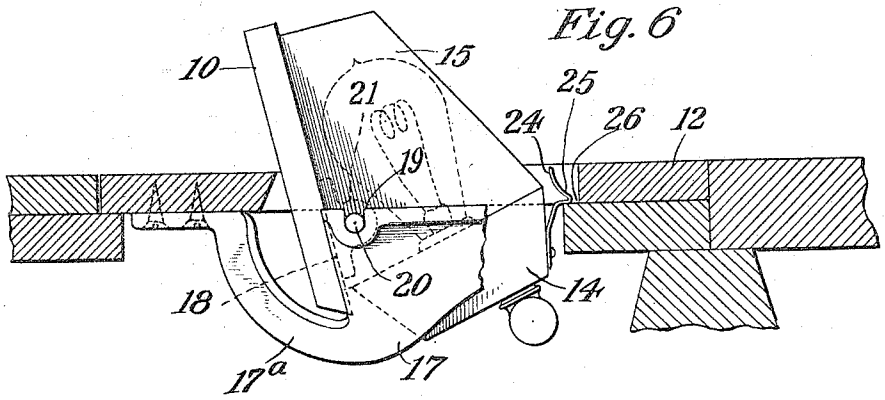


Fig. 7

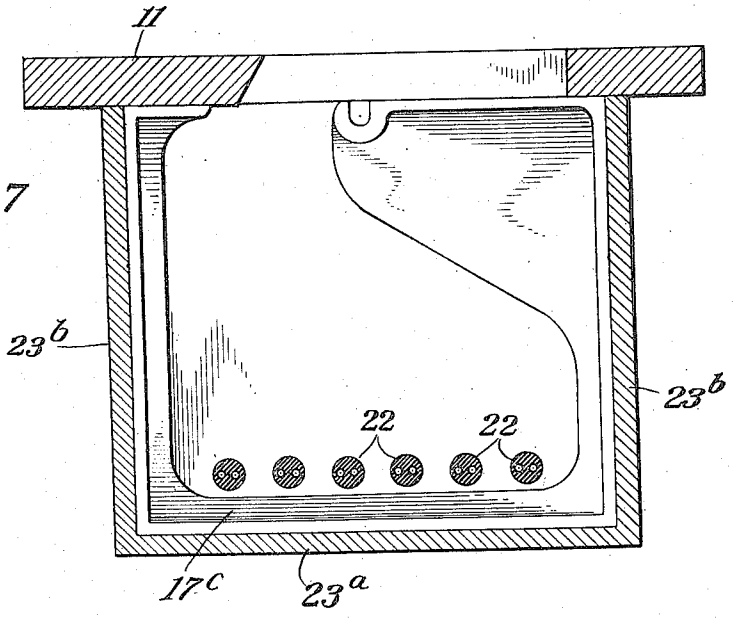
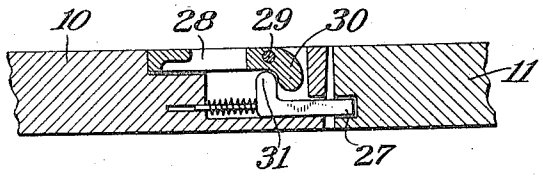


Fig. 8



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UNITED STATES PATENT OFFICE

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STAGE-FOOTLIGHTS.

1,141,122. Specification of Letters Patent. Patented June 1, 1915.

Application filed May 25, 1914. Serial No. 840,732.

To all whom it may concern:

Be it known that I, ANTON T. KLIEGL, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Stage-Footlights, of which the following is a full, clear, and exact description.

This invention relates to stage footlights, and its chief object is to provide an improved construction whereby the footlights, when not in use, can be concealed below the stage and the space covered by a suitable lid or closure flush with the surface of the stage. To this and other ends the invention consists in the novel features of construction and combinations of elements hereinafter described.

One form of the invention is illustrated in the annexed drawings, in which—

Figure 1 is a perspective view of the front of a stage equipped with my invention, showing one section of the foot-lights raised and the other section in depressed position. Fig. 2 is a plan view, with the footlight sections in depressed or closed position, and showing an arrangement of the sections suitable for a stage with a curved front. Fig. 3 is a detail plan view of the frame of a single section. Fig. 4 is a section on the plane of line 4—4 of Fig. 3, but with the closure or lamp-carrier, the latter being in depressed position. In this figure the box which carries the lamps is indicated diagrammatically in dotted lines. Fig. 5 is a section on the plane of line 4—4 of Fig. 3, showing the footlights in raised position, and the trough or conduit below, for the wiring. Fig. 6 is a detail view showing a convenient method of pivoting the lamp-carrier to the supporting brackets. Fig. 7 is a sectional view showing a modified form of supporting bracket for the lamp carrier. Fig. 8 is a detail sectional view showing convenient means for locking the lamp carrier in closed or depressed position.

In accordance with my invention the lamps are supported by carriers 10, mounted in a narrow opening across the front of the stage and pivoted at their ends in such manner that they can be swung down flush with the stage (the lamps being concealed below the stage) or swung up above the surface of the stage, as clearly shown in Fig. 1, wherein the stage is designated by 11. The carriers are pivoted to suitable supports underlying the opening, as hereafter described, but instead of attaching the supports (or brackets) directly to the stage floor, I prefer to mount them on the underside of narrow rectangular frames, as 12. The footlight outfit, consisting of as many such units as may be required for the given stage, can then be manufactured at a factory and sent to the theater. A suitable opening, or several openings end to end, is then cut in the stage floor and the frames mentioned are fitted therein, the frames lying flush with the surface of the stage and becoming in fact a part of the stage floor. If the front of the stage is straight, the opening or openings to receive the footlight units will usually extend in a straight line across the stage, but if the front is curved the units may be arranged in a curve also, as indicated in Fig. 2. In such case the ends of the frames 10 will usually be mitered, as shown, to permit the units being brought close together, and accordingly I prefer to make the ends of the frames of pieces sufficiently wide to admit of various degrees of mitering. This makes it unnecessary to keep on hand a large stock of units of different sizes, as in most cases units of standard size can be trimmed to fit.

The lamp-sockets 13 are mounted in a shallow box 14 projecting from the lower portion of the carrier 10, which box forms the bottom of the lamp case 15. The rear wall 16 of the lamp case, secured to the carrier 10 and provided with a curved upper portion 16^a, constitutes the reflector for the lamps, as clearly indicated in Figs. 1 and 5.

The supports or brackets 17 to which the carriers 10 are pivoted at their ends are best shown in Figs. 4 and 5. By preference they bridge, or extend across, the frames 10, and are fastened to the underside thereof. The body portion has its upper edge flush with the underside of the frame 11, to serve as a support for the ends of the carrier 10 when the same is folded down, while the arm 17^a extends forwardly and upwardly from the lower part of the body portion, thereby producing a deep recess in which the lower portion of the carrier 10 swings when the carrier is raised to the position shown in Fig. 5. The inclined forward edge 17^b of the body portion serves as a stop, against which the carrier rests when in raised position, the end-edges of the carrier being recessed as

at 18, if necessary, to fit the said inclined edges of the body.

The upper edge of the body portion of each bracket or support 17 is provided, near the inclined edge 17ᵇ, with a socket 19 to receive the pivots 20 on the carrier 10. These pivots can be connected to the carrier in any convenient manner, and in Fig. 6 I have shown a method in which the pivot 20 projects from a small bracket 21 suitably fastened to the carrier. It is evident that the use of open-topped sockets, as shown at 19, permits the carrier to be lifted out of the frame at any time, thus affording instant access to the wiring below.

The conductors or cables 22 which carry current to and from the lamps are conveniently located in a trough or conduit 23, Fig. 5, immediately below. In most cases, particularly where the stage-structure is built of concrete, this trough is formed in the stage-structure without requiring any change in or addition to the footlight units, but whenever necessary or desirable the trough can be made a part of the footlight units by a simple modification of the brackets which support the lamp carriers. Such a modification is shown at 17ᶜ, in Fig. 7. If desired, the brackets can be boxed up, with a bottom 23ᵃ and sides 23ᵇ, or they may be left open to afford ready access to the wiring from below the stage.

If the weight of the lamps and lamp-case keeps the center of gravity in rear of the pivots, that is, toward the back of the stage, the carrier will swing down to closed position of its own accord, unless a stop of some kind is used to prevent it. Convenient means for the purpose is shown in Fig. 6, the same consisting of a spring 24, fastened to the box 14 and having a nose 25 to engage the ledge 26, the latter being a suitable strip fastened on the underside of the frame 12 to serve as a support for the edge of the carrier 10. Pressing the spring inward permits the carrier to swing down.

As footlights are always located at the extreme front of the stage, outside of the curtain, it is not often that carriers 10 will be walked upon; but since the pressure of the foot on the rear portion of the carrier might cause the same to swing up, it is best to provide means for positively holding the carrier closed, as for example a spring-pressed bolt 27, Fig. 8, slidably mounted in the edge of the carrier 10 and extending into the adjacent edge of the frame 11. When the ring 28 is raised on its pivot 29 the lug 29, engaging the finger 31 on the bolt, moves the bolt out of the socket in the frame 11 and permits the carrier to be raised.

It will be observed that when the lamp carrier 10 is raised, the rear edge (that is, the edge toward the back of the stage) moves up, while the front edge moves down, as a consequence of the fact that the pivots on which the carrier swings are located well between the front and rear edges instead of at the front edge. This feature is not indispensable, but it is highly advantageous, as it permits the use of a carrier wide enough to support the lamps in proper position for illuminating the stage, without making the carrier, when in raised position, project too high above the stage. The practice among present day architects is to keep the footlights as low as possible, so that the stage may be as high as possible and still permit spectators in the first few rows of seats to see over the footlights. In accordance with this practice, the plans and specifications for theater construction call for a height of footlights not exceeding about three and a half inches. Hence the importance of my arrangement, by which a carrier of ample size can be used and still not exceed the height mentioned when in raised position.

It is to be understood that the invention is not limited to the specific structure herein described, but may be embodied in other forms without departure from its proper spirit and scope.

In the appended claims the lamps are referred to as being on the "underside" of the carrier. By this it is meant that the lamps are on the side which is underneath or below the surface of the stage when the carrier is in depressed or closed position.

I claim:

1. The combination with a stage floor having a narrow opening across the front, of a plurality of light-carriers arranged end to end to fill said opening flush with the floor and pivoted at their ends between the front and rear edges of the carriers to permit the said front and rear edges to swing to positions respectively below and above the surface of the stage, and lamps carried by the carriers on the underside thereof.

2. The combination with a stage floor having a narrow opening across the front, of a plurality of light-carriers arranged end to end and filling said opening flush with the surface of the floor and pivoted at their ends to swing upwardly and forwardly, means to support the carriers when in depressed position, and lamps on the underside of each carrier.

3. The combination with a stage floor having a transversely arranged opening at the front, brackets spanning said openings from front to rear below the floor, a lamp carrier pivoted at its ends between its front and rear edges to said brackets whereby when the carrier is in raised position only a portion thereof projects above the surface of the floor, and means on the underside of the carrier for supporting a plurality of lamps.

4. The combination of a stage floor having a narrow transverse opening at the front, a carrier pivoted at its ends in said opening to permit the rear edge of the carrier to swing upwardly and forwardly and the forward edge downwardly and rearwardly, whereby only a portion of the carrier extends above the surface of the floor when in raised position, and lamp-supporting means on the underside of the carrier.

5. The combination of a stage floor having a narrow transverse opening at the front, a carrier fitting the opening and adapted to lie flush with the surface of the floor, pivoted supports for the carrier, connected to the carrier at the ends of the same and between the front and rear edges thereof, and lamp-supporting means on the underside of the carrier.

6. The combination with a stage having a wiring conduit or trough across the front and having a floor provided with a transverse opening above said conduit, carriers pivoted at their ends to swing upwardly and forwardly in said opening, and means on the underside of the carriers to support a plurality of lamps.

7. A footlight unit comprising a rectangular frame, supporting brackets on the underside of the frame at the ends thereof, a carrier fitting said frame and pivoted at its ends to the brackets, said brackets underlying the ends of the carrier when the latter is in closed position to prevent further pivotal movement downward, and lamp-supporting means on the underside of the carrier.

8. A footlight unit comprising a rectangular frame, supporting brackets on the underside of the frame at the ends thereof, a carrier fitting the frame flush with the upper surface thereof and at its ends pivotally connected to said brackets at points between its front and rear edges, whereby in the pivotal movement of the carrier one of said edges swings up above the top of the frame and the other edge down and below, and lamp-supporting means on the underside of the carrier.

9. A footlight unit comprising a rectangular frame; supporting brackets at the ends of the frame; each consisting of a body portion secured to one side of the frame, extending part way across the frame and depending therefrom, and an arm extending from the lower part of the body portion and secured to the other side of the frame, whereby to provide a deep recess at the inner end of the body portion; a carrier fitting the frame flush with the upper surface of the latter and having pivotal connection at its ends with each bracket at the inner end of the body portion thereof; and lamp-supporting means on the underside of the carrier.

10. A footlight unit comprising a rectangular frame, a carrier fitting the frame flush with the upper surface thereof, supporting brackets at the ends of the frame and spanning the same, pivotal connections between the brackets and the carrier at the ends of the latter at points between the front and rear edges of the carrier whereby in pivotal movement of the latter one edge will swing up and the other down, and lamp-supporting means on the underside of the carrier.

In testimony whereof I affix my signature in the presence of two subscribing witnesses.

ANTON T. KLIEGL.

Witnesses:
JOHN C. KERR,
M. LAWSON DYER.