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Rydel et al.

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(54) **SYSTEM FOR A LOW-PROFILE STAGE LUMINAIRE**

F21V 25/00 (2013.01); *F21W 2131/406* (2013.01); *F21Y 2103/10* (2016.08); *F21Y 2113/13* (2016.08)

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See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(51) **Int. Cl.**

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F21V 5/00 (2018.01)
F21V 11/18 (2006.01)
F21V 14/08 (2006.01)
F21V 21/005 (2006.01)

(57) **ABSTRACT**

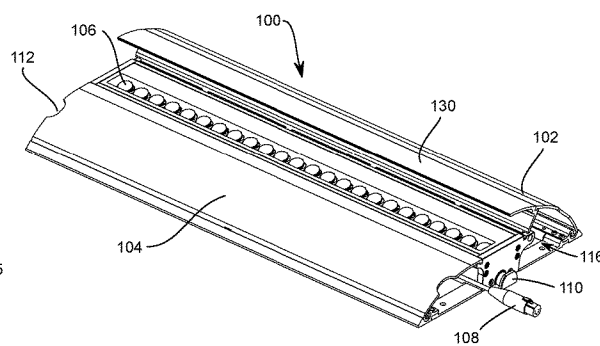
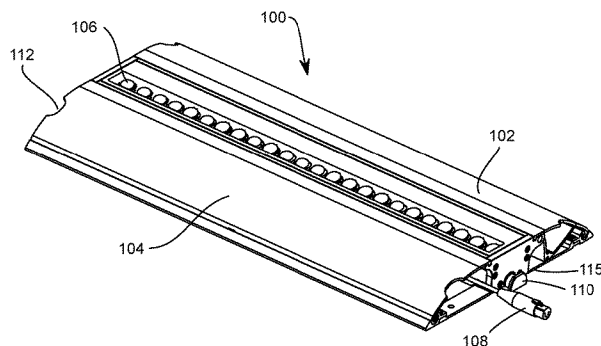
A luminaire includes an elongated housing having a long axis, a plurality of light emitters extending in a direction of the long axis, a first light shield rotatably coupled to a base of the luminaire and configured to rotate about a first axis parallel to the long axis, and a second light shield rotatably coupled to the base of the luminaire and configured to rotate about a second axis parallel to the long axis. The first light shield and the second light shield are configured to physically couple to form a combined light shield that is configured to block light emitted by the plurality of light emitters.

(Continued)

(52) **U.S. Cl.**

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18 Claims, 9 Drawing Sheets



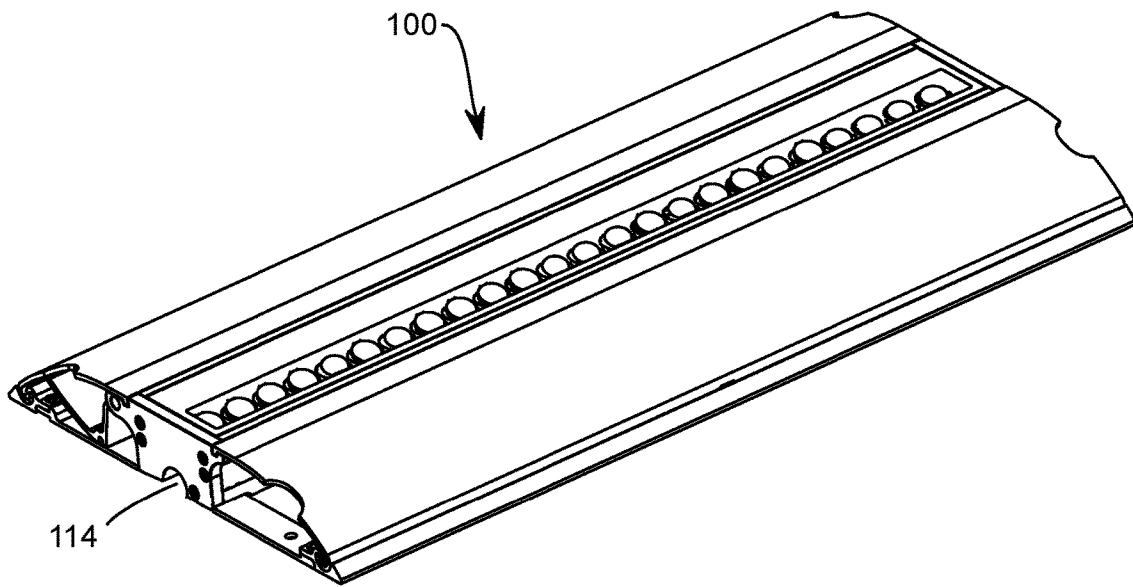
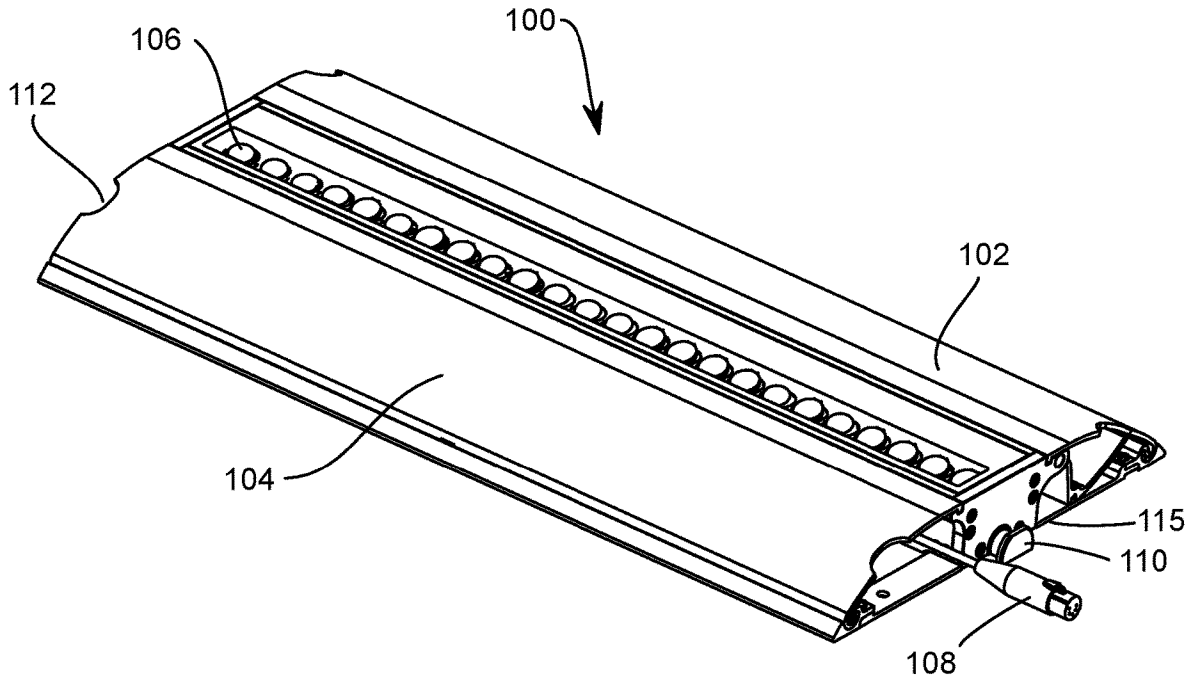
- (51) **Int. Cl.**
F21V 23/06 (2006.01)
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F21Y 103/10 (2016.01)
F21Y 113/13 (2016.01)

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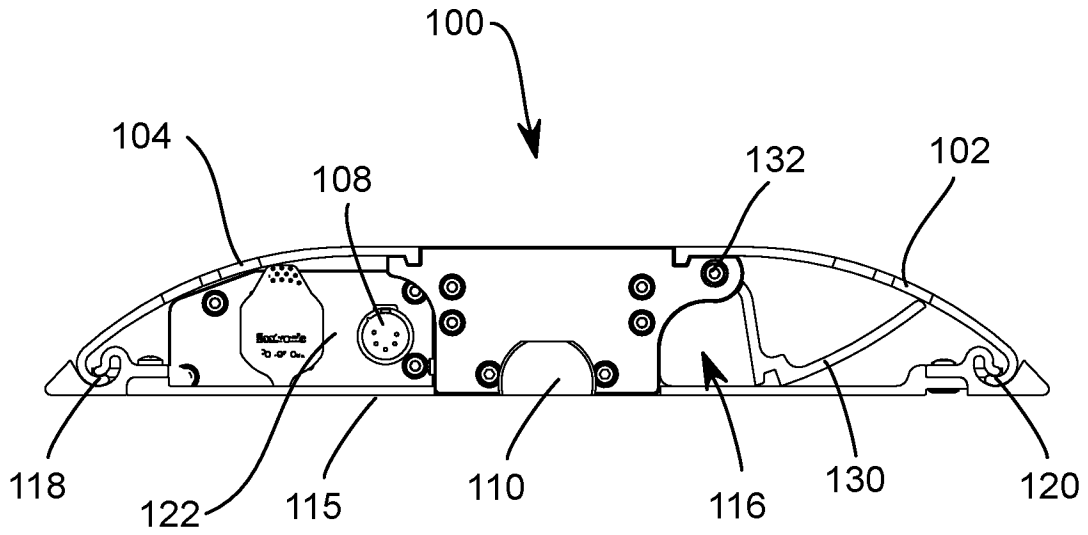


FIGURE 3

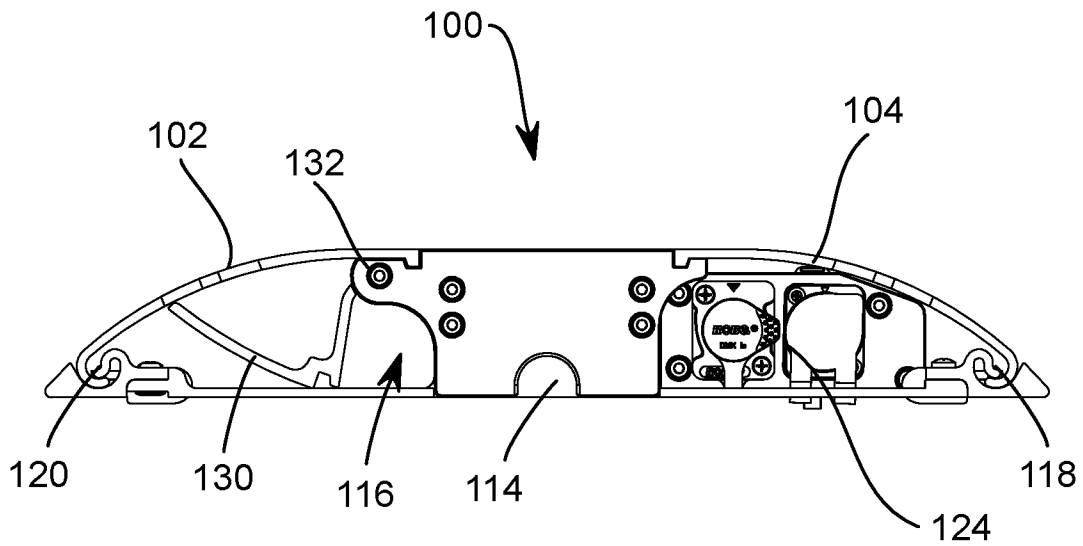


FIGURE 4

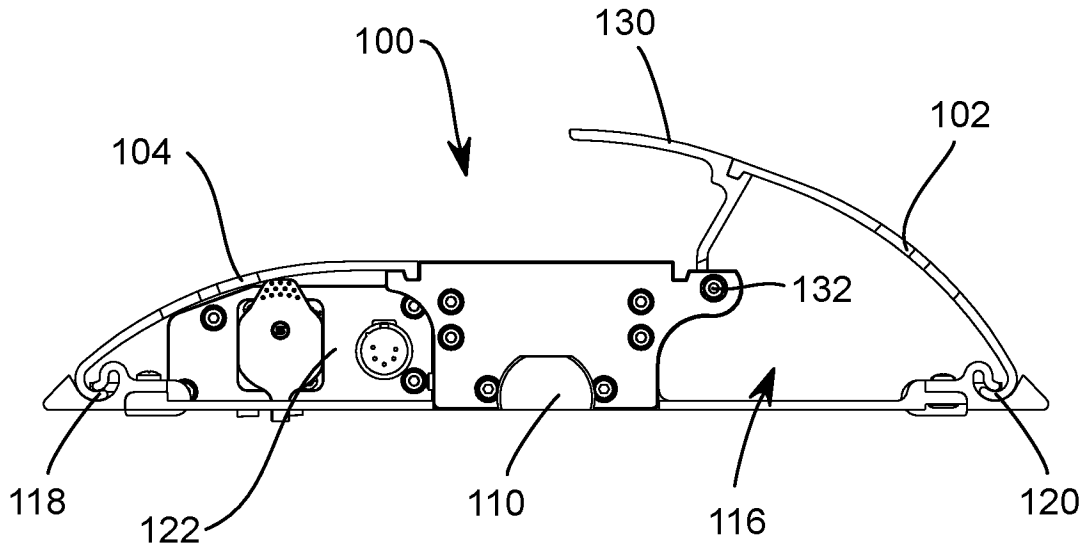


FIGURE 5A

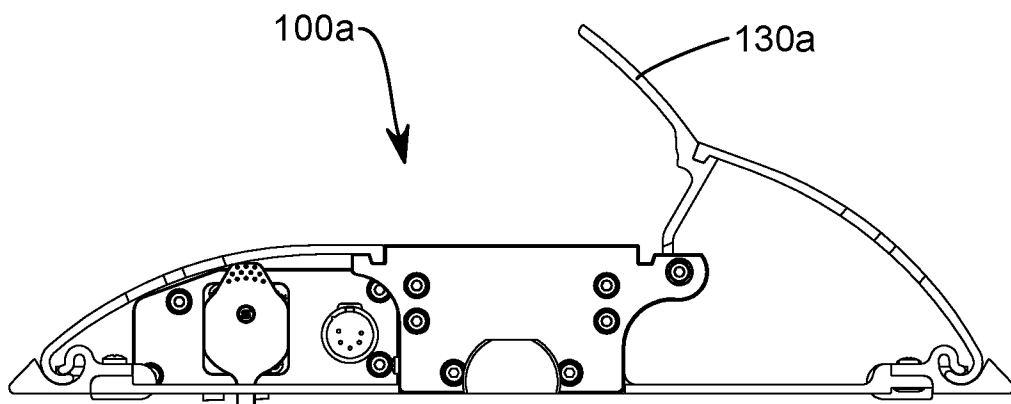


FIGURE 5B

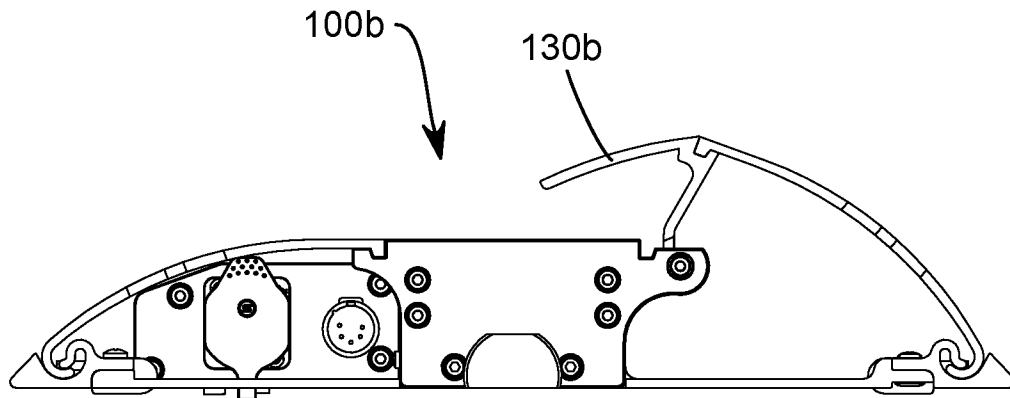


FIGURE 5C

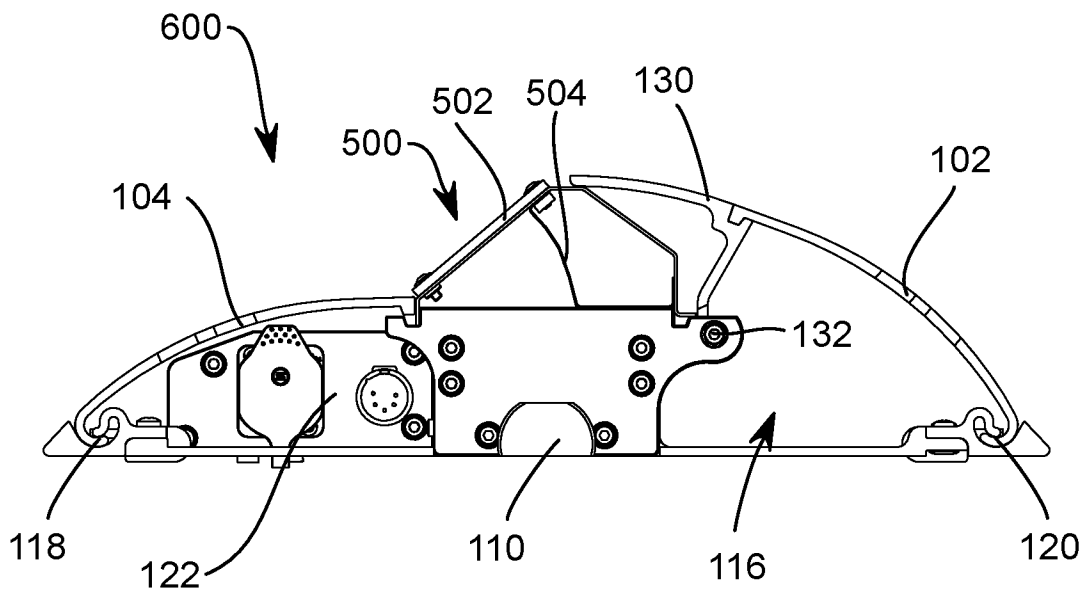
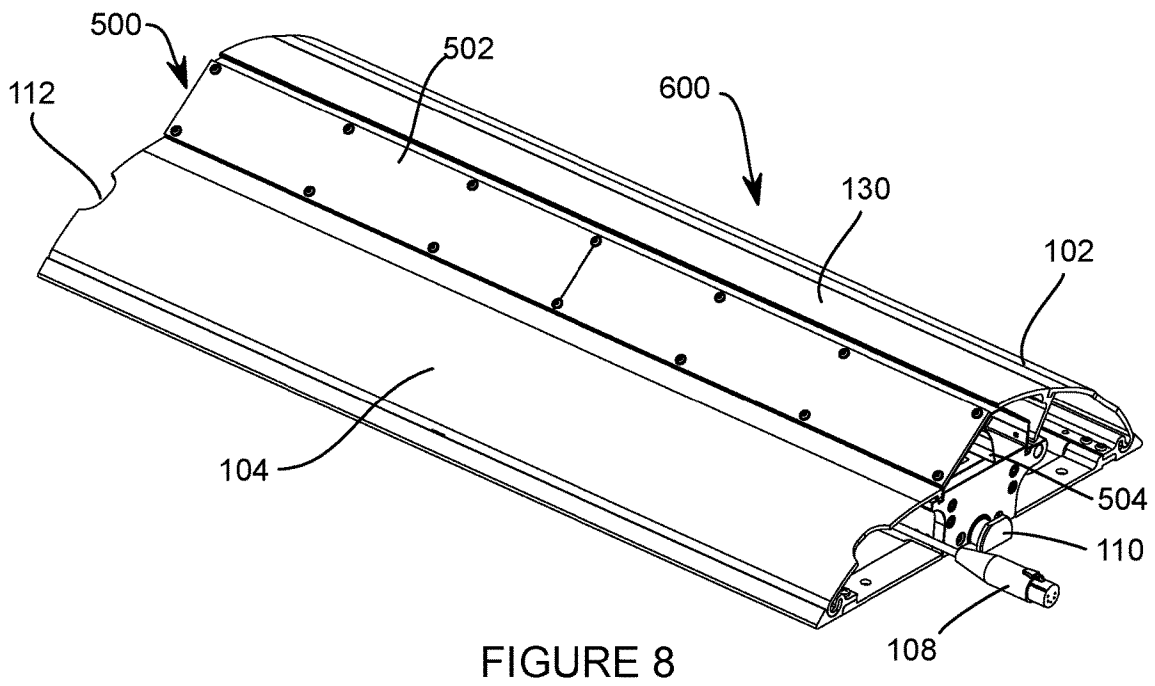
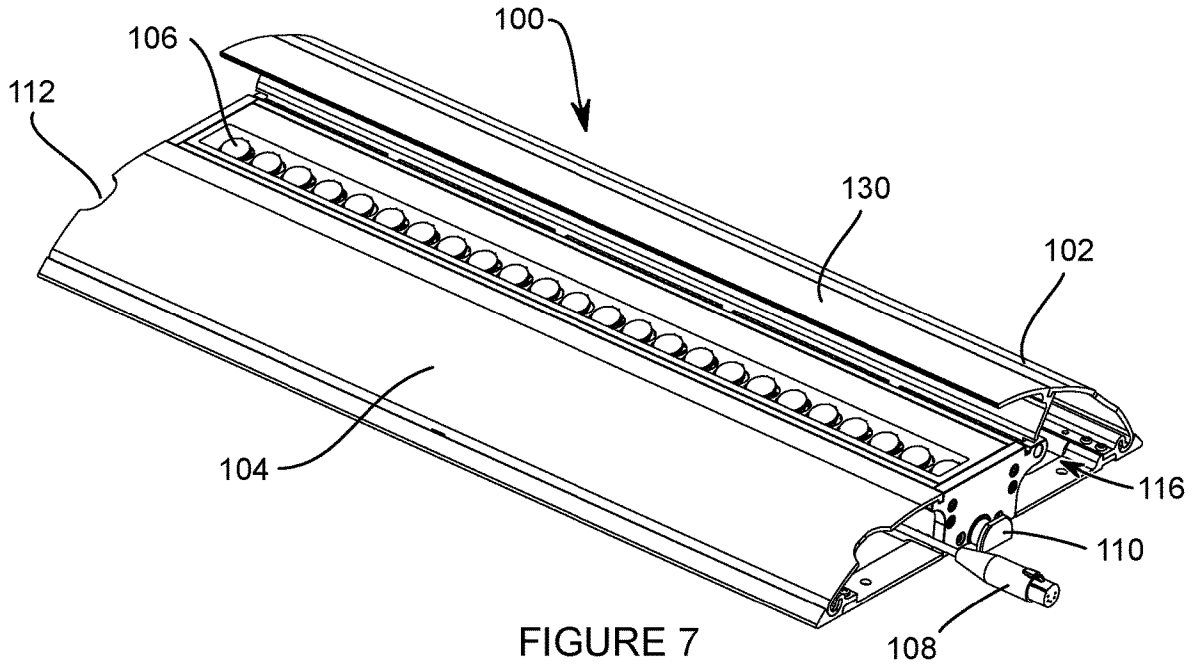


FIGURE 6



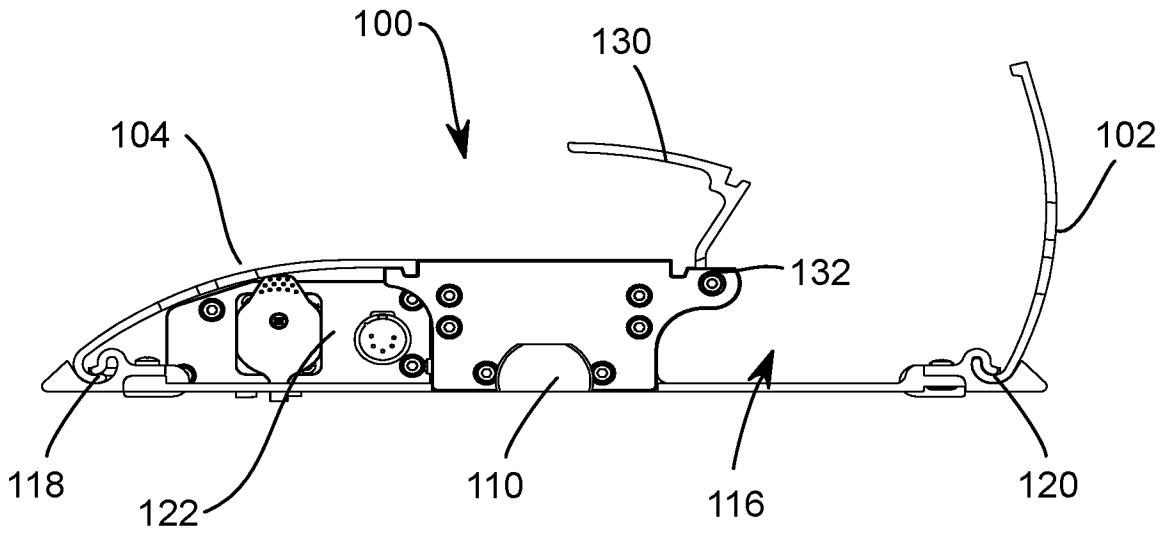


FIGURE 9

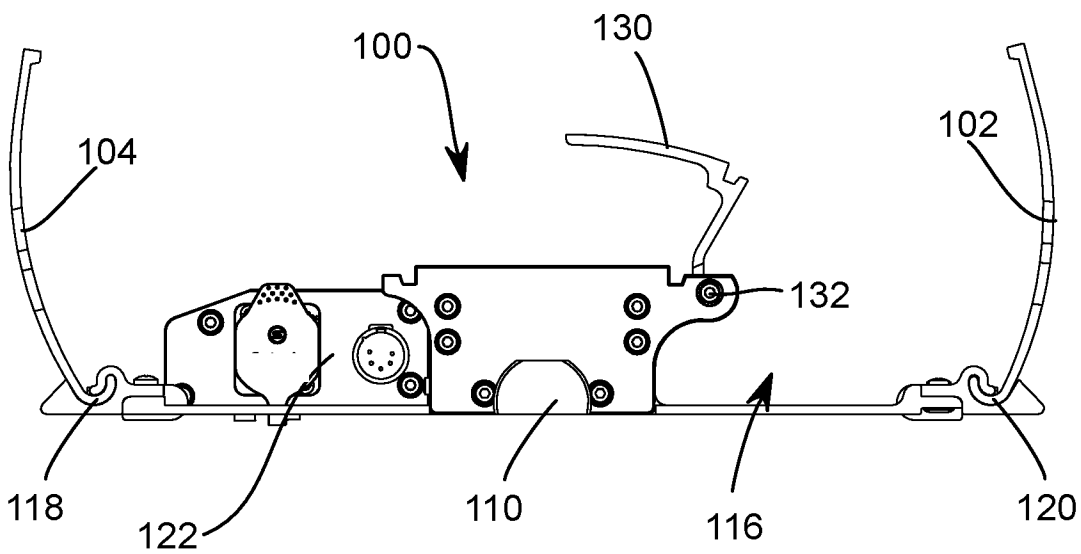


FIGURE 10

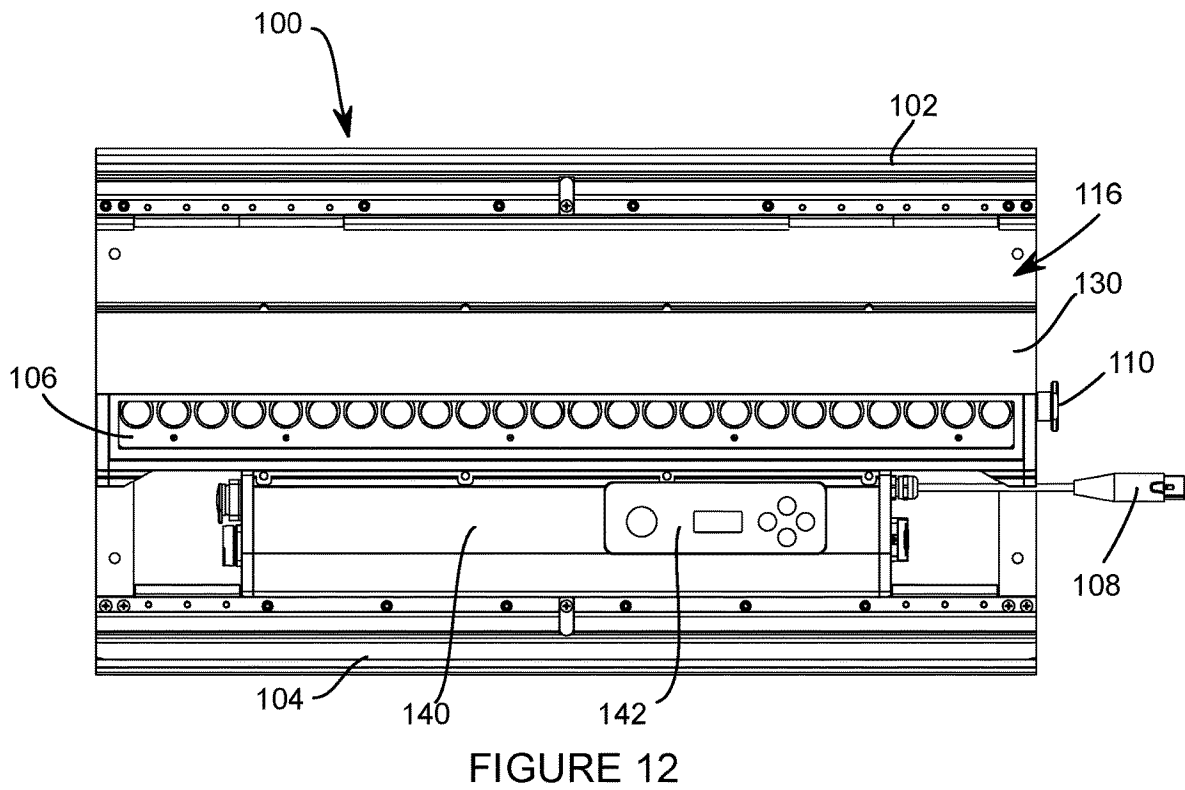
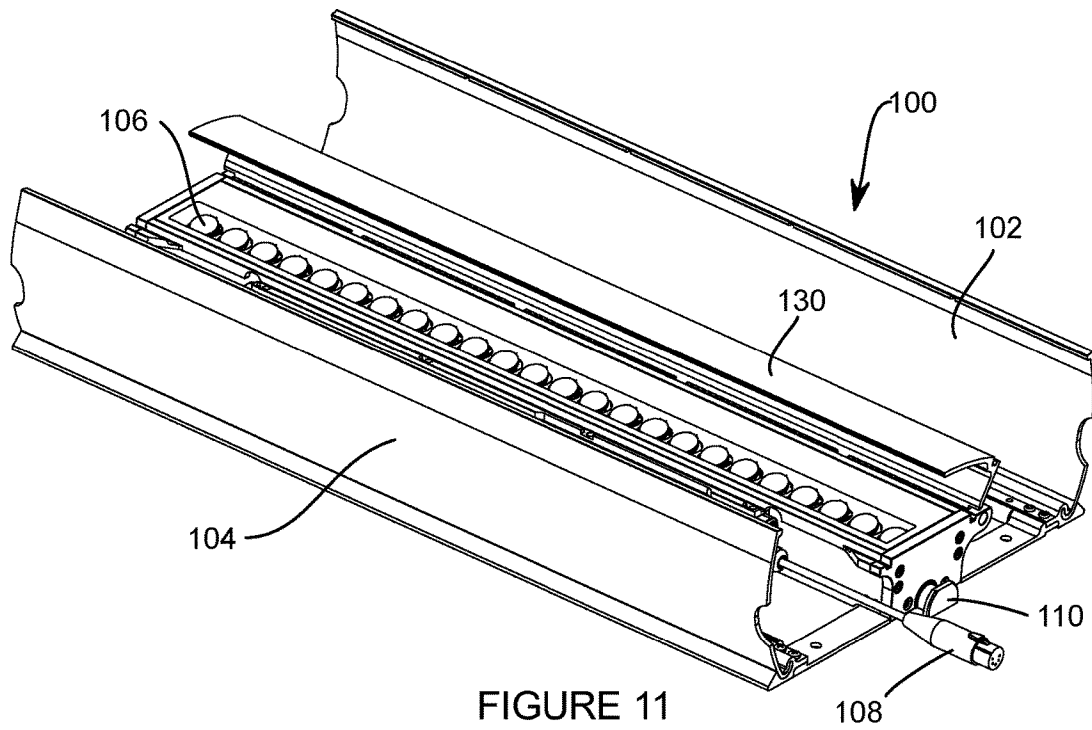




FIGURE 13

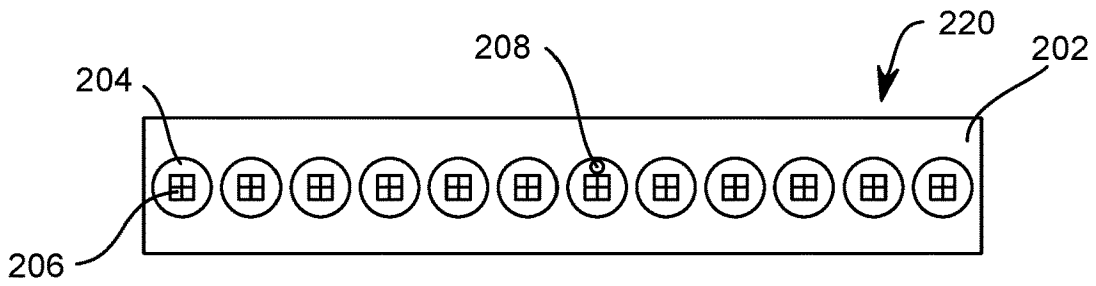


FIGURE 14A

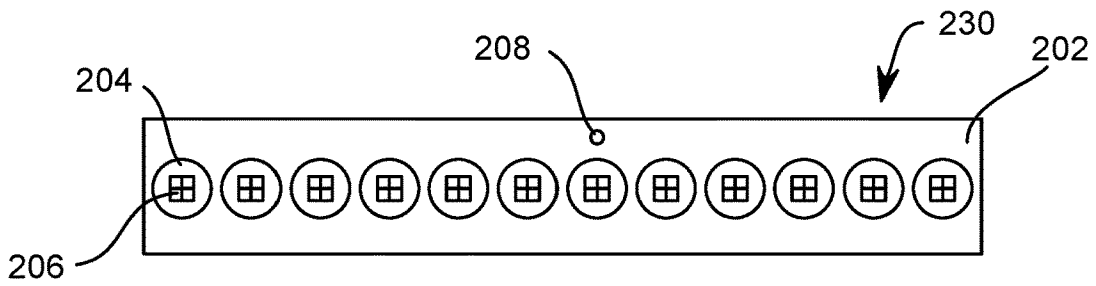


FIGURE 14B

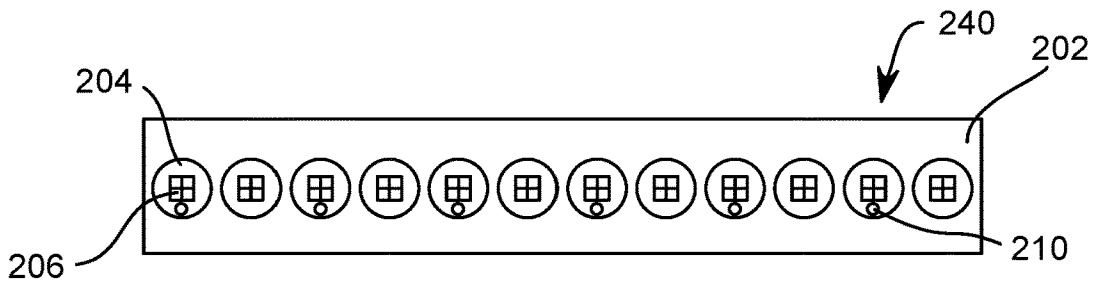


FIGURE 15A

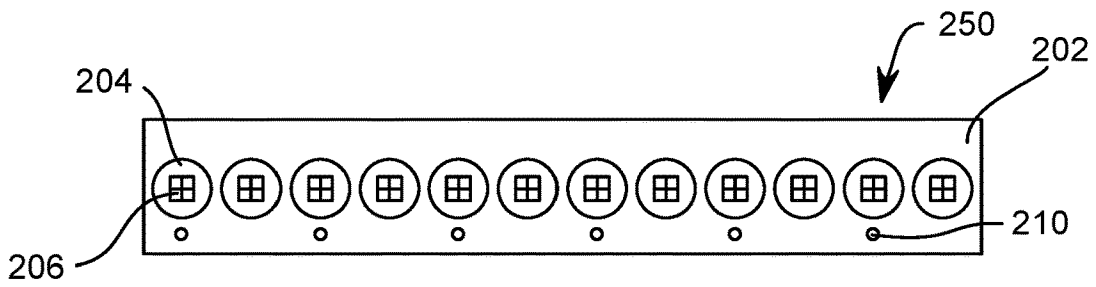


FIGURE 15B

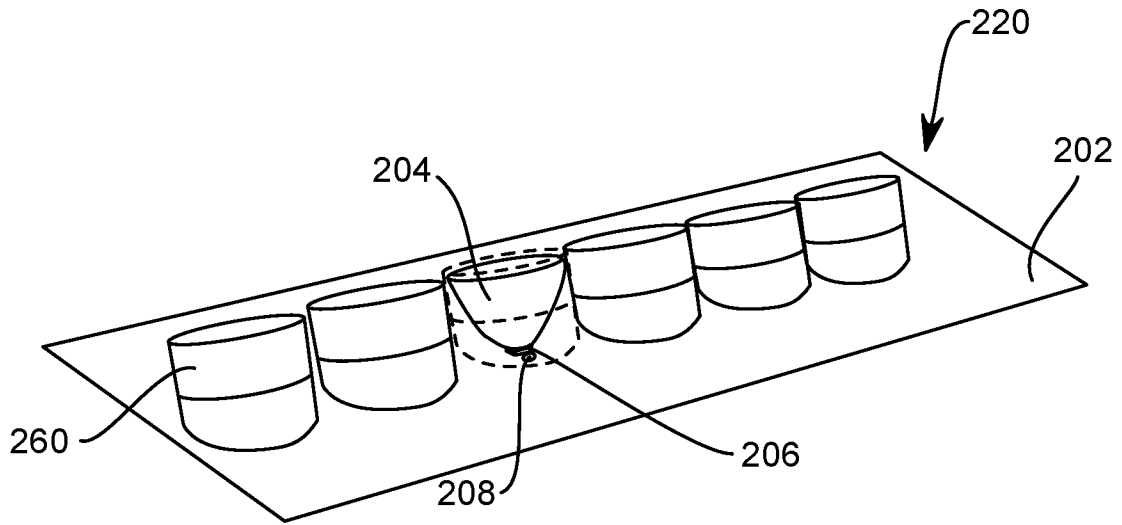


FIGURE 16

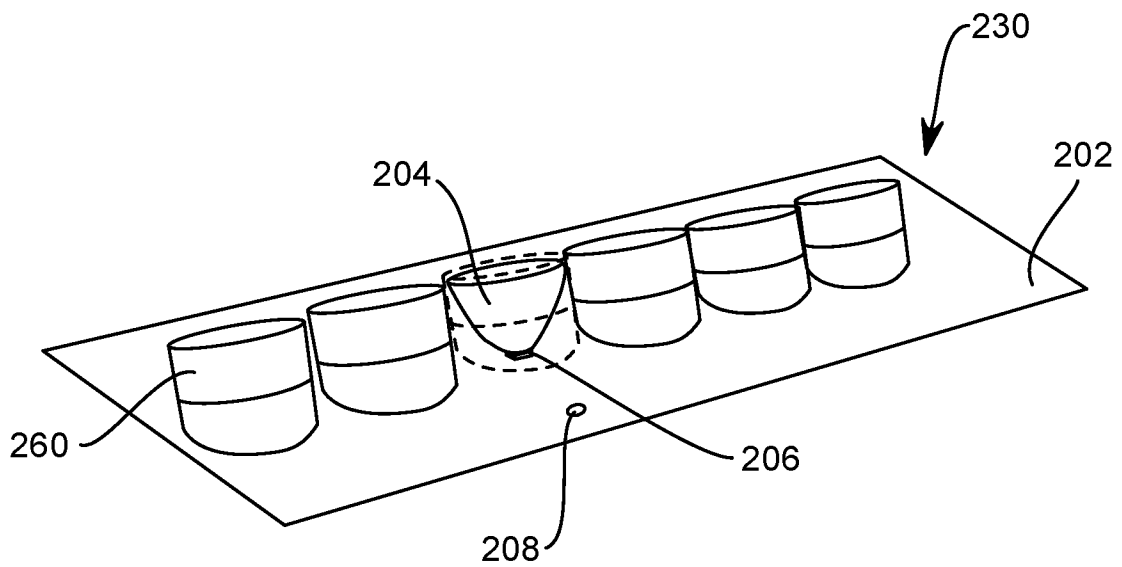


FIGURE 17

1

SYSTEM FOR A LOW-PROFILE STAGE LUMINAIRE

CROSS-REFERENCE TO RELATED APPLICATIONS

This patent application claims the benefit of U.S. Provisional Application No. 63/493,628, filed Mar. 31, 2023, entitled "SYSTEM FOR A LOW-PROFILE STAGE LUMINAIRE" which is hereby incorporated by reference in its entirety.

TECHNICAL FIELD OF THE DISCLOSURE

The disclosure generally relates to luminaires, and more specifically to a system for a low-profile stage luminaire.

BACKGROUND

Luminaires with a low profile may be used as footlights or cyclorama lights in the entertainment and architectural lighting markets. Such products may be used in theatres, television studios, concerts, theme parks, night clubs, and other venues. A typical low-profile luminaire may be used as a footlight placed on the front of a stage in order to light performers and scenery from the front without obscuring the view of the audience. Such a luminaire may use multiple colors of light emitters under control from a remotely positioned lighting desk allowing an operator to control the color and intensity of the emitted light.

SUMMARY

A luminaire includes an elongated housing having a long axis, a plurality of light emitters extending in a direction of the long axis, a first light shield rotatably coupled to a base of the luminaire and configured to rotate about a first axis parallel to the long axis, and a second light shield rotatably coupled to the base of the luminaire and configured to rotate about a second axis parallel to the long axis. The first light shield and the second light shield are configured to physically couple to form a combined light shield that is configured to block light emitted by the plurality of light emitters.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of this disclosure, reference is now made to the following brief description, taken in conjunction with the accompanying drawings in which like reference numerals indicate like features.

FIG. 1 presents a first orthogonal view of a first luminaire according to the disclosure in a first configuration;

FIG. 2 presents a second orthogonal view of the luminaire of FIG. 1;

FIG. 3 presents a view of a first end of the luminaire of FIG. 1;

FIG. 4 presents a view of a second end of the luminaire of FIG. 1;

FIG. 5A presents a view of the first end of the luminaire of FIG. 1 in a second configuration;

FIG. 5B presents a view of a first end of a second luminaire according to the disclosure in the second configuration;

FIG. 5C presents a view of a first end of a third luminaire according to the disclosure in the second configuration;

FIG. 6 presents a view of a first end of a fourth luminaire according to the disclosure;

2

FIG. 7 presents an orthogonal view of the luminaire of FIG. 1 in the second configuration;

FIG. 8 presents an orthogonal view of the luminaire of FIG. 6;

5 FIG. 9 presents a view of the first end of the luminaire of FIG. 1 in a third configuration;

FIG. 10 presents a view of the first end of the luminaire of FIG. 1 in a fourth configuration;

10 FIG. 11 presents an orthogonal view of the luminaire of FIG. 1 in the fourth configuration;

FIG. 12 presents a plan view of the luminaire of FIG. 1 in the fourth configuration;

FIG. 13 presents a schematic view of a first light emitter board according to the disclosure;

15 FIG. 14A presents a schematic view of a second light emitter board according to the disclosure;

FIG. 14B presents a schematic view of a third light emitter board according to the disclosure;

20 FIG. 15A presents a schematic view of a fourth light emitter board according to the disclosure;

FIG. 15B presents a schematic view of a fifth light emitter board according to the disclosure;

FIG. 16 presents a schematic view of a portion of the light emitter board of FIG. 14A; and

25 FIG. 17 presents a schematic view of a portion of the light emitter board of FIG. 14B.

DETAILED DESCRIPTION

30 Preferred embodiments are illustrated in the figures, like numerals being used to refer to like and corresponding parts of the various drawings.

Luminaires used along an edge of a stage or other acting area to provide lighting for performers and scenery are used in theatrical, film, and TV productions. With the lighting technology available before the introduction of solid-state light sources such as light-emitting diodes (LEDs), such luminaires may be large, bulky fixtures that may be hot and conspicuous. Such luminaires may have exposed connector panels for use in installation and maintenance of the luminaire. Some such luminaires may be designed to retract into the stage when not in use or may be decorated in some way in order to appear to form part of the structure of the stage.

Such technical problems are solved by luminaires according to the disclosure, which comprise LEDs that produce light with less heat and more efficient use of electrical power. Further, luminaires according to the disclosure have a lower, less conspicuous profile that presents less obstruction to audience view.

50 An additional technical problem encountered in a stage or other acting area concerns the management of cables laid around the edges of the stage. Cables are considered unsightly and can be damaged by shoes or by wheels of set pieces or equipment such as forklifts. Cables can roll if they are stepped on, which may cause a performer or stagehand to fall. Such technical problems are solved by luminaires according to the disclosure, which provide methods for housing cables under covers that provide more secure footing and greater protection from damage.

60 As such, luminaires according to the disclosure are configured to be installed in continuous runs across a stage, providing a cable cavity to house electrical power and control cabling, presenting a low profile to the audience, and providing unobtrusive access panels for installation and maintenance.

65 FIG. 1 presents a first orthogonal view of a first luminaire 100 according to the disclosure in a first configuration. FIG.

2 presents a second orthogonal view of the luminaire **100** of FIG. **1**. The luminaire **100** includes a plurality of light emitters **106**. The luminaire **100** comprises an elongated housing having a long axis (or 'length'). Some or all of the light emitters **106** may include one or more LEDs in one or more colors. Some or all of the light emitters **106** may include integral optical systems such as reflectors, total internal reflection (TIR) light guides, lenses, or other optical devices configured to control and direct light emitted by the LEDs.

In some embodiments, the luminaire **100** is configured to angle the light emitted by the light emitters **106** towards one side of the luminaire **100** along an axis parallel to the length of the luminaire **100**. In this way, the light may be directed towards the stage and performers and away from an audience. In some such embodiments, the luminaire **100** is configured to angle this tilt angle by tilted mounting of the light emitters **106** within the luminaire **100** or, additionally or alternatively, by tilting the entire luminaire **100**. In some embodiments, one or more of the light emitters **106** are tilted by a different amount than others of the light emitters **106**.

The light emitters **106** are configured in a single row extending in the direction of the length of the luminaire **100**. In other embodiments, the light emitters **106** may be configured in two or more rows. In various embodiments, the light emitters **106** may be configured in other numbers and/or with other spacings between.

The luminaire **100** comprises a first physical connector **110** at a first end (visible in FIG. **1**) and a corresponding second physical connector **114** at a second, opposite end (visible in FIG. **2**). The first connector **110** comprises a flanged pin and the second connector **114** comprises a socket or slot. The connectors **110** and **114** are configured to physically couple (and in some embodiments to lock together) the luminaire **100** to adjacent luminaires **100**. This may enable coupling a plurality of the luminaires **100** to form a continuous, connected run of a desired length.

In some embodiments the luminaire **100** may be straight (as shown in FIGS. **1** and **2**). In other embodiments luminaires according to the disclosure may be angled or curved to allow the assembly of luminaire runs that form corners or curves, as desired.

As will be described in more detail with reference to FIGS. **3** and **4**, the first and second ends of the luminaire **100** comprise recesses comprising connectors for power and data. A data connector **108** on a cable (also referred to as a 'pigtail' or 'flying lead') is shown in FIG. **1** extending from the first end of the luminaire **100**. The recesses in the first and second ends of the luminaire **100** are configured to allow cables electrically coupling the connectors in adjacent luminaires **100** to be connected while the luminaires **100** are separated and then concealed within the recesses when the luminaires **100** are physically coupled to each other.

The luminaire **100** includes a first adjustable light shield **102** and a maintenance access panel **104**. As described below, the light shield **102** and the maintenance access panel **104** are rotatably coupled by hinges to a base **115** of the luminaire **100**. The light shield **102** and the maintenance access panel **104** include cutouts **112**, which are configured to provide room for a user to insert a finger to lift the light shield **102** or the maintenance access panel **104**.

FIG. **3** presents a view of the first end of the luminaire **100** of FIG. **1**. FIG. **4** presents a view of the second end of the luminaire **100** of FIG. **1**. FIG. **3** shows a recessed output connector plate **122**, which includes output power and data connectors, positioned near the first end of the luminaire **100**. FIG. **4** shows a recessed input connector plate **124**,

which includes input power and data connectors, positioned near the second end of the luminaire **100**. When assembling an end-to-end run of luminaires **100**, a user may provide power cables (not shown in the figures) to electrically connect the output power connector of the output connector plate **122** of a first luminaire **100** to the input power connector of the input connector plate **124** of a second luminaire **100**, prior to physically coupling the first and second luminaires **100**. If repeated with additional luminaires **100**, a continuous, 'daisy-chain' connected line of luminaires **100** may be formed.

In the embodiment shown in FIG. **3**, the connector plates **122** and **124** are configured to form a compartment between them when the luminaires **100** are coupled in abutment. In other embodiments, only one or the other of the connector plates **122** and **124** is recessed from its associated end of the luminaire **100** to form the compartment. In all embodiments, the connector plates **122** and **124** are positioned near first and second ends, respectively, of the luminaire **100**. Cables that electrically couple the luminaires **100** may be concealed within such compartments. In the embodiment of FIG. **3**, the data output connector **108** of the output connector plate **122** comprises a short cable (as shown in FIG. **1**) and is configured to be extended into the recess in an adjacent luminaire **100** to electrically couple the data output connector **108** to a data input connector on the input connector plate **124** of the adjacent luminaire **100**. In other embodiments, the data output connector may comprise a fixed connector mounted in the output connector plate **122**. In some embodiments, neither of the connector plates **122** and **124** is recessed.

FIGS. **3** and **4** further show that the first adjustable light shield **102** is rotatably coupled to the base **115** by a hinge **120** and configured to rotate around a first axis of rotation. The maintenance access panel **104** is rotatably coupled to the base **115** by a hinge **118** and configured to rotate around a second axis of rotation. A second adjustable light shield **130** is rotatably coupled to the luminaire **100** by a hinge **132** and configured to rotate around a third axis of rotation. The hinges **120**, **118**, and **132** extend in the direction of the long axis of the luminaire **100**. A cable cavity **116** extends the full length of the luminaire **100**, between a first aperture at the first end of the luminaire **100** (shown in FIG. **3**) and a second aperture at the second end of the luminaire **100** (shown in FIG. **4**), and configured to provide a channel for the user to pass cables through. Such cables could be used for other luminaires, for audio devices such as microphones or loudspeakers, for video devices, or for any other devices used on a stage. The cable cavity **116** is configured to protect cables from damage, from view by the audience, and from presenting a tripping hazard for performers or other persons on the stage.

FIGS. **5A-5C** present views of luminaires **100** according to the disclosure in a second configuration. FIG. **5A** presents a view of the first end of the luminaire **100** of FIG. **1** in the second configuration. In the second configuration, the first adjustable light shield **102** and the second adjustable light shield **130** are in open positions. To configure the luminaire **100** in the second configuration, the user rotates the first adjustable light shield **102** around the first hinge **120** to gain access to the second adjustable light shield **130**. The user rotates the second adjustable light shield **130** around the third hinge **132** to a position in which it can provide support for the first adjustable light shield **102**. The first adjustable light shield **102** is then lowered into contact with the second adjustable light shield **130** to physically couple the two adjustable light shields **102** and **130**. In the embodiment shown in FIG. **5A**, the first adjustable light shield **102**

includes a ridge and the second adjustable light shield **130** a corresponding notch. When the ridge is mated with the notch, the first adjustable light shield **102** and the second adjustable light shield **130** are linked to remain in their positions relative to each other. In the second configuration, the first adjustable light shield **102** and the second adjustable light shield **130** are configured to provide a combined light shield that is configured to block light emitted by the light emitters **106** of the luminaire **100** from the view of an audience located to the right of the luminaire **100** as it is shown in FIG. 5A.

FIG. 5B presents a view of a first end of a second luminaire **100a** according to the disclosure in the second configuration. The luminaire **100a** includes a second light shield **130a** that has a cross-sectional shape different from that of the second adjustable light shield **130** of FIG. 5A. However, in the second configuration, the first adjustable light shield **102** and the second light shield **130a** are still configured to provide a combined light shield that shields the light emitting from the luminaire **100a** from the audience's view.

FIG. 5C presents a view of a first end of a third luminaire **100b** according to the disclosure in the second configuration. The luminaire **100b** includes a second light shield **130b** that cross-sectional shape that is different from either of the second adjustable light shield **130** of FIG. 5A or the second light shield **130a** of FIG. 5B. However, in the second configuration, the first adjustable light shield **102** and the second light shield **130b** are still configured to provide a combined light shield that shields the light emitting from the luminaire **100b** from the audience's view.

As such, while having different shapes or profiles in the second configuration, each of the luminaires **100**, **100a**, and **100b** operates to block from the audience's gaze the light emitting from the luminaire. The first adjustable light shield **102** and the second adjustable light shield **130** of luminaire **100** (FIG. 5A) combine to form a single visually connected surface with a smooth curvature. The first adjustable light shield **102** and the second light shield **130a** of luminaire **100a** (FIG. 5B) combine to form a surface with a changing, concave curvature. The first adjustable light shield **102** and the second light shield **130b** of luminaire **100b** (FIG. 5C) combine to form a surface with a changing, convex curvature.

FIG. 6 presents a view of a first end of a fourth luminaire **600** according to the disclosure with a removeable diffuser assembly **500** in position. With the diffuser assembly **500** removed, the luminaire **600** is identical to the luminaire **100**. The diffuser assembly **500** includes a reflective surface **504** and an optical diffuser **502**. The diffuser assembly **500** is configured to diffuse light emitted by the light emitters **106**. The diffuser assembly **500** is configured to be a separate assembly that mounts on the luminaire **600** in front of the adjustable light shield **130** and over the light emitters **106** (which are not shown in FIG. 6). The reflective surface **504** is configured to reflect light emitted by the light emitters **106** through the optical diffuser **502**. In various embodiments, the reflective surface **504** may comprise a specular, partially specular, or diffusive reflector. In various embodiments, the optical diffuser **502** is optional but, when included, may be configured to provide any density of diffusion. In embodiments that include the optical diffuser **502**, it may comprise a shaped holographic diffuser, linear diffuser, or comprise micro lenses so as to direct light in a predetermined manner.

FIG. 7 presents an orthogonal view of the luminaire **100** of FIG. 1 in the second configuration. The first adjustable light shield **102** and the second light shield **130** are config-

ured to provide a combined light shield. A first end of the cable cavity **116** is visible in FIG. 7. FIG. 8 presents an orthogonal view of the luminaire **600** of FIG. 6 with the diffuser assembly **500** mounted on the luminaire **600**. First ends of the reflective surface **504** and the optical diffuser **502** are visible in FIG. 8.

FIG. 9 presents a view of the first end of the luminaire **100** of FIG. 1 in a third configuration, with the adjustable light shields **102** and **130** in second open positions. The first adjustable light shield **102** is rotated around the first hinge **120** to a fully raised position. In this position it presents a maximum height for shielding light from the audience. The second adjustable light shield **130** may be rotated around the third hinge **132** as desired to further block light.

FIG. 10 presents a view of the first end of the luminaire **100** of FIG. 1 in a fourth configuration, with the first adjustable light shield **102** in a raised position, the second adjustable light shield **130** in a raised position, and the maintenance access panel **104** in a raised position. When raised, the maintenance access panel **104** provides access by a user to a user interface, electronics, and control systems of the luminaire **100**. Raising the first adjustable light shield **102** and the second adjustable light shield **130** provides access to cable cavity **116**, through which a user may run cables. FIG. 11 presents an orthogonal view of the luminaire **100** in the fourth configuration.

FIG. 12 presents a plan view of the luminaire **100** of FIG. 1 in the fourth configuration. With maintenance access panel **104** open, the user may access an electronics and power enclosure **140** and a user interface **142**. The cable cavity **116** may be seen to be generally clear of obstruction, allowing cables to be laid through the cable cavity **116**.

FIG. 13 presents a schematic view of a first light emitter board **200** according to the disclosure. The light emitter board **200** is suitable for use in the luminaire **100** or other luminaires according to the disclosure. The light emitter board **200** includes a plurality of light emitters **206** each comprising at least one LED. The light emitters **206** are mounted to emit light through associated optical assemblies **204**. The optical assemblies **204** may comprise reflectors, total internal reflection (TIR) light guides, lenses, or other optical devices configured to control and direct light emitted by the LEDs. The light emitters **206** and the optical assemblies **204** are mounted on a substrate **202**.

In various embodiments, the light emitters **206** may comprise one or more individual LEDs or other light emitting devices. In embodiments where the light emitter **206** includes a plurality of LEDs, the light emitter **206** may be referred to as a multichip. In such embodiments, the individual LEDs may emit light in the same or multiple colors. In some embodiments, the LEDs comprise red, green, blue, and white LEDs. In other embodiments, any combination of colors and/or white LEDs may be used. Examples of such other combinations include a mix of two or more red, green, blue, amber, warm white, cold white, or tunable white LEDs.

FIG. 14A presents a schematic view of a second light emitter board **220** according to the disclosure. The light emitter board **220** is suitable for use in the luminaire **100** or other luminaires according to the disclosure. The light emitter board **220** includes the plurality of light emitters **206** and associated optical assemblies **204** of the light emitter board **200**, as well as a safety light emitter **208** optically coupled to one of the optical assemblies **204**. In various embodiments, the safety light emitter **208** may comprise an LED or other type of light emitting device. In some embodiments, the light emitter board **220** may include a plurality of safety light emitters **208**.

When the main light emitters **206** are turned off, the safety light emitter **208** is configured to provide a visual indication to performers on stage as to the position of the luminaire **100**. In many cases, this will also indicate the edge of the stage. In such cases, the visual indication enables the performers always to know where the edge of the stage is, even if the rest of the stage lighting is blacked out. When configured in the second or third configuration, the adjustable light shields **102** and **130** also block light emitted by the safety light emitter **208** from being viewed by at least some of the audience.

In some embodiments, the safety light emitter **208** comprises a blue LED emitter, although any color may be used in other embodiments. As described for the light emitters **206**, in various embodiments, the safety light emitter **208** may comprise one or more individual LEDs or other light emitting devices in a single color or a plurality of colors. In various embodiments, the safety light emitter **208** emits light at a lower power and/or intensity than the light emitters **206**.

In some embodiments, the safety light emitter **208** is configured to be illuminated automatically by a control system of the luminaire **100** when all other light emitters **206** are turned off. In other embodiments, an intensity of the safety light emitter **208** is controlled by an operator of the luminaire **100** via command signals sent to the control system via a control channel on a data link. In still other embodiments, the intensity of the safety light emitter **208** is controlled by a completely separate control system, comprising its own sensors or signal detectors and power supply, which may receive power from emergency or battery-backed power feeds. In any embodiment where the safety light emitter **208** comprises multicolor LEDs, a color of the safety light emitter **208** may also be controlled.

In the embodiment shown in FIG. 14A, the safety light emitter **208** is mounted so that it emits light through the optical assembly **204** associated with one of the light emitters **206**. In other embodiments, the safety light emitter **208** is mounted physically separate from any of the light emitting modules **204** and emits light that does not pass through (or is outside of) any of the optical assemblies **204**.

FIG. 14B presents a schematic view of a third light emitter board **230** according to the disclosure. The light emitter board **230** is suitable for use in the luminaire **100** or other luminaires according to the disclosure. The light emitter board **230** includes the plurality of light emitters **206** and the associated optical assemblies **204** of the light emitter board **220**, as well as the safety light emitter **208**. However, as described above, the safety light emitter **208** is mounted in the light emitter board **230** physically separate from any of the light emitting modules **204** so that it emits light outside any of the optical assemblies **204** associated with the light emitters **206**.

FIG. 15A presents a schematic view of a fourth light emitter board **240** according to the disclosure. In addition to the light emitters **206**, the light emitter board **240** includes a plurality of indicator light emitters **210**. The plurality of indicator light emitters **210** are optically coupled to a corresponding plurality of the optical assemblies **204**. In some embodiments, such corresponding optical assemblies **204** are equally spaced from each other at 4-inch intervals (i.e., the indicator light emitters **210** are regularly spaced) along the light emitter board **240**, although any desired spacing (regular or irregular) between the indicator light emitters **210** may be used in other embodiments.

The indicator light emitters **210** are configured to be illuminated individually by a user of the luminaire **100** via command signals sent to the control system of the luminaire

100 via control signals on a data link. Such control of the indicator light emitters **210** solves the problem of providing programmable indications to performers or stage personnel. Various such indications may be provided at different times during a performance. In one example, the indicator light emitters **210** may indicate a desired position (or 'mark') for a performer near the luminaire **100**. In another example, some indicator light emitters **210** may be illuminated during a scene change to show performers where to stand and others illuminated to show stage personnel where props should be placed for the next scene. To provide such functionality, the indicator light emitters **210** are controlled individually, so that selected emitters may be illuminated.

In one embodiment the indicator light emitters **210** are red LED emitters, although any color may be used in other embodiments. As described for the light emitters **206**, in various embodiments the indicator light emitters **210** may comprise one or more individual LEDs or other light emitting devices. In some embodiments, the indicator light emitters **210** may comprise single color LEDs, multicolor LEDs, or a combination of single color and multicolor LEDs. As described above, the indicator light emitters **210** are individually controllable by the user of the luminaire **100** and thus, when they comprise multicolor LEDs, the user may control a color emitted by individual indicator light emitters **210**, as well as whether they are illuminated.

In the embodiment shown in FIG. 15A, the indicator light emitters **210** are mounted so that they emit light through corresponding optical assemblies **204**. In other embodiments, some or all of the indicator light emitters **210** are mounted physically separate from any of the light emitting modules **204** and emit light that does not pass through the optical assemblies **204**. In various embodiments, the indicator light emitters **210** emit light at a lower power and/or intensity than the light emitters **206**. As described for the safety light emitter **208**, when configured in the second or third configuration, the adjustable light shields **102** and **130** block light from the indicator light emitters **210** from being viewed by at least some of the audience.

FIG. 15B presents a schematic view of a fifth light emitter board **250** according to the disclosure. The light emitter board **250** is suitable for use in the luminaire **100** or other luminaires according to the disclosure. The light emitter board **250** includes the plurality of light emitters **206** and associated optical assemblies **204** of the light emitter board **240**, as well as the indicator light emitters **210**. However, as described above, the indicator light emitters **210** are mounted in the light emitter board **250** physically separate from any of the light emitting modules **204** and emit light outside any of the optical assemblies **204** associated with the light emitters **206**. While FIG. 15B shows all of the indicator light emitters **210** mounted physically separate from the optical assemblies **204**, in other embodiments, some of the indicator light emitters **210** may be mounted to emit light through corresponding optical assemblies **204** and others of the indicator light emitters **210** mounted physically separate from any of the light emitting modules **204**.

FIG. 16 presents a schematic view of a portion of the light emitter board **220** of FIG. 14A. The light emitter board **220** includes a plurality of light emitting modules **260**, each comprising one of the light emitters **206** and its corresponding optical assembly **204**, mounted on the substrate **202**. FIG. 16 further shows the safety light emitter **208**, mounted so that the light it emits will pass through the optical assembly **204** along with the light from the light emitter **206**.

FIG. 17 presents a schematic view of a portion of the light emitter board **230** of FIG. 14B. The light emitter board **230**

includes a plurality of light emitting modules **260**, each comprising one of the light emitters **206** and its corresponding optical assembly **204**, mounted on the substrate **202**. FIG. **17** further shows the safety light emitter **208**, mounted in the light emitter board **230** physically separated from any of the light emitting modules **240**, so that the safety light emitter **208** emits light that does not pass through any of the light emitting modules **240**.

While only some embodiments of the disclosure have been described herein, those skilled in the art, having benefit of this disclosure, will appreciate that other embodiments may be devised which do not depart from the scope of the disclosure herein. While the disclosure has been described in detail, it should be understood that various changes, substitutions, and alterations can be made hereto without departing from the spirit and scope of the disclosure.

What is claimed is:

1. A luminaire comprising:
 - an elongated housing having a long axis;
 - a plurality of light emitters extending in a direction of the long axis;
 - a first light shield rotatably coupled to a base of the luminaire, configured to rotate about a first axis parallel to the long axis; and
 - a second light shield rotatably coupled to the base of the luminaire, configured to rotate about a second axis parallel to the long axis,
 wherein the first light shield and the second light shield are configured to contact each other to physically couple to form a combined light shield configured to block light emitted by the plurality of light emitters in a first direction perpendicular to the long axis and to pass light emitted by the plurality of light emitters in a second direction perpendicular to the long axis.
2. The luminaire of claim **1**, further comprising a maintenance access panel rotatably coupled to the base of the luminaire, configured to rotate about a third axis parallel to the long axis.
3. The luminaire of claim **1**, further comprising:
 - an output connector plate comprising an output power connector and an output data connector, the output connector plate positioned near a first end of the luminaire; and
 - an input connector plate comprising an input power connector and an input data connector, the input connector plate positioned near a second end of the luminaire.
4. The luminaire of claim **3**, wherein one or both of the output connector plate and the input connector plate is recessed from its associated end of the luminaire.
5. The luminaire of claim **1**, further comprising:
 - a first physical connector at a first end of the luminaire; and

- a second physical connector at a second end of the luminaire,
 - wherein the first physical connector and the second physical connector are configured to physically couple the luminaire to adjacent luminaires.
6. The luminaire of claim **5**, wherein:
 - the first physical connector comprises a flanged pin; and
 - the second physical connector comprises a socket or slot.
 7. The luminaire of claim **1**, wherein a light emitter of the plurality of light emitters emits light through an optical assembly.
 8. The luminaire of claim **7**, further comprising a safety light emitter.
 9. The luminaire of claim **8**, wherein the safety light emitter emits light through the optical assembly.
 10. The luminaire of claim **8**, wherein the safety light emitter is physically separate from the optical assembly and emits light that does not pass through the optical assembly.
 11. The luminaire of claim **1**, wherein:
 - the plurality of light emitters is a first plurality of light emitters; and
 - the luminaire further comprises a second plurality of indicator light emitters.
 12. The luminaire of claim **11**, wherein:
 - a light emitter of the first plurality of light emitters emits light through an optical assembly.
 13. The luminaire of claim **12**, wherein an indicator light emitter of the second plurality of indicator light emitters emits light through the optical assembly.
 14. The luminaire of claim **13**, wherein:
 - the indicator light emitter is a first indicator light emitter; and
 - a second indicator light emitter of the second plurality of indicator light emitters is physically separate from the optical assembly and emits light that does not pass through the optical assembly.
 15. The luminaire of claim **1**, further comprising a cable cavity extending between a first aperture at a first end of the luminaire and a second aperture at a second end of the luminaire, wherein the first end is at an opposite end of the long axis of the elongated housing from the second end.
 16. The luminaire of claim **15**, wherein access to the cable cavity is provided by rotating the first light shield about the first axis.
 17. The luminaire of claim **1**, further comprising a diffuser assembly configured to diffuse light emitted by the plurality of light emitters.
 18. The luminaire of claim **17**, wherein the diffuser assembly comprises a reflective surface and an optical diffuser, the reflective surface configured to reflect light emitted by the plurality of light emitters through the optical diffuser.

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