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(54) **A LAMP AND A LIGHT FIXTURE**

(57) The invention relates to a lamp (10) and a lamp fixture (50). The lamp fixture (50) comprising a lamp (10) having a lamp base (12) configured to be connected to a lamp fitting (52) of the light fixture (50); light sources (20, 21, 22, 23, 25, 30, 32) electrically connected to the lamp base (12) and configured to emit light, and a lamp shade (54) comprising a first shade element (56) a second shade element (58); and the one or more first light sources (20, 21, 22, 23, 25) are arranged to emit the first light having first luminous flux via the first shade element (56), and the one or more second light sources (30, 32) are arranged to emit the second light having second luminous flux via the second shade element (58).

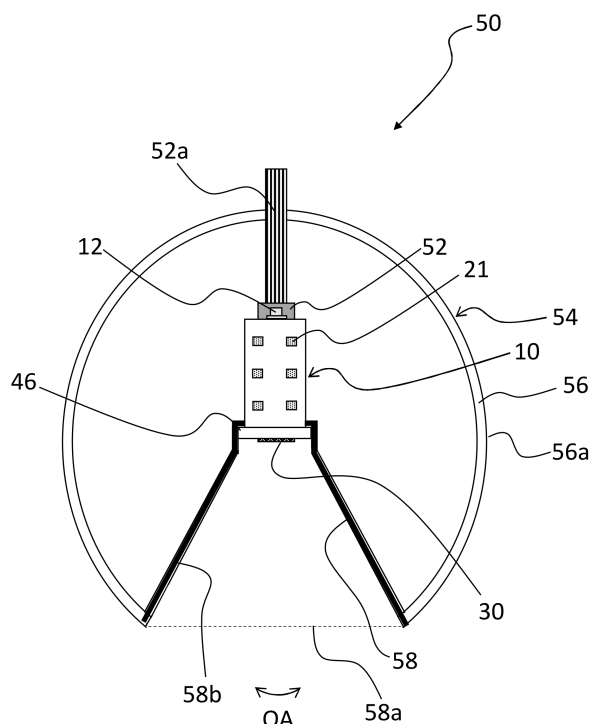


Fig. 3

Description

FIELD OF THE INVENTION

[0001] The present invention relates to a lamp and more particularly to a lamp as defined in the preamble of the independent claim 1.

[0002] The present also relates to a light fixture and more particularly to a light fixture as defined in the preamble of the independent claim 11.

BACKGROUND OF THE INVENTION

[0003] A typical light fixture providing at least two light sources which provide different light properties is implemented such that the light fixture comprises two separate lamps with different light sources.

[0004] One of the problems associated with the prior art is that when having a light fixture with two separate lamps providing different light properties also two separate electrical connections and wiring is needed in the light fixture. This makes the light fixture more complicated and requires more space in the light fixture.

BRIEF DESCRIPTION OF THE INVENTION

[0005] An object of the present invention is to provide a lamp and a light fixture comprising the lamp which provides different luminous flux to different directions.

[0006] The objects of the invention are achieved by a lamp and a light fixture which are characterized by what is stated in the independent claims. The preferred embodiments of the invention are disclosed in the dependent claims.

[0007] The invention is based on the idea of providing a lamp which can be used to direct light having different luminous flux, towards different directions so that part of the lamp provides for example ambient lighting while part of the lamp provides spot lighting.

[0008] A lamp according to the invention comprises a lamp base configured to be connected to a lamp fitting of a light fixture and light sources electrically connected to the lamp base and configured to emit light. The lamp comprises one or more first light sources electrically connected to the lamp base and configured to emit first light having a first luminous flux; and one or more second light sources electrically connected to the lamp base and configured to emit second light having a second luminous flux, the second luminous flux of the one or more second light sources being at least 1,5 times the first luminous flux of the one or more first light sources.

[0009] In other words, the lamp will be electrically connected to the light fixture through the lamp fitting of the light fixture and the lamp base of the lamp. The connection between the lamp base and the lamp fitting is typically also a mechanical connection in addition to the electrical connection. The lamp provides light emission when powered. According to the invention, the light emis-

sion is achieved from one or more first light sources of the lamp and from one or more second light sources of the lamp. The lamp according to the invention emits light from the one or more first light sources and from the one or more second light sources, but the light emission is different from the first light sources and the second light sources because the first light sources have different luminous flux than the second light sources.

[0010] According to the invention the second luminous flux of the one or more first light sources being at least 2 times the first luminous flux of the one or more first light sources, or the second luminous flux of the one or more second light sources being at least 6 times the first luminous flux of the one or more first light sources.

[0011] In other words, the light sources of the lamp emit different luminous flux such that the first light sources emit the first luminous flux, and the second light sources emit the second luminous flux such that the first and second luminous fluxes are different. The second luminous flux is greater than the first luminous flux. In other words, the second luminous flux emitted by the second light sources is greater than the first luminous flux emitted by the first light sources.

[0012] According to the invention the lamp comprises a lamp light guide arranged in connection with the one or more second light sources, and the lamp light guide is arranged to direct the second light by defining an opening angle for the second light emitted from the one or more second light sources, the opening angle being less than 120 degrees.

[0013] According to the invention the second luminous flux of the one or more second light sources being at least 1,5 times the first luminous flux of the one or more first light sources, and the lamp light guide is arranged to define an opening angle which is less than 120 degrees; or the second luminous flux of the one or more second light sources being at least 2 times the first luminous flux of the one or more first light sources, and the lamp light guide is arranged to define an opening angle which is less than 90 degrees; or the second luminous flux of the one or more second light sources being at least 6 times the first luminous flux of the one or more first light sources, and the lamp light guide is arranged to define an opening angle which is less than 60 degrees.

[0014] According to the invention the one or more first light sources are configured to emit the first light having a first colour temperature, the one or more second light sources are configured to emit the second light having a second colour temperature. The second colour temperature being different than the first colour temperature or the second colour temperature being greater than the first colour temperature.

[0015] In other words, the light sources of the lamp emit different colour temperatures such that the first light sources emit the first colour temperature, and the second light sources emit the second colour temperature such that the first and second colour temperatures are different. In other words, the second colour temperature

emitted by the second light sources is greater than the first colour temperature emitted by the first light sources.

[0016] Also, the light colours can be different such that the first light sources emit a first light colour, and the second light sources emit a second light colour, which the first and second light colours are different.

[0017] According to the invention the one or more first light sources are arranged to emit the first light in a first direction from the lamp and the one or more second light sources are arranged to emit the second light in a second direction from the lamp, the first direction and the second direction being different.

[0018] The lamp comprises the one or more first light sources and the one or more second light sources which the first light sources have a different light emittance direction than the second light sources. In other words, the direction of the light emitted from the light source is different in the first light sources and in the second light sources. The direction of the emittance is considered in this application to be the main direction for the radiation of the light from the light source, which the main direction is normal to a surface of the lamp. The surface of the lamp, i.e., a lamp surface, is the surface in the lamp on which the light source is provided.

[0019] According to the invention an angle between the first direction and the second direction is between 45 and 180 degrees; or between 90 and 180 degrees.

[0020] In other words, the first direction to which the first light sources are arranged to emit light is between 45 and 180 degrees in a different direction than the second direction to which the second light sources are arranged to emit light. Alternatively, the first direction to which the first light sources are arranged to emit light is between 90 and 180 degrees in a different direction than the second direction to which the second light sources are arranged to emit light

[0021] According to the invention the lamp comprises a first lamp surface and a second lamp surface, and that the one or more first light sources are provided to the first lamp surface, and the one or more second light sources are provided to the second lamp surface; or the first lamp surface and the second lamp surface are provided with the one or more first light sources, and the second lamp surface is provided with the one or more second light sources; or the first lamp surface and the second lamp surface are provided the one or more second light sources, and the second lamp surface is provided with the one or more first light sources.

[0022] In other words, the lamp comprises the first lamp surface and the second lamp surface, which are separate surfaces of the lamp. Separate surfaces mean, for example, that they face or point in different directions, or that they are separated from each other by other features such as a protrusion or a flange, or that they are provided on different sides of the lamp. The first and second light sources are provided on the lamp surfaces such that the first lamp surface comprises one of the one or more first or second light sources and the second lamp

surface comprises the other one of the one or more first or second light sources. However, either of the first and second lamp surfaces can in addition comprise the other one of the one or more first or second light sources.

[0023] According to the invention the first lamp surface and the second lamp surface are arranged to face towards different directions or direction perpendicular to each other; or the first lamp surface is arranged to face to the first direction and the second lamp surface is arranged to face to the second direction.

[0024] According to the invention the one or more first light sources configured to emit the first light having the first luminous flux may also comprise first light source properties, and the one or more second light sources configured to emit the second light having the second luminous flux may also comprise second light source properties, which means that the first and second light sources are different kind of light sources having different light source properties. This can be for example two different kind of led lights, or two led lights having different colour temperature or different colour.

[0025] According to the invention the lamp comprises a first control module arranged between the lamp base and the one or more first light sources, the first control module being configured to adjust operation parameters of the one or more first light sources such that the one or more first light sources emit the first luminous flux; or the lamp comprises a second control module arranged between the lamp base and the one or more second light sources, the second control module being configured to adjust operation parameters of the one or more second light sources such that the one or more second light sources emit the second luminous flux; or the lamp comprises a first control module arranged between the lamp base and the one or more first light sources, the first control module being configured to adjust operation parameters of the one or more first light sources such that the one or more first light sources emit the first luminous flux, and the lamp comprises a second control module arranged between the lamp base and the one or more second light sources, the second control module being configured to adjust operation parameters of the one or more second light sources such that the one or more second light sources emit the second luminous flux.

[0026] In other words, the lamp comprises a first control module arranged between the lamp base and the one or more first light sources, or a second control module arranged between the lamp base and the one or more second light sources, or a control module arranged between the lamp and the one or more first light sources and the one or more second light sources. The control module is arranged to adjust operation parameters of the light sources such that the light sources emit certain luminous flux. In addition to adjusting operation parameters of the light sources to emit certain luminous flux, the control module may also or alternatively adjust light properties such as colour temperature or colour.

[0027] According to the invention the lamp comprises a

first control module arranged between the lamp base and the one or more first light sources, the first control module being configured to adjust operation parameters of the one or more first light sources such that the one or more first light sources emit the first luminous flux. Alternatively, the lamp comprises a second control module arranged between the lamp base and the one or more second light sources, the second control module being configured to adjust operation parameters of the one or more second light sources such that the one or more second light sources emit the second luminous flux. Alternatively, the lamp comprises a first control module arranged between the lamp base and the one or more first light sources, the first control module being configured to adjust operation parameters of the one or more first light sources such that the one or more first light sources emit the first luminous flux, and the lamp comprises a second control module arranged between the lamp base and the one or more second light sources, the second control module being configured to adjust operation parameters of the one or more second light sources such that the one or more second light sources emit the second luminous flux.

[0028] In other words, the one or more first light sources may be adjusted separately from the one or more second light sources such that they have their own control modules, or the light sources can be adjusted with a common control module. When there is a common control module for the one or more first light sources and for the one or more second light sources, then the light sources are either different or the common control module is able to adjust the light sources differently. In other words, the lamp comprises a first control module arranged between the lamp base and the one or more first light source and between the lamp base and the one or more second light sources, such that the first control module is a common control module. The common control module being configured to adjust operation parameters of the one or more first light sources such that the one or more first light sources emit the first luminous flux and to adjust operation parameters of the one or more second light sources such that the one or more second light sources emit the second luminous flux.

[0029] According to the invention the light sources are LED -light sources.

[0030] A light fixture according to the invention comprising a lamp shade and a lamp having a lamp base configured to be connected to a lamp fitting of the light fixture and light sources electrically connected to the lamp base and configured to emit light. The lamp comprises one or more first light sources electrically connected to the lamp base and configured to emit first light having a first luminous flux, and one or more second light sources electrically connected to the lamp base and configured to emit second light having a second luminous flux, the second luminous flux of the one or more second light sources being at least 1,2 times the first luminous flux of the one or more first light sources. The lamp shade

comprises a first shade element and a second shade element; and the one or more first light sources are arranged to emit the first light having first luminous flux via the first shade element, and the one or more second light sources are arranged to emit the second light having second luminous flux via the second shade element.

[0031] In other words, the lamp is connectable to the lamp shade through the connection between the lamp base and the lamp fitting. The one or more first light sources emit the first light having the first luminous flux via the first shade element of the lamp shade, and the one or more second light source emit the second light having the second luminous flux via the second shade element of the lamp shade. The first shade element and the second shade element are both part of the lamp shade but direct the light emittance differently. Alternatively, or in addition the first shade element and/or the second shade element change the properties of the light, such as scattering the light.

[0032] According to the invention the first shade element comprises a first translucent shade layer, and the one or more first light sources are arranged to emit the first light having the first luminous flux through the first translucent shade layer of the first shade element. Alternatively, the second shade element comprises a second translucent shade layer, and the one or more second light sources are arranged to emit the second light having the second luminous flux through the second translucent shade layer of the second shade element. Alternatively, the first shade element comprises a first translucent shade layer, and the one or more first light sources are arranged to emit the first light having the first luminous flux through the first translucent shade layer of the first shade element, and the second shade element comprises a second translucent shade layer, and the one or more second light sources are arranged to emit the second light having the second luminous flux through the second translucent shade layer of the second shade element.

[0033] In other words, the first shade element has the first translucent shade layer that changes the properties of the first light coming from the first light source, for example, affecting the hue, colour, or dispersion of the light. In other words, the second shade element has the second translucent shade layer that changes the properties of the second light coming from the first light source, for example, affecting the hue, colour, or dispersion of the light, similarly as the first shade element. However, the lamp shade comprising the first and second shade elements preferably has different types of translucent shade layers or only one of the shade elements comprises the translucent shade layer, whereby the shade provides different changes in the properties of the lights coming from the light sources and enables the same lamp shade to be used for two different purposes, for example to create mood light on one side and spot light on the other.

[0034] According to the invention the first shade element comprises a first light guide, the one or more first

light sources are arranged in connection with the first light guide, and the first light guide is arranged to direct the first light having the first luminous flux and emitted from the one or more first light sources.

[0035] In other words, the first light guide is arranged to direct the light coming from the first light source in a desired direction or to prevent the first light from reaching a certain direction or to limit the direction of the light to a certain one. The light guide therefore provides boundaries for the light emitted from the first light source.

[0036] According to the invention the second shade element comprises a second light guide, the one or more second light sources are arranged in connection with the second light guide, and the second light guide is arranged to direct the second light by defining an opening angle for the second light emitted from the one or more second light sources, the opening angle being less than 180 degrees, and preferably less than 120 degrees.

[0037] Similarly, as the first light guide, the second light guide is arranged to direct the light coming from the second light source in a desired direction or to prevent the second light from reaching a certain direction or to limit the direction of the light to a certain one. The light guide therefore provides boundaries for the light emitted from the second light source.

[0038] According to the invention the second luminous flux of the one or more second light sources being at least 1,5 times the first luminous flux of the one or more first light sources, and the second light guide is arranged to define an opening angle which is less than 120 degrees; or the second luminous flux of the one or more second light sources being at least 2 times the first luminous flux of the one or more first light sources, and the second light guide is arranged to define an opening angle which is less than 90 degrees; or the second luminous flux of the one or more second light sources being at least 6 times the first luminous flux of the one or more first light sources, and the second light guide is arranged to define an opening angle which is less than 60 degrees.

[0039] According to the invention the lamp is provided with a first translucent shade layer, which is for example surrounding the one or more first light sources so that the first luminous flux is emitted from the one or more first light sources through the first translucent shade layer. Alternatively, or in addition the lamp is provided with a second translucent shade layer, which is for example surrounding the one or more second light sources so that the second luminous flux is emitted from the one or more second light sources through the second translucent shade layer. The translucent shade layer may provide further colour properties, dimming or scattering properties for the light so that the translucent shade layer may be for example opaque or crystalline. The translucent shade layer may be for example a glass cover surrounding the light source.

[0040] According to the invention the lamp of the light fixture is a lamp according as previously described.

[0041] The advantage of the invention is that with just

one lamp, different light characteristics can be achieved to be directed in different directions or locations. This is particularly advantageous in connection with a light fixture according to the invention, which can be used to create, for example, ambient light in the environment, while the same lamp can provide precise spotlighting to a specific point.

BRIEF DESCRIPTION OF THE DRAWINGS

[0042] The invention is described in detail by means of specific embodiments with reference to the enclosed drawings, in which

Figures 1a-1d show examples of lamps according to the invention as seen from outside;

Figures 2a-2d show simplified electrical connections of the light sources of the lamps shown in Figures 1a-1d;

Figure 3 shows an example of a light fixture according to the invention;

Figure 4 shows the light fixture shown in figure 3 as seen from below;

Figure 5a show an example of a lamp according to the invention as seen from outside and figure 5b shows a simplified electrical connection of the light sources of the lamp shown in figure 5a;

Figure 6 shows an example of a light fixture according to the invention

Figure 7 shows an example of a lamp according to the invention, and

Figures 8a and 8b show examples of lamps according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0043] Figure 1a shows an example of a lamp according to the invention having a lamp base 12 from which the lamp 10 is connected to a lamp fitting of a lamp fixture (not shown in the figure). The lamp 10 comprises a first lamp surface on which first light sources 20 are provided, and a second lamp surface 44 on which a second light source 30 is provided. The first lamp surface 42 and the second lamp surface 44 are separate surfaces and in this example, they point in different directions and are also separated from each other by a flange 46 at the end of the lamp 10. In this example there are at least three first light sources 20 provided on the first lamp surface 42 and one second light source 30 provided on the second lamp surface 44. The first light sources 20 emit light to a different direction than the second light source 30 because they are provided on different lamp surfaces 42, 44 which face to different directions.

[0044] Figure 1b shows another example of a lamp 10 according to the invention having a similar lamp base 12 and a similar flange 36 as the lamp 10 of figure 1a. In this example the lamp 10 is cylindrical and the first lamp surface 42 is provided with multiple smaller first light

sources 21 which are provided on all sides of the first surface 42 on the cylindrical lamp 10. The first light sources 21 are arranged to emit the first light in a first direction A from the lamp 10. The first direction A extends perpendicularly from the first lamp surface 42 of the lamp 10. Figure 1b shows that the first light sources 21 protrude from the first lamp surface 42, however, they may alternatively be embedded to the lamp so that they are at the same level with the first lamp surface 42. The second light source 30 is in this example similar to the one shown in figure 1a and is arranged to emit second light in a second direction B from the lamp 10. The second direction B extends perpendicularly from the second lamp surface 44 of the lamp 10. The second lamp surface 44 is in this example of the lamp 10, at the end of the lamp 10, which is opposite to the other end of the lamp on which the lamp base 12 is provided. The first light sources 21 and the second light source 30 emit light to different directions which in this example is such that the angle between the first direction A and the second direction B is 90 degrees.

[0045] Figure 1c shows another example of the lamp 10 according to the invention in which the first light sources 22 are arranged longitudinally on the first lamp surface 42. Otherwise, the features are similar to the ones shown in figures 1a and 1b.

[0046] Figure 1d shows yet another example of the lamp 10 according to the invention in which the whole first lamp surface 42 is provided with the first light source 23. The first light source 23 emits the first light in the first direction A, which is 90 degrees to the second direction B, which is the direction in which the second light source 30 emits the second light. Otherwise, the features are similar to the ones shown in figures 1a, 1b and 1c.

[0047] Figure 2a shows simplified electrical connections of the light sources 20, 30 of the lamp 10 shown in figure 1a. The first light sources 20 and the second light source 30 are connected such that a first control module 60 is arranged between the lamp base 12 and the first light sources 20 and also between the lamp base 12 and the second light source 30 so that the first control module 60 is configured to adjust operation parameters of the first light sources 20 such that the first light sources 20 emit the first luminous flux and also to adjust operation parameters of the second light source 30 such that the second light source 30 emits the second luminous flux.

[0048] Figure 2b shows simplified electrical connections of the light sources 21, 30 of the lamp 10 shown in figure 1b. The lamp 10 has two control modules such that the first control module 60 is arranged between the lamp base 12 and the first light sources 21 and is configured to adjust operation parameters of the first light sources 21 such that the first light sources 21 emit the first luminous flux. The second control module 62 is arranged between the lamp base 12 and the second light source 30 such that it is configured to adjust operation parameters of the second light source 30 such that the second light source 30 emits the second luminous flux.

[0049] Figure 2c shows simplified electrical connections of the light sources 22, 30 of the lamp 10 shown in figure 1c. The lamp 10 has three control modules 60a, 60b, 62 such that the first control modules 60a, 60b are arranged between the lamp base 12 and the first light sources 22 and are configured to adjust operation parameters of the first light sources 22 such that the first light sources 22 emit the first luminous flux. The second control module 62 is arranged between the lamp base 12 and the second light source 30 such that it is configured to adjust operation parameters of the second light source 30 such that the second light source 30 emits the second luminous flux. The lamp 10 may comprise more than two first control modules 60a, 60b such that when there are more than two first light sources 22 each first light source 22 has its own control module.

[0050] Figure 2d shows simplified electrical connections of the light sources 23, 30 of the lamp 10 shown in figure 1d. The lamp 10 has a common electrical connection for the first light source 23 and for the second light source 30 and there is a first control module 60 between the first light source 23 and the second light source 30 so that the first control module 60 is common for both light sources 23, 30. The common control module 60 may only adjust operation parameters of the second light source 30 such that the second light source 30 emits the second luminous flux, or it may alternatively adjust operation parameters of both light sources 23, 30 so that the first light source 23 emits the first luminous flux and the second light source 30 emits the second luminous flux.

[0051] Figure 3 shows an example of a light fixture 50 according to the invention, which the light fixture 50 comprises a lamp shade 54 and a lamp 10 connected to a lamp fitting 52 of the light fixture 50 through a lamp base 12 of the lamp 10. The lamp shown in this figure is similar to the one shown in figure 1b, however, the lamp 10 may be any lamp shown in the previous figures or any other lamp 10 having the described properties. The electrical connection between the light fixture 50 and the lamp 10 is provided through the connection between the lamp fitting 52 and the lamp base 12. The lamp fitting 52 comprises also a cord 52a extending away from the lamp fitting 52. The lamp 10 comprises one or more first light sources 21 electrically connected to the lamp base 12 and configured to emit first light having first luminous flux, and one or more second light sources 30 electrically connected to the lamp base 12 and configured to emit second light having second luminous flux, the second luminous flux being different than the first luminous flux. The lamp shade 54 comprises a first shade element 56 and a second shade element 58 which the first shade element 56 is arranged in connection with the first light sources 21 so that the first light sources 21 emit the first light having the first luminous flux through the first shade element 56, and the second light source 30 emit the second light having the second luminous flux via the second shade element 58. In the example of the light fixture 50 shown in figure 3 the first shade element 56

comprises a first translucent shade layer 56a provided on the first shade element 56 so that the first light sources 21 emit the first luminous flux through the first translucent shade layer 56a of the first shade element 56. The first translucent shade layer 56a may provide further colour properties, dimming or scattering properties for the first light so that the first translucent shade layer 56a may be for example opaque or crystalline. The second shade element 58 is provided in connection with the second light source 30 so that the second light source 30 emits the second light having the second luminous flux via the second shade element 58. Via the second shade element 58 means that the second light is directed to a desired location by means of the second shade element 58. In the example of the light fixture 50 shown in figure 3 the second shade element 58 comprises a second translucent shade layer 58a provided in connection with the first shade element 56 so that the second light source 30 emits the second luminous flux through the second translucent shade layer 58a of the second shade element 58. The second translucent shade layer 58a is provided in connection with the second shade element 58 such that the second translucent shade layer 58a extends from a periphery of the second shade element 58, which in this example is formed as a truncated cone, closing the end of the second shade element 58, i.e. closing the end of the truncated cone. However, the second shade element 58 may also be provided without the second translucent shade element 58a so that the second light source 30 emits the second light straight without any layers on the way. In the example of the light fixture 50 shown in figure 3 the second shade element 58 also comprises a second light guide 58b (shown in black in the figure). The second light guide 58b is arranged to direct the second light having the second luminous flux and emitted from the second light source 30. In the example shown here, the second light guide 58b directs the second light such that it prevents the second light from entering to the region where the first light sources 21 emit the first light. The second light guide 58b therefore directs a beam of the second light coming from the second light source 30. The lamp 10 is provided with the flange 46 at the end of the lamp 10 as previously described. The flange 46 serves as a connecting surface for the lamp shade 54 so that the second shade element 58 rests on the flange 46.

[0052] Figure 4 shows the light fixture 50 shown in figure 3 as seen from below showing that the light fixture 50 is a ball shaped light fixture 50 having an opening 40 formed by the first shade element 56 and the second shade element 58 in their junction. The second light source 30 is provided on the second lamp surface 44 and the second shade element 58 guides the second light. The second shade element 58 comprises the second light guide 58b on thereof so that the figure 5 shows on only the second light guide 58b on the second shade element. Figure also shows the first shade element 56 having the translucent shade layer 56a on its surface or embedded on the first shade element 56.

[0053] Figure 5a show an example of a lamp 10 according to the invention which is a bit different than the lamps shown in figures 1a-1d. The lamp 10 having a lamp base 12 from which the lamp 10 is connected to a lamp fitting of a lamp fixture (not shown in the figure). The lamp 10 comprises a first lamp surface 42 on which first light sources 24 are provided, and a second lamp surface 44 on which a second light source 32 is provided. The first lamp surface 42 and the second lamp surface 44 are separate surfaces and in this example, they point in different directions. The second lamp surface 44 is also provided with first light sources 25 which emit first light having first luminous flux while the second light source 32 in the middle of the first light sources emits second light having second luminous flux. The first lamp surfaces 42a, 42b on the sides also comprise first light sources emitting first light.

[0054] Figure 5b shows a simplified electrical connection of the light sources of the lamp shown in figure 5a such that the second light source 32 is controlled by a second control module 62 while all the first light sources 25 are controlled by a first control module 60. The lamp 10 has the similar lamp base 12 as described earlier in the context of other figures.

[0055] Figure 6 shows an example of a light fixture 50 according to the invention in which the lamp 10 shown in figures 5a and 5b is used. The lamp 10 is connected to the light fixture 50 through the connection between the lamp base 12 and the lamp fitting 52. The light fixture 50 shown in figure 6 may be connectable for example to a ceiling or to a wall. The lamp shade 54 comprises the first shade element 56 and the second shade element 58 such that the first light sources 24, 25 are provided in connection with the first shade element 56 and the second light source 32 is provided in connection with the second shade element 58. Although part of the first light sources 25 are provided on the same surface as the second light source 32, the lamp shade 54 provides additional definition of the luminous flux by directing the second light from the second light source 32 to a different location by means of the second light guides 58b, limiting the direction of the light. The first light sources 24, 25 which emit the first light, provide light that passes through the first translucent shade layer 56a provided in the first shade element 56 to outside the light fixture 50.

[0056] Figure 7 shows an example of a lamp 10 according to the invention in which the lamp base 12 is a screw base and the lamp 10 comprises in this example three separate light sources 20, 30 from which the outer lights sources are first light sources 20 and the middle one is a second light source. The first and second light sources 20, 30 having different luminous flux. The light sources 20, 30 are provided on the same lamp surface 42.

[0057] Similarly, as described in connection with the light fixture, the lamp 10 can further comprise, and in this example also comprises, a first translucent shade layer 56a which can for example be made of glass like in

standard light bulbs. The lamp 10 shown in figure 7 comprises also a lamp light guide 18b arranged in connection with the light sources 20, 30 such that the lamp light guide 18b is extending from the lamp surface 42 away and separates the second light source 30 from the first light sources 20. The lamp light guide 18b is arranged to direct the second light emitting from the second light source 30 at an opening angle OA of less than 120 degrees.

[0058] Figure 8a shows another example of a lamp 10, which is similar as shown in figure 7 with a difference to that it does not comprise the first translucent shade 56a. Figure 8b shows an example of a lamp 10 which comprises a lamp base 12 and the second lamp surface 44 at the opposite end of the lamp 10 than the lamp base 12. The second lamp surface 44 is provided with the second light source 30 surrounded by a lamp light guide 18b for directing the light emitting by the second light source 30 to a specified location. A plurality of smaller first light sources 20 are arranged on the first surface 42 extending around the cylindrical lamp 10.

[0059] The invention has been described above with reference to the examples shown in the figures. However, the invention is in no way restricted to the above examples but may vary within the scope of the claims.

Claims

1. A lamp (10) comprising:

- a lamp base (12) configured to be connected to a lamp fitting (52) of a light fixture (50); and
- light sources (20, 21, 22, 23, 25, 30, 32) electrically connected to the lamp base (12) and configured to emit light, **characterized in that** the lamp (10) comprises:

- one or more first light sources (20, 21, 22, 23, 25) electrically connected to the lamp base (12) and configured to emit first light having a first luminous flux, and
- one or more second light sources (30, 32) electrically connected to the lamp base (12) and configured to emit second light having a second luminous flux,

the second luminous flux of the one or more second light sources (30, 32) being at least 1,5 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25).

2. A lamp (10) according to claim 1, **characterized in that:**

- the second luminous flux of the one or more second light sources (30, 32) being at least 2 times the first luminous flux of the one or more

first light sources (20, 21, 22, 23, 25); or

- the second luminous flux of the one or more second light sources (30, 32) being at least 6 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25).

3. A lamp (10) according to claim 2, **characterized in that** the lamp (10) comprises a lamp light guide (18b) arranged in connection with the one or more second light sources (30, 32), and the lamp light guide (18b) is arranged to direct the second light by defining an opening angle (OA) for the second light emitted from the one or more second light sources (30, 32), the opening angle (OA) being less than 120 degrees.

4. A lamp (10) according to claim 3, **characterized in that:**

- the second luminous flux of the one or more second light sources (30, 32) being at least 1,5 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25), and the lamp light guide (18b) is arranged to define an opening angle (OA) which is less than 120 degrees; or
- the second luminous flux of the one or more second light sources (30, 32) being at least 2 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25), and the lamp light guide (18b) is arranged to define an opening angle (OA) which is less than 90 degrees; or
- the second luminous flux of the one or more second light sources (30, 32) being at least 6 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25), and the lamp light guide (18b) is arranged to define an opening angle (OA) which is less than 60 degrees.

5. A lamp (10) according to any one of claims 1 to 4, **characterized in that:**

- the one or more first light sources (20, 21, 22, 23, 25) are configured to emit the first light having a first colour temperature,
- the one or more second light sources (30, 32) are configured to emit the second light having a second colour temperature, and that

the second colour temperature being different than the first colour temperature, or the second colour temperature being greater than the first colour temperature.

6. A lamp (10) according to any one of claims 1 to 5, **characterized in that** the one or more first light sources (20, 21, 22, 23, 25) are arranged to emit

the first light in a first direction (A) from the lamp (10) and the one or more second light sources (30, 32) are arranged to emit the second light in a second direction (B) from the lamp (10), the first direction (A) and the second direction (B) being different.

7. A lamp (10) according to claim 6, **characterized in that** an angle between the first direction (A) and the second direction (B) is:

- between 45 and 180 degrees; or
- between 90 and 180 degrees.

8. A lamp (10) according to any one of claims 1 to 7, **characterized in that** the lamp (10) comprises a first lamp surface (42) and a second lamp surface (44), and that:

- the one or more first light sources (20, 21, 22, 23, 25) are provided to the first lamp surface (42), and the one or more second light sources (30, 32) are provided to the second lamp surface (44); or
- the first lamp surface (42) and the second lamp surface (44) are provided with the one or more first light sources (20, 21, 22, 23, 25), and the second lamp surface (44) is provided with the one or more second light sources (30, 32); or
- the first lamp surface (42) and the second lamp surface (44) are provided with the one or more second light sources (30, 32), and the second lamp surface (44) is provided with the one or more first light sources (20, 21, 22, 23, 25).

9. A lamp (10) according to claim 8, **characterized in that**:

- the first lamp surface (42) and the second lamp surface (44) are arranged to face towards different directions or direction perpendicular to each other; or
- the first lamp surface (42) is arranged to face to the first direction (A) and the second lamp surface (44) is arranged to face to the second direction (B).

10. A lamp (10) according to any one of claims 1 to 9, **characterized in that**:

- the lamp (10) comprises a first control module (60) arranged between the lamp base (12) and the one or more first light sources (20, 21, 22, 23, 25), the first control module (60) being configured to adjust operation parameters of the one or more first light sources (20, 21, 22, 23, 25) such that the one or more first light sources (20, 21, 22, 23, 25) emit the first luminous flux; or
- the lamp (10) comprises a second control

module (62) arranged between the lamp base (12) and the one or more second light sources (30, 32), the second control module (62) being configured to adjust operation parameters of the one or more second light sources (30, 32) such that the one or more second light sources (30, 32) emit the second luminous flux; or

- the lamp (10) comprises a first control module (60) arranged between the lamp base (12) and the one or more first light sources (20, 21, 22, 23, 25), the first control module (60) being configured to adjust operation parameters of the one or more first light sources (20, 21, 22, 23, 25) such that the one or more first light sources (20, 21, 22, 23, 25) emit the first luminous flux, and
- the lamp (10) comprises a second control module (62) arranged between the lamp base (12) and the one or more second light sources (30, 32), the second control module (62) being configured to adjust operation parameters of the one or more second light sources (30, 32) such that the one or more second light sources (30, 32) emit the second luminous flux.

11. A light fixture (50) comprising a lamp shade (54) and a lamp (10) having a lamp base (12) configured to be connected to a lamp fitting (52) of the light fixture (50) and light sources (20, 21, 22, 23, 25, 30, 32) electrically connected to the lamp base (12) and configured to emit light, **characterized in that**:

- the lamp (10) comprises one or more first light sources (20, 21, 22, 23, 25) electrically connected to the lamp base (12) and configured to emit first light having a first luminous flux, and one or more second light sources (30, 32) electrically connected to the lamp base (12) and configured to emit second light having a second luminous flux, the second luminous flux of the one or more second light sources (30, 32) being at least 1,2 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25);
- the lamp shade (54) comprises a first shade element (56) and a second shade element (58); and
- the one or more first light sources (20, 21, 22, 23, 25) are arranged to emit the first light having the first luminous flux via the first shade element (56), and
- the one or more second light sources (30, 32) are arranged to emit the second light having the second luminous flux via the second shade element (58).

12. A light fixture (50) according to claim 11, **characterized in that**:

- the first shade element (56) comprises a first translucent shade layer (56a), and the one or more first light sources (20, 21, 22, 23, 25) are arranged to emit the first light having the first luminous flux through the first translucent shade layer (56a) of the first shade element (56); or
 - the second shade element (58) comprises a second translucent shade layer (58a), and the one or more second light sources (30, 32) are arranged to emit the second light having the second luminous flux through the second translucent shade layer (58a) of the second shade element (58); or
 - the first shade element (56) comprises a first translucent shade layer (56a), and the one or more first light sources (20, 21, 22, 23, 25) are arranged to emit the first light having the first luminous flux through the first translucent shade layer (56a) of the first shade element (56), and
 - the second shade element (58) comprises a second translucent shade layer (58a), and the one or more second light sources (30, 32) are arranged to emit the second light having the second luminous flux through the second translucent shade layer (58a) of the second shade element (58).

13. A light fixture (50) according to claim 11 or 12, **characterized in that** the second shade element (58) comprises a second light guide (58b), the one or more second light sources (30, 32) are arranged in connection with the second light guide (58b), and the second light guide (58b) is arranged to direct the second light by defining an opening angle (OA) for the second light emitted from the one or more second light sources (30, 32), the opening angle (OA) being less than 180 degrees, and preferably less than 120 degrees.

14. A light fixture (50) according to any one of claims 11 to 13, **characterized in that:**

- the second luminous flux of the one or more second light sources (30, 32) being at least 1,5 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25), and the second light guide (58b) is arranged to define an opening angle (OA) which is less than 120 degrees; or
 - the second luminous flux of the one or more second light sources (30, 32) being at least 2 times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25), and the second light guide (58b) is arranged to define an opening angle (OA) which is less than 90 degrees; or
 - the second luminous flux of the one or more second light sources (30, 32) being at least 6

times the first luminous flux of the one or more first light sources (20, 21, 22, 23, 25), and the second light guide (58b) is arranged to define an opening angle (OA) which is less than 60 degrees.

15. A light fixture (50) according to any one of claims 11 to 14, **characterized in that** the lamp (10) of the light fixture (50) is a lamp according to any one of claims 1 to 10.

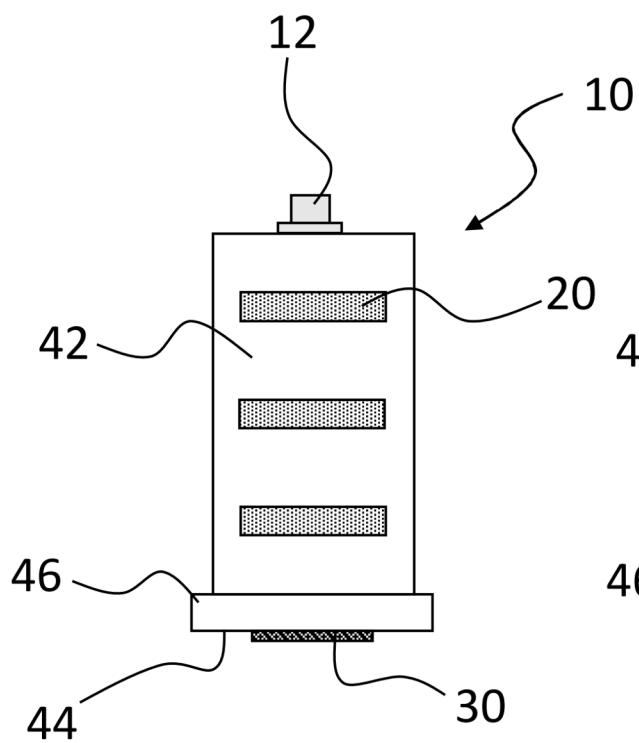


Fig. 1a

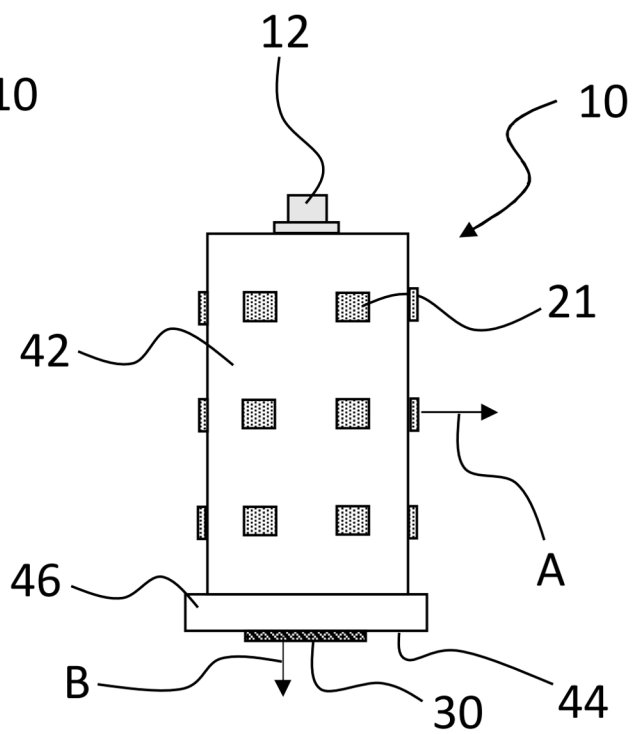


Fig. 1b

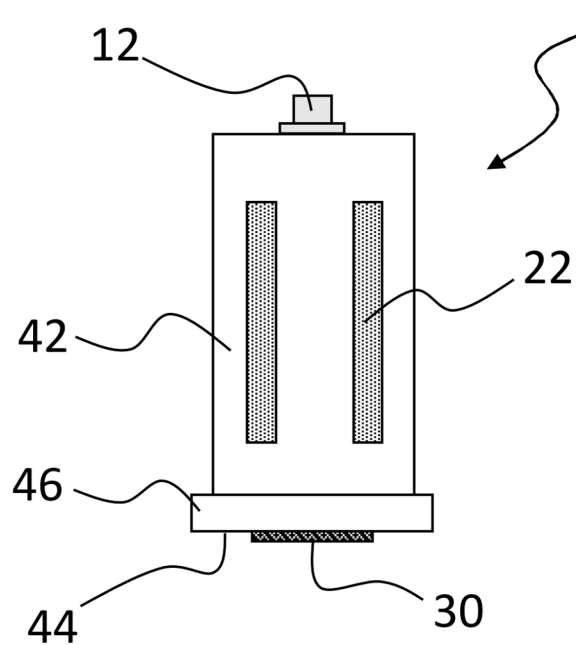


Fig. 1c

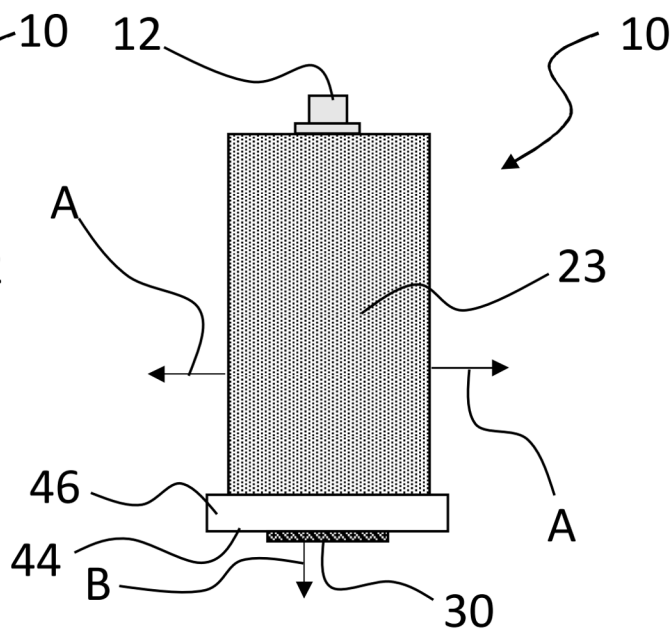


Fig. 1d

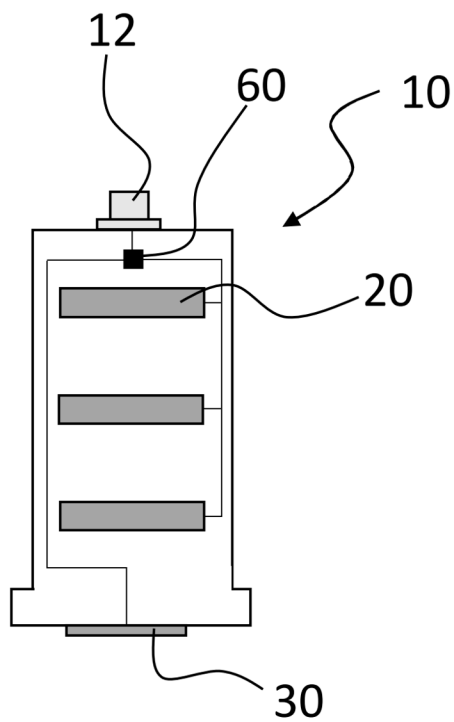


Fig. 2a

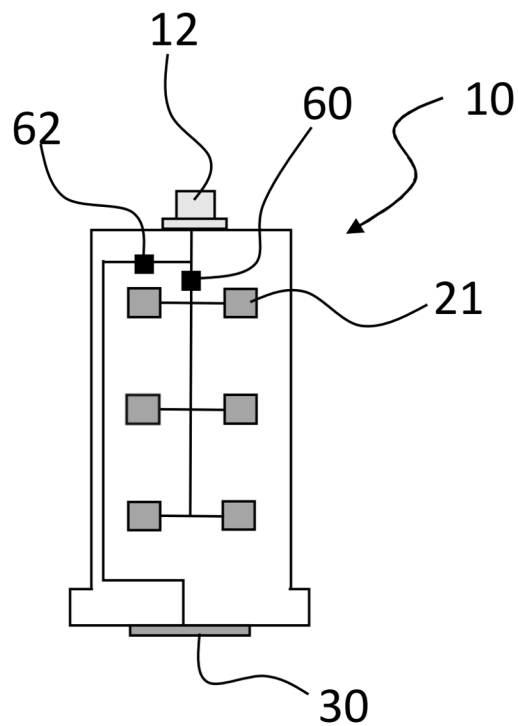


Fig. 2b

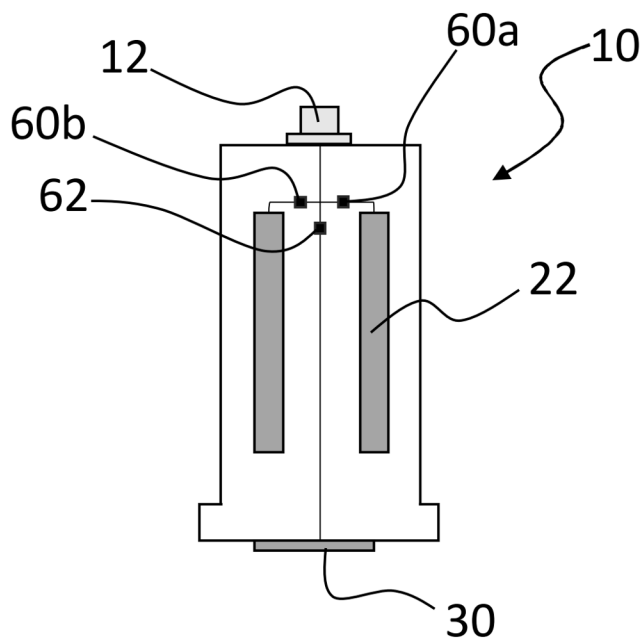


Fig. 2c

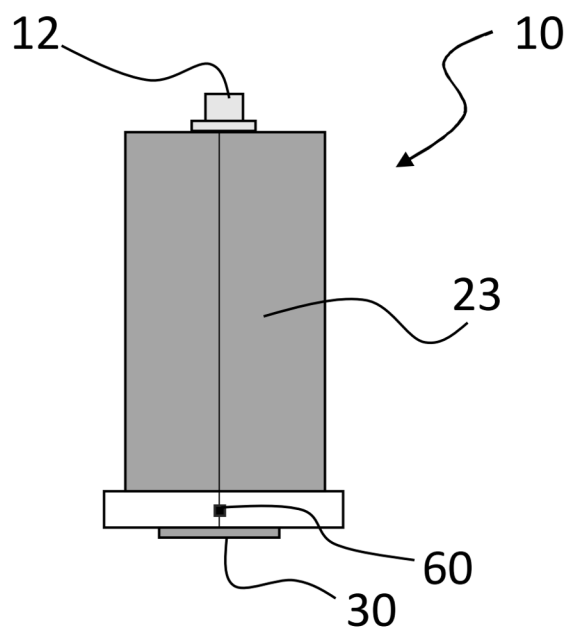


Fig. 2d

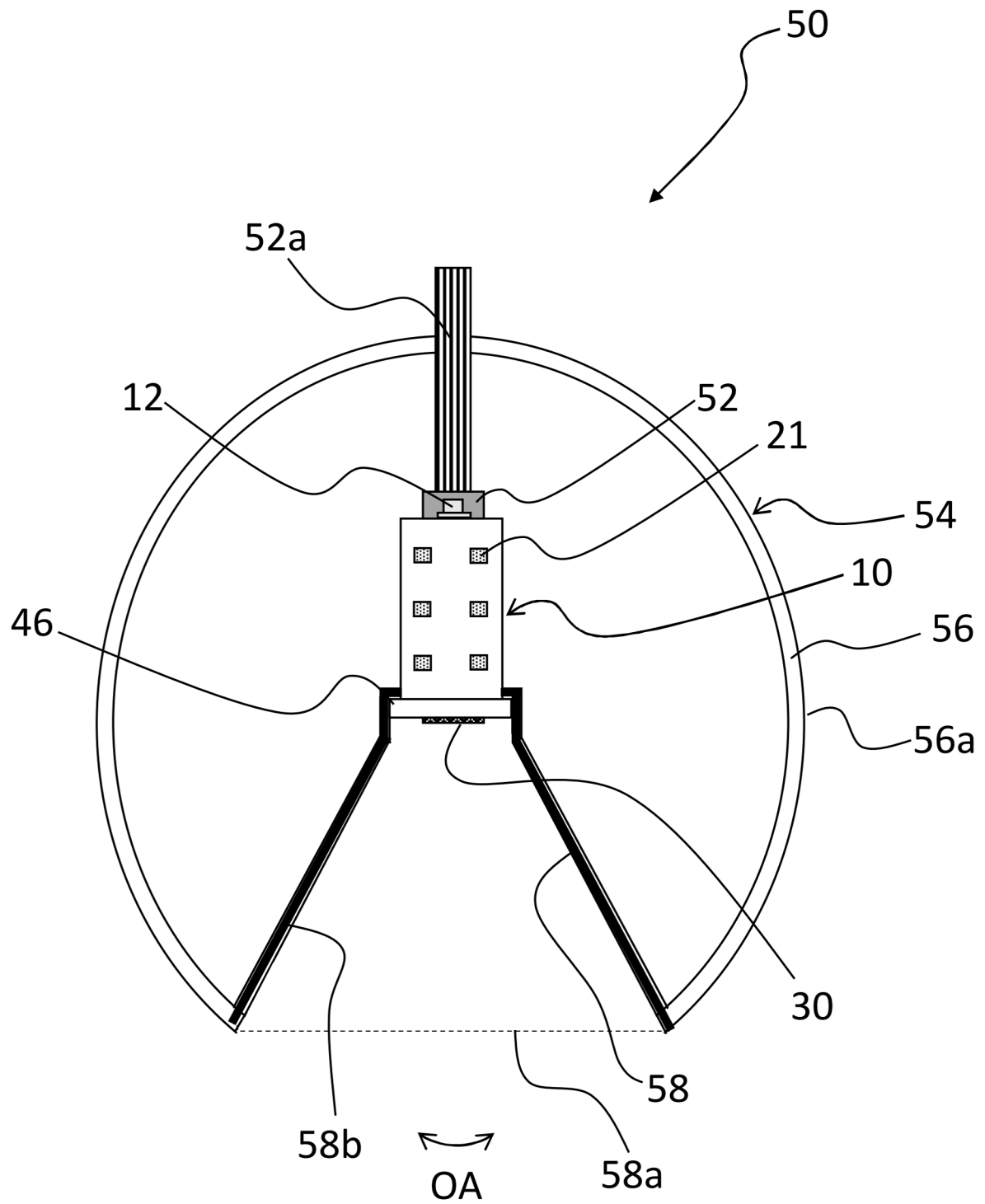


Fig. 3

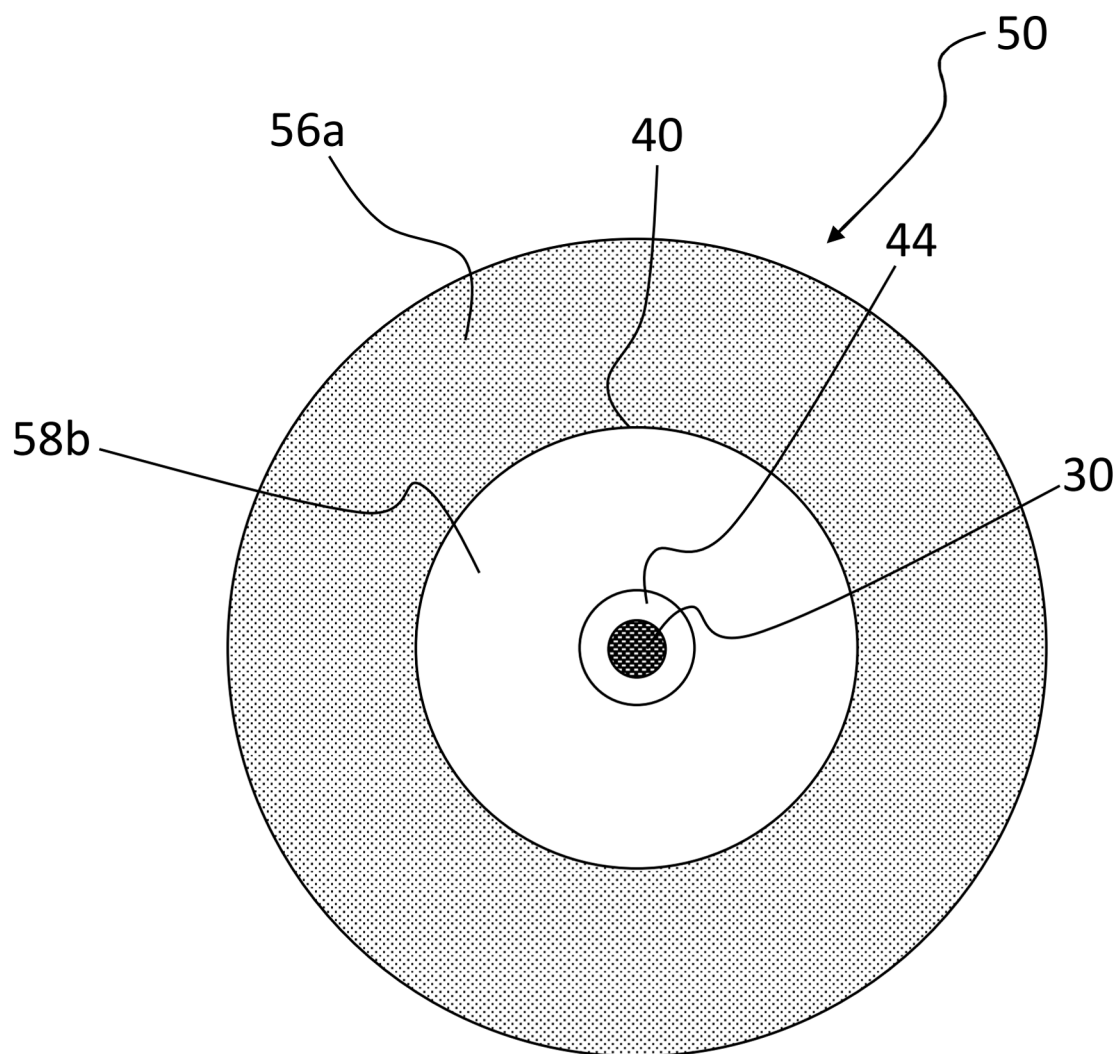


Fig. 4

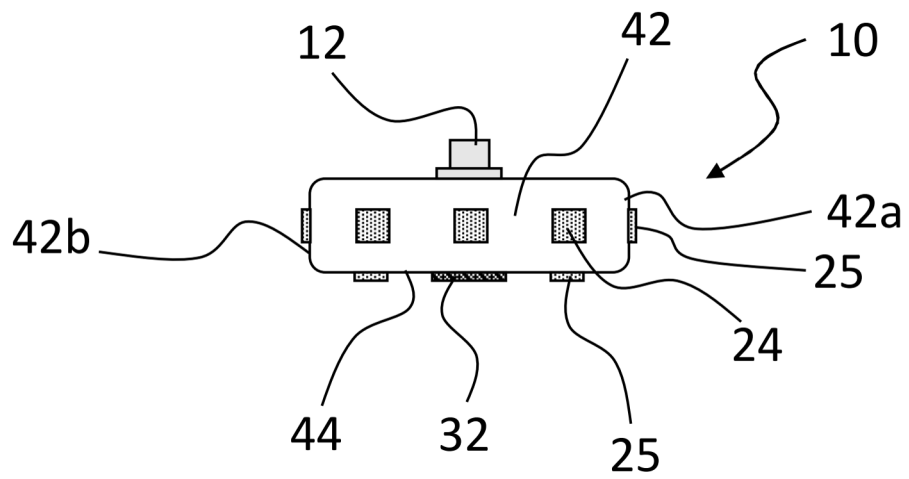


Fig. 5a

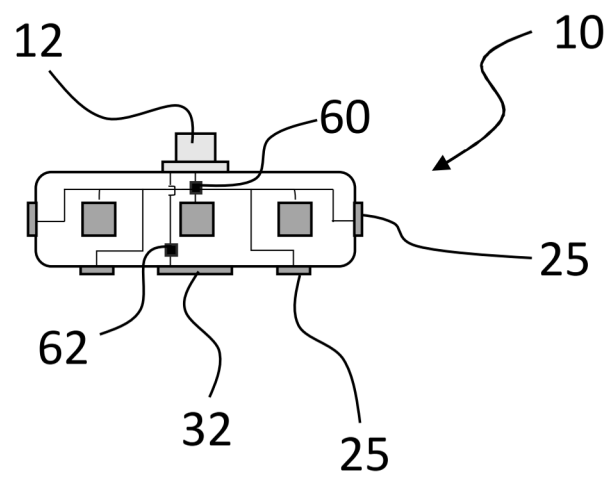


Fig. 5b

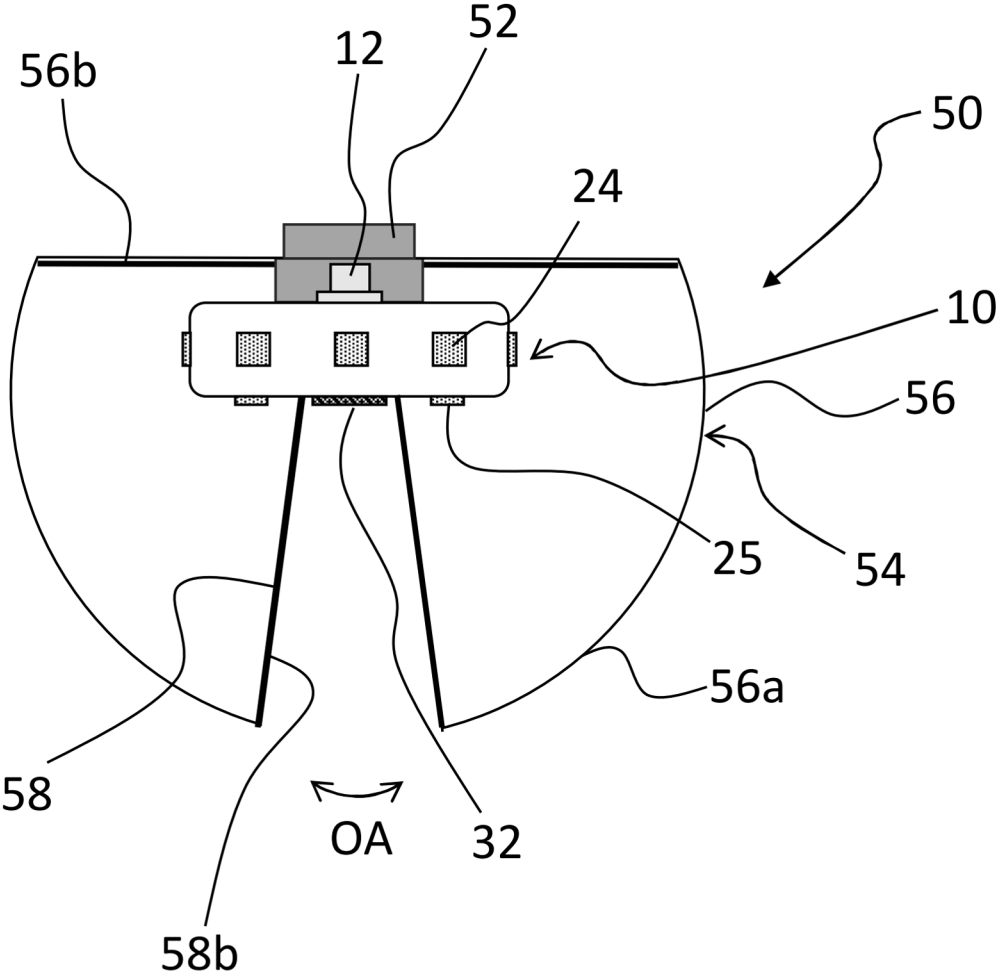


Fig.6

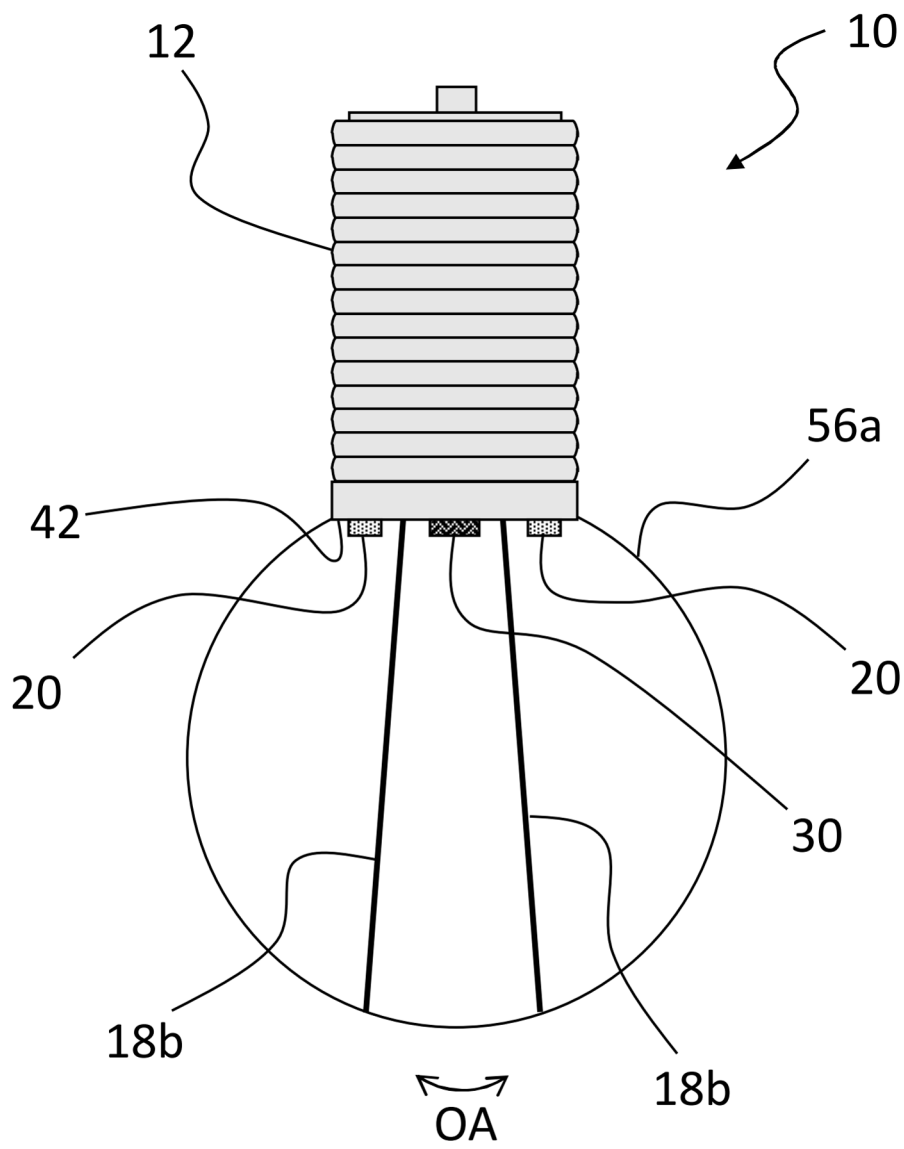


Fig.7

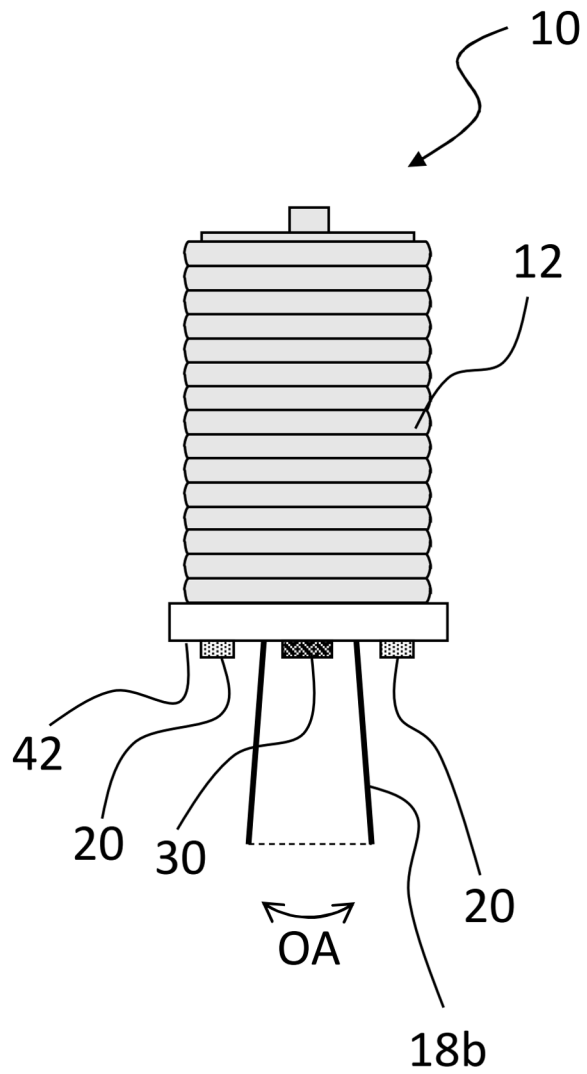


Fig. 8a

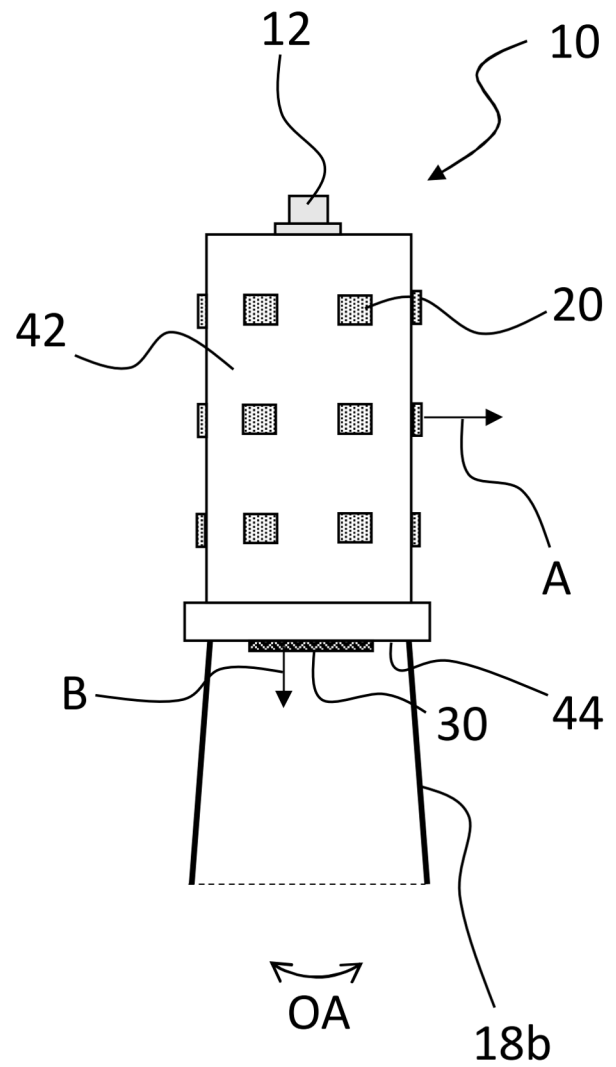


Fig. 8b



EUROPEAN SEARCH REPORT

Application Number

EP 26 16 7875

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A	* paragraphs [0045] - [0048], [0059], [0068], [0069]; figure 2B *	3,4, 12-14	F21K9/233 F21K9/238
X	WO 2017/129506 A1 (SHADE APS [DK]) 3 August 2017 (2017-08-03)	1,5-9, 11,12,15	ADD. F21Y113/13
A	* page 7, line 3 - line 29; claims 1,7; figures 2,3 *	13,14	F21Y115/10
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	* figures 1,11,15 *		
			TECHNICAL FIELDS SEARCHED (IPC)
			F21Y F21K
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		28 August 2026	Krikorian, Olivier
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X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
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28-08-2026

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