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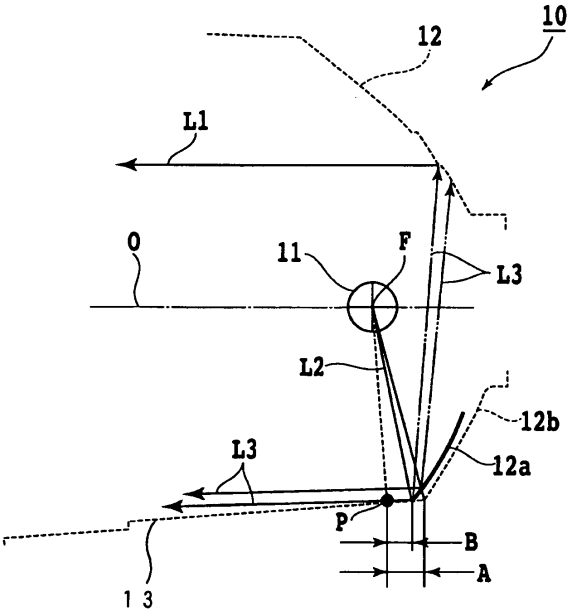
(54) **Vehicle headlight**

(57) A vehicle headlight (10, 20) with a simple configuration is to be provided, which can suppress or prevent the generation of any glare light occurring due to the reflection by a second reflecting surface (13) provided near the lower area of a first reflecting surface (12). The vehicle headlight (10) can include: a light source (11); a first reflecting surface (12) disposed behind the light source (11) so as to reflect light (L1) from the light source (11) to an illumination direction, the first reflecting surface (12) having a focus (F) at or near the position of the light source (11) and a center axis (O) along the light illumination direction and being concave toward the illumination direction; and a second reflecting surface (13) extending at least adjacent to an edge of the first reflecting surface (12). In the vehicle headlight (10), part (12a) of the first reflecting surface (12) near the second reflecting surface (13) is disposed to serve as a third reflecting surface that has a different reflecting surface shape from that of the first reflecting surface (12) and that can reflect light (L2, L3) that is emitted from the light source (11) rearward and downward and directed near the second reflecting surface (13), in the illumination direction.

Fig. 5



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Description

BACKGROUND OF THE INVENTION

1. Technical Field of the Invention

[0001] The present invention relates to a vehicle headlight to be used as a main headlight or an auxiliary headlight provided onto the front part of an automobile, for example.

2. Description of the Related Art.

[0002] Figs. 1A and 1B show a conventional vehicle headlight of this type.

[0003] As shown in Figs. 1A and 1B, the vehicle headlight 1 is configured to include a bulb 2 serving as a light source and a reflecting surface 3 configured to reflect light from the bulb 2 in an illumination direction (forward).

[0004] The bulb 2 can be any bulb for use in a general vehicle headlight, an auxiliary headlight, or the like. For example, a halogen bulb with a commonly known configuration can be used as the bulb 2. The bulb 2 is disposed horizontally so that its optical axis O is arranged horizontally in the illumination direction. The bulb 2 can be energized by power supplied from an external drive electrical power source (not shown).

[0005] The reflecting surface 3 is composed of a parabolic reflecting surface whose center axis extends horizontally along its light illumination direction (forward). The reflecting surface 3 is disposed behind the bulb 2 so that its focus F is located at or near the light emission center of the bulb 2. In this instance, the reflecting surface may be any parabolic reflecting surface including a revolved paraboloid and a free curved parabolic surface.

[0006] In the vehicle headlight 1 as configured described above, the bulb 2 is supplied with power from an external drive electrical power source (not shown) to emit light. The light emitted from the bulb 2 is directly projected in the illumination direction or enters.the reflecting surface 3 and is reflected by the same to become parallel light L1 and to be directed in the illumination direction.

[0007] In the vehicle headlight 1 with the above configuration, the reflecting surface 3 can have a circular outer shape having its center at the optical axis O when viewed from its front side, as shown by a solid line in Fig. 1B.

[0008] In this instance, the radius of the reflecting surface 3 can be set to twice the focal distance f (namely, 2f) or larger so that the reflecting surface 3 extends just below the light emission center of the bulb 2.

[0009] Accordingly, the light L2 emitted from the bulb 2 rearward and downward can properly enter the reflecting surface 3 and can be reflected in the illumination direction. This means that the light L2 does not become glare light which may be obstructive light for a driver in an opposite vehicle.

[0010] Variations of the headlight includes a vehicle headlight with an abnormal profile, for example, with a reflecting surface 3 of a horizontally elongated rectangular shape as shown by a solid line in Fig. 1B. In this headlight, the vertical size is smaller than the other types. For example, the distance from the center axis to one of the upper and lower rims is less than 2f (the normal radius of the reflecting surface 3 being equal to twice the focal distance f). That is, in this structure of the headlight, the reflecting surface 3 does not extend just below the light emitting center of the bulb 2. Accordingly, the light L2 emitted from the bulb 2 rearward and downward is not incident on the reflecting surface 3. In order to cut the light L2, a second reflecting surface 3a should be provided near the lower area of the reflecting surface 3 (see Fig. 1A).

[0011] In some headlights with a circular reflecting surface 3, the vertical size thereof or the distance from the center axis to the vertical rim is less than 2f. In this case, such a second reflecting surface 3a is also provided near the lower area of the reflecting surface 3 in order to cut the light L2 which otherwise becomes glare light.

[0012] The light path in the vehicle headlight with such a second reflecting surface 3a is shown in Fig. 2 and the simulation results of the light trajectory in the vehicle headlight with such a second reflecting surface 3a is shown in Fig. 3. As shown in these figures, the light L2 is emitted from the bulb 2 rearward and downward. The light L2 includes light L3 which is incident on the second reflecting surface 3a in the area on the rearward of the point P which is the intersection between the second reflecting surface 3a and the perpendicular line dropped from the light emission center of the bulb 2. The light L3 can be reflected by the surface of the second reflecting surface 3a to enter the upper area of the reflecting surface 3.

[0013] In this instance, although the reflecting surface 3 can reflect light from the bulb 2 to direct it in the illumination direction (forward), the incident light L3 entering the reflecting surface 3 with a shallower incident angle than light from the bulb 2 may be reflected by the reflecting surface 3 so as to be directed upward than the horizontal illumination direction, resulting in the generation of glare light.

[0014] In order to take measures to this situation, a hood 4 can be disposed below the bulb 2 of the vehicle headlight 1 as shown in Fig. 4. In this case, the hood 4 can prevent the light L3, which otherwise becomes glare light, from entering the second reflecting surface 3a, meaning the generation of glare light can be reliably suppressed.

[0015] If such a hood 4 is required, the hood 4 is provided to a normal type vehicle headlight 1 including a bulb 2 and a reflecting surface 3 as an additional component. Accordingly, the parts number increases and the parts and assembly costs also increase.

[0016] In addition, an attachment member is required to firmly hold the hood 4 in position. In this case, the attachment member can be observed externally, result-

ing in deterioration of outer appearance of the vehicle headlight.

SUMMARY OF THE INVENTION

[0017] In view of the foregoing conventional problems, an object of the present invention is to provide a vehicle headlight with a simple configuration which can suppress or prevent the generation of any glare light occurring due to the reflection by a second reflecting surface provided near the lower area of a reflecting surface.

[0018] In order to achieve the object of the present invention, one aspect of the present invention is a vehicle headlight comprising: a light source; a first reflecting surface disposed behind the light source so as to reflect light from the light source to an illumination direction, the first reflecting surface having a focus at or near the position of the light source and a center axis along the light illumination direction and being concave toward the illumination direction; and a second reflecting surface extending at least adjacent to an edge of the first reflecting surface, the vehicle headlight being characterized in that part of the first reflecting surface near the second reflecting surface is disposed so as to serve as a third reflecting surface that has a different reflecting surface shape from that of the first reflecting surface and that can reflect light that is emitted from the light source rearward and downward and directed near the second reflecting surface, in the illumination direction.

[0019] In the vehicle headlight according to the present invention, the part of the first reflecting surface near the second reflecting surface may be disposed so as to serve as a third reflecting surface that has a different reflecting surface shape from that of the first reflecting surface and that can reflect light that is emitted from the light source and directed to an area behind an intersection between the second reflecting surface and a perpendicular line extending from a light emission center of the light source to the second reflecting surface, in the illumination direction.

[0020] In the vehicle headlight according to the present invention, the light source may include a first light emitting part for generating a low beam and a second light emitting part for generating a high beam arranged adjacent to and just below the first light emitting part. In this configuration, the part of the first reflecting surface near the second reflecting surface may be disposed so as to serve as a third reflecting surface that has a different reflecting surface shape from that of the first reflecting surface and that can reflect light that is emitted from the first light emitting part rearward and downward and on the rearward of the second light emitting part, and directed near the second reflecting surface, in the illumination direction.

[0021] In the above vehicle headlight, the part of the first reflecting surface may be disposed so as to be shifted toward the illumination direction to form the third reflecting surface.

[0022] In the above vehicle headlight, the light source may include a first light emitting part for generating a low beam and a second light emitting part for generating a high beam arranged adjacent to and just below the first light emitting part, and the part of the reflecting surface near the second reflecting surface can be disposed so as to serve as a third reflecting surface that has a different reflecting surface shape from that of the first reflecting surface and that can reflect light that is emitted from the first light emitting part downward and on the rearward of a shade of the second light emitting part, and directed near the second reflecting surface, in the illumination direction.

[0023] In the above vehicle headlight, the light source can preferably have at least one light emitting part with a predetermined length, the lengthwise direction of which is perpendicular to the illumination direction and horizontal.

[0024] According to the above configuration, when supplied with power from an external drive electrical power source, the light source is driven to emit light. Part of the light emitted from the light source is directly projected in the illumination direction. Another part of the light emitted sideward from the light source can enter the first reflecting surface and is reflected by the same to become parallel light, so as to be projected in the illumination direction.

[0025] In the configuration of the present invention, part of the first reflecting surface is disposed so as to serve as a third reflecting surface while shifted frontward. This part of the first reflecting surface, being the third reflecting surface, can conceal the second reflecting surface with respect to the light source partly. Accordingly, the light emitted rearward and downward from the light source and directed to the second reflecting surface can partly enter the third reflecting surface instead of the second reflecting surface and be reflected thereby to become parallel light so as to be projected in the illumination direction.

[0026] Various vehicle headlights with a reflecting surface include one having a first horizontally elongated rectangular reflecting surface and a second reflecting surface below the first reflecting surface. In this type of vehicle headlight, part of the light emitted from the light source and directed toward the second reflecting surface can be reflected by the second reflecting surface and enter the first reflecting surface to be reflected again so that it becomes upwardly-directed light with respect to the illumination direction, resulting in the generation of glare light.

[0027] The present invention, however, can prevent the light from becoming glare light or can reduce the generation of the glare light with the above simple configuration. Accordingly, this can eliminate any other parts for preventing glare light such as a hood so that the parts number can be reduced as well as the parts cost and assembly cost can also be reduced. Furthermore, there is no separate attachment member for attaching and/or supporting a separate shielding member such as a hood,

which may be observed externally, and the outer appearance of the vehicle headlight does not deteriorate.

[0028] Furthermore, the light which has conventionally become glare light by the second reflecting surface can be projected by the shifted part of the reflecting surface, namely, the third reflecting surface in the illumination direction, resulting in the contribution to the enhanced light distribution pattern. Accordingly, the light utilization efficiency of the light source can be improved to provide a light distribution pattern with an enhanced luminance.

[0029] The present invention can provide a vehicle headlight in which part of the first reflecting surface near the second reflecting surface is disposed forward to serve as a third reflecting surface that can reflect light that is emitted from the light source and directed to an area behind a radial intersection line between the second reflecting surface and a perpendicular line extending from the light source to the second reflecting surface, in the illumination direction. Conventionally, part of the light from the light source which can enter the second reflecting surface is reflected by the second reflecting surface to be directed to the first reflecting surface so as to become glare light. However, the light from the light source cannot enter the second reflecting surface, but the shifted part of the first reflecting surface, being the third reflecting surface, to be reflected thereby and become parallel light in the illumination direction reliably.

[0030] In some vehicle headlights, the light source can include a first light emitting part for generating a low beam and a second light emitting part for generating a high beam arranged adjacent to and just below the first light emitting part. In this case, the part of the first reflecting surface near the second reflecting surface is disposed to serve as a third reflecting surface that has a different reflecting surface shape from that of the first reflecting surface so as to reflect light that is emitted from the first light emitting part rearward and downward and on the rearward of the second light emitting part, and directed near the second reflecting surface, in the illumination direction. Therefore, the part of the reflecting surface may be disposed forward to serve as the third reflecting surface so that the third reflecting surface can reflect only the light passing behind the second light emitting part except the light emitted from the first light emitting part and shielded by the second light emitting part. When a double-filament type bulb is used as a light source, the present invention can reliably prevent the generation of glare light. In addition to this, since the distance for the third reflecting surface to be shifted forward is not so large, the optical characteristics of the entire reflecting surface may not deteriorate so much.

[0031] As described above, the present invention can provide a vehicle headlight which can prevent the generation of glare light reflected by the second reflecting surface provided near the lower area of the reflecting surface.

BRIEF DESCRIPTION OF THE DRAWINGS

[0032] These and other characteristics, features, and advantages of the present invention will become clear from the following description with reference to the accompanying drawings, wherein:

Fig. 1A is a schematic cross-sectional view showing one exemplary configuration of a conventional vehicle headlight, and Fig. 1B is a front view of the vehicle headlight of Fig. 1A;

Fig. 2 is a schematic cross-sectional view showing the state where glare light is generated in a conventional vehicle headlight with a second reflecting surface provided neat the lower area of a first reflecting surface;

Fig. 3 is a schematic perspective view including the simulation results of the light trajectory in the vehicle headlight of Fig. 2;

Fig. 4 is a schematic cross-sectional view showing one exemplary configuration of a conventional vehicle headlight with a hood for suppressing the generation of glare light;

Fig. 5 is a schematic cross-sectional view showing the configuration of a first exemplary embodiment of a vehicle headlight according to the present invention;

Fig. 6 is a schematic cross-sectional view showing the configuration of a second exemplary embodiment of a vehicle headlight according to the present invention;

Fig. 7 is a partially enlarged perspective view showing the vehicle headlight of Fig. 6, illustrating the light emitted from the first emitting part and the shade by the second light emitting part;

Fig. 8 is a schematic perspective view including the simulation results of the light trajectory in the vehicle headlight of Fig. 6;

Fig. 9 is an enlarged perspective view showing the essential part of the simulation results of the light trajectory of Fig. 8;

Fig. 10 is a graph showing the light distribution pattern of the vehicle headlight of Fig. 6 as a result of simulation; and

Fig. 11 is a graph showing the light distribution pattern of a comparative vehicle headlight with a conventional configuration as a result of the similar simulation to that shown in Fig. 10.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0033] A description will now be given below to a vehicle headlight of the present invention with reference to the accompanying drawings in accordance with exemplary embodiments.

[0034] Fig. 5 shows the configuration of the first exemplary embodiment of the vehicle headlight according to

the present invention.

[0035] As shown in Fig. 5, the vehicle headlight 10 is configured to include a bulb 11 serving as a light source and a first reflecting surface 12 configured to reflect light from the bulb 11 in an illumination direction (forward).

[0036] The bulb 11 can be any bulb for use in a general vehicle headlight, an auxiliary headlight, or the like. For example, a halogen bulb with a commonly known configuration can be used as the bulb 11. The bulb 11 is disposed horizontally so that its optical axis O is arranged horizontally in the illumination direction. The bulb 11 can be energized by power supplied from an electrical power source. In this instance, the light source can preferably have at least one light emitting part with a predetermined length, the lengthwise direction of which is perpendicular to the illumination direction and horizontal.

[0037] The first reflecting surface 12 is composed of a parabolic reflecting surface whose center axis extends horizontally along its light illumination direction (forward). The first reflecting surface 12 is disposed behind the bulb 11 so that its focus F is located at or near the light emission center of the bulb 11. It should be noted that the reflecting surface may be any parabolic reflecting surface including a revolved paraboloid and a free curved parabolic surface.

[0038] The first reflecting surface 12 has its lower edge at a distance from the center axis equal to or less than twice the focal distance f. Below the lower edge thereof a second reflecting surface 13 is horizontally provided.

[0039] Furthermore, in the present invention, at least lower part 12a of the first reflecting surface 12 is disposed to serve as a third reflecting surface which is slightly shifted forward and has a different reflecting surface shape from that of the first reflecting surface 12.

[0040] According to the present exemplary embodiment, the part 12a of the reflecting surface 12 being the third reflecting surface can cover part of the second reflecting surface 13 adjacent to the first reflecting surface 12 against light emitted from the light emission center of the bulb 11 and directed rearward'and downward.

[0041] In this case, suppose that a perpendicular line is dropped from the light emission center of the bulb 11 to the second reflecting surface 13 and the intersection thereof is denoted by P. The part 12a of the reflecting surface 12 is shifted forward by a distance (A - B) where A is the distance between the point P and the original position of the reflecting surface (12b illustrated by dashed line) and B is the distance between the point P and the shifted position of the part (12a) of the first reflecting surface 12.

[0042] Accordingly, the light emitted from the light source 11 and entering the second reflecting surface 13 can be reduced as the area is reduced from the distance range A to the distance range B in the present exemplary embodiment of the invention.

[0043] In the exemplary embodiment of the vehicle headlight 10 configured as described above, the bulb 11 is supplied with power from an external drive electrical power source (not shown) to emit light. Part of the light emitted from the light source 11 is directly projected in the illumination direction. Another part of the light emitted from the light source can enter the first reflecting surface 12 and is reflected by the same to become parallel light L1, so as to be projected in the illumination direction.

[0044] In this instance, the light L2 is emitted from the bulb 11 rearward and downward. The light L2 includes light L3 which enters the second reflecting surface 13 in the area to the rearward of the point P with respect to the second reflecting surface 13 and the light emission center of the bulb 11. In this case, the part of the light L3 can enter the third reflecting surface being the part 12a of the first reflecting surface 12 shifted forward without entering the adjacent second reflecting surface 13.

[0045] As a result, the light L3 can be reflected by the third reflecting surface 12a to become parallel light and be projected in the illumination direction (forward).

[0046] Accordingly, the light L3 which has conventionally become glare light as shown by a dashed line can be projected in the illumination direction in addition to the light L1 reflected by the first reflecting surface 12. Accordingly, the light utilization efficiency of the light from the bulb 11 can be improved to provide a light distribution pattern with an enhanced luminance.

[0047] Here, the light L3 which has conventionally become glare light can be reflected by the third reflecting surface 12a as the distance d between the point P and the lower edge of the third reflecting surface 12a becomes small, meaning that the light amount from the second reflecting surface 13 to be reflected by the first reflecting surface 12 and become glare light can be reduced.

[0048] Accordingly,'in the present exemplary embodiment, the distance d is configured to be reduced from A to B. Thus, the generation of glare light from the second reflecting surface 13 can be reduced reliably.

[0049] It should be noted that it would be difficult for the focal distance f of the first reflecting surface 12 to decrease due to the heat resistance of, and the light distribution control by, the first reflecting surface 12. Accordingly, the present exemplary embodiment of the invention is configured such that the part 12a of the reflecting surface 12 is simply shifted to serve as the third reflecting surface which can cover the second reflecting surface 13 against the bulb 11. This configuration can effective suppress the generation of glare light.

[0050] Fig. 6 shows the configuration of a second exemplary embodiment of a vehicle headlight according to the present invention.

[0051] In Fig. 6, a vehicle headlight 20 has the same configuration as that of the vehicle headlight 10 shown in Fig. 5, except that a double-filament type bulb 21 is employed as the light source.

[0052] Specifically, the bulb 21 can include a first filament (being a first light emitting part) 21a for generating a low beam and a second filament (being a second light emitting part) 21b for generating a high beam arranged

adjacent to and just below the first filament 21a. In this instance, the filament to serve as a light emitting part has a predetermined length, the lengthwise direction of which is perpendicular to the illumination direction and horizontal.

[0053] As shown in Fig. 7, when the first filament 21a of the bulb 21 is energized to emit light, the light emitted downward from the first filament 21a can be shielded by the second filament 21b partly. Accordingly, a shade 21c of the second filament 21b is formed.

[0054] In this case, the third reflecting surface 12a may cover the second reflecting surface 13 which is not covered with the shade 21c or the part of the second reflecting surface 13 on the rearward of the shade 21c to reflect light emitted from the first filament 21a in the illumination direction. This can reduce the forward shift distance of the third reflecting surface being the part 12a from the original position 12b, namely, the distance d from the point P can be larger than the distance B.

[0055] In the vehicle headlight 20 with the configuration as described above, the same effect as that of the vehicle headlight 10 shown in Fig. 5 can be obtained when the first filament 21a is energized to emit light. Furthermore, the forward shift distance of the third reflecting surface 12a may become smaller than that in the previous exemplary embodiment. Accordingly, the optical characteristics of the entire first reflecting surface 12 may not deteriorate so much due to the forward shift of the third reflecting surface 12a.

[0056] The vehicle headlight 20 of the present exemplary embodiment according to the invention can exert particularly superior effect when a C-6/C-6 type bulb as specified in JIS C 7711 relating to a filament connection type, or for example, a light source HS5 as specified in EC standard in Europe is employed as the light source. In this case, any shielding hood is not required and the generation of glare light can be suppressed with a simple configuration.

[0057] Figs. 8 and 9 shows the simulation results of the light trajectory in the vehicle headlight 20 described above.

[0058] In Figs. 8 and 9, the light L2 emitted from the first filament 21a of the bulb 21 rearward and downward can include light L3 which can enter the second reflecting surface 13 on the rearward of the shade 21c of the second filament 21b. However, as shown in these figures, the part of light L3 can be reflected by the third reflecting surface 12a to become parallel light and be projected in the illumination direction.

[0059] Note that some of the light L3 emitted from the first filament 21a of the bulb 21 and entering the second reflecting surface 13 on the rearward of the shade 21c of the second filament 21b includes the light L4 which is not incident on the third reflecting surface 12a. This light L4 may be reflected by the second reflecting surface 13 and enter the first reflecting surface 12. Accordingly, the reflected light L4 may become glare light with a relatively lower angle with respect to the illumination direction. However, the amount of generated glare light is reduced to such an extent that the vehicle headlight can be used without any problem due to glare light in an actual use.

[0060] It should be noted that the light L5 emitted from the first filament 21a of the bulb 21 frontward and downward may enter the second reflecting surface 13 and be reflected at a relatively large angle upward. Because of this large angle, the light L5 never becomes glare light.

[0061] Figs. 10 and 11 show the light distribution patterns of the vehicle headlight as a result of simulation.

[0062] As shown in Fig. 10, the vehicle headlight 20 of the present invention can form a light distribution pattern by the light L1 projected forward which does not substantially include any glare light.

[0063] Conversely, the comparative vehicle headlight in which the first reflecting surface 12 has not shifted part shows the comparative light distribution pattern as shown in Fig. 11. As clearly understood from the result, the shown light distribution pattern includes that derived from the light L1 projected forward and that derived from the glare light at the upper area.

[0064] According to the present invention, the part 12a of the reflecting surface 12 is shifted forward to serve as a third reflecting surface that can partly cover the second reflecting surface 13 against the first filament 21a of the bulb 21. It is understood that this configuration can reduce amount of, or suppress the generation of glare light.

[0065] In the described exemplary embodiments, the bulb 11 is used as the light source, although the present invention is not limited thereto. The present invention can employ other types of light sources as long as the effects of the present invention cannot be hindered.

[0066] In the described exemplary embodiments, the frontal shape of the first reflecting surface 12 is formed as a horizontally elongated rectangle, although the present invention is not limited thereto. The present invention can be applied to such vehicle headlights with a first reflecting surface with any shape wherein the distance from the center to the lower edge of the first reflecting surface is equal to or less than twice the focal distance and with a second reflecting surface therefor.

[0067] In the described exemplary embodiments, the vehicle headlights 10 and 20 are configured as a main headlight, although the present invention is not limited thereto. The present invention can be applied to an auxiliary headlight or the like.

[0068] As described above, the present invention can provide a vehicle headlight with a simple configuration which can suppress or prevent the generation of any glare light occurring due to the reflection by a second reflecting surface provided near the lower area of the first reflecting surface.

Claims

1. A vehicle headlight (10, 20) comprising:

a light source (11, 21);
a first reflecting surface (12) disposed behind the light source (11, 21) so as to reflect light (L1) from the light source (11, 21) to an illumination direction, the first reflecting surface (12) having a focus (F) at or near the position of the light source (11, 21) and a center axis (O) along the light illumination direction and being concave toward the illumination direction; and
a second reflecting surface (13) extending at least adjacent to an edge of the first reflecting surface (12), the vehicle headlight (10, 20) being **characterized in that** part (12a) of the first reflecting surface (12) near the second reflecting surface (13) is disposed so as to serve as a third reflecting surface (12a) that has a different reflecting surface shape from that of the first reflecting surface (12) and that can reflect light (L2, L3) that is emitted from the light source (11, 21) rearward and downward and directed near the second reflecting surface (13), in the illumination direction.

2. The vehicle headlight according to claim 1, **characterized in that** the part (12a) of the reflecting surface (12) near the second reflecting surface (13) is disposed so as to serve as the third reflecting surface (12a) that has a different reflecting surface shape from that of the first reflecting surface (12) and that can reflect light (L2, L3) that is emitted from the light source (11, 21) and directed to an area behind an intersection (P) between the second reflecting surface (13) and a perpendicular line extending from a light emission center of the light source (11, 21) to the second reflecting surface (13), in the illumination direction.

3. The vehicle headlight according to claim 1, **characterized in that** the light source (21) include a first light emitting part (21a) for generating a low beam and a second light emitting part (21b) for generating a high beam arranged adjacent to and just below the first light emitting part (21a), and **that** the part (12a) of the reflecting surface (12) near the second reflecting surface (13) is disposed so as to serve as a third reflecting surface (12a) that has a different reflecting surface shape from that of the first reflecting surface (12) and that can reflect light (L2, L3) that is emitted from the first light emitting part (21a) rearward and downward and on the rearward of the second light emitting part (21b), and directed near the second reflecting surface (13), in the illumination direction.

4. The vehicle headlight according to any one of claims 1 to 3, **characterized in that** the part (12a) of the reflecting surface (12) is disposed so as to be shifted toward the illumination direction to form the third reflecting surface (12a).

5. The vehicle headlight according to claim 1, **characterized in that** the light source (21) include a first light emitting part (21a) for generating a low beam and a second light emitting part (21b) for generating a high beam arranged adjacent to and just below the first light emitting part (21a), and **that** the part (12a) of the reflecting surface (12) near the second reflecting surface (13) is disposed so as to serve as a third reflecting surface (12a) that has a different reflecting surface shape from that of the first reflecting surface (12) and that can reflect light (L2, L3) that is emitted from the first light emitting part (21a) downward and on the rearward of a shade of the second light emitting part (21b), and directed near the second reflecting surface (13), in the illumination direction.

6. The vehicle headlight according to any one of claims 1 to 5, **characterized in that** the light source (11, 21) has at least one light emitting part (21a, 21b) with a predetermined length, the lengthwise direction of which is perpendicular to the illumination direction and horizontal.

Fig. 1A

Conventional Art

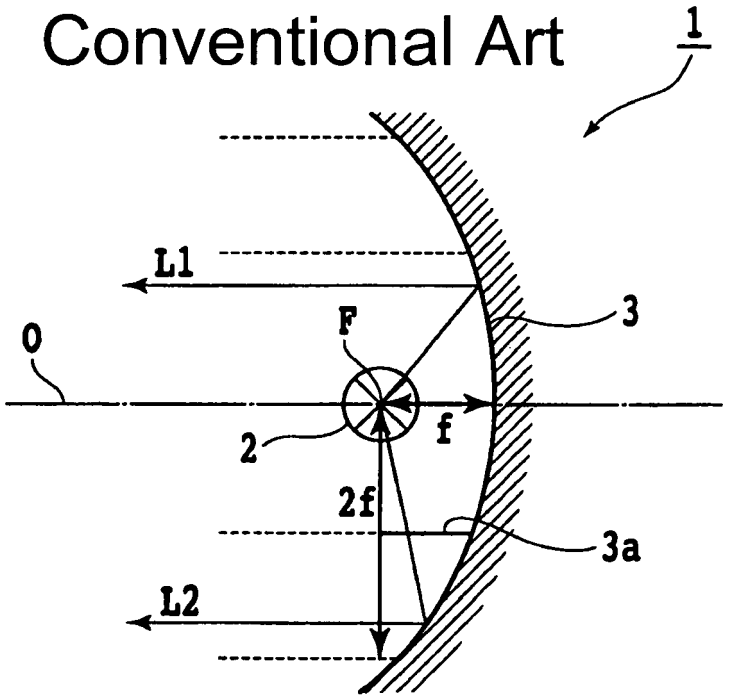

Fig. 1B

Conventional Art

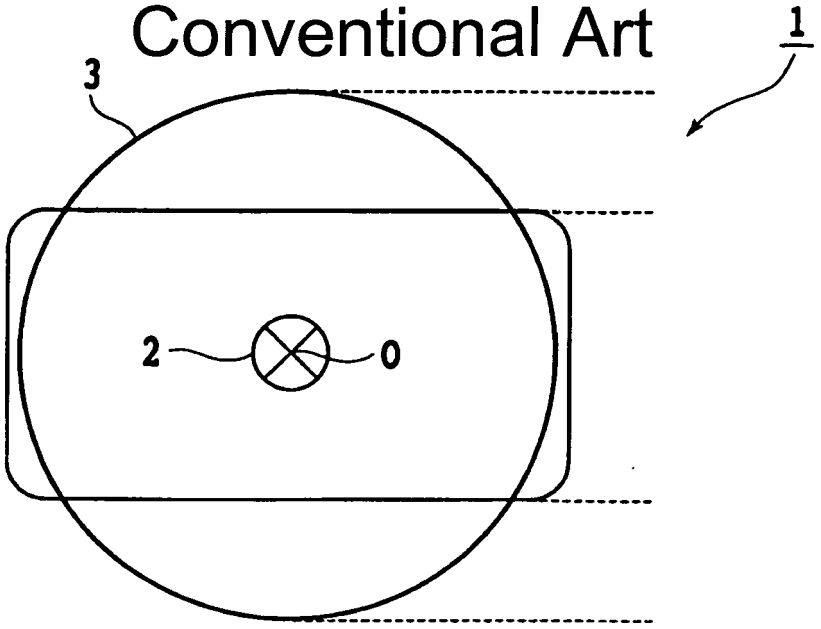

Fig. 2

Conventional Art

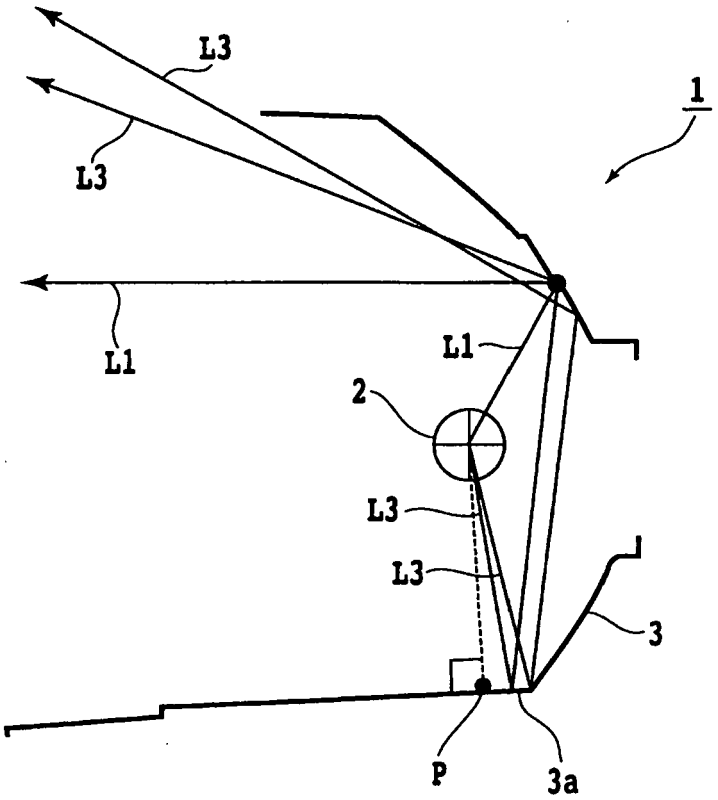

Fig. 3

Conventional Art

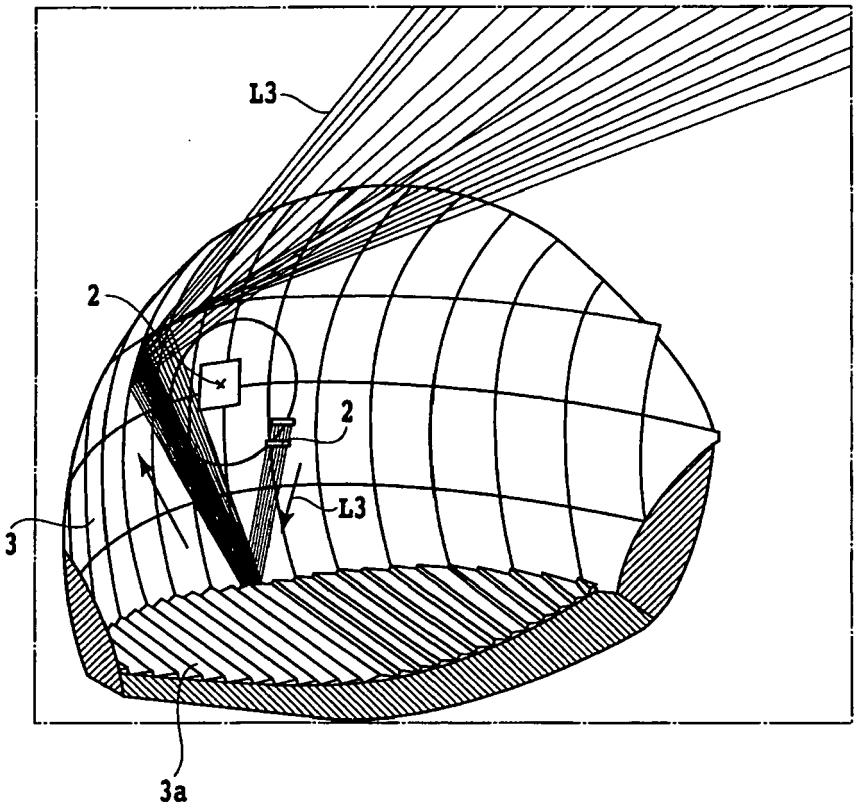

Fig. 4

Conventional Art

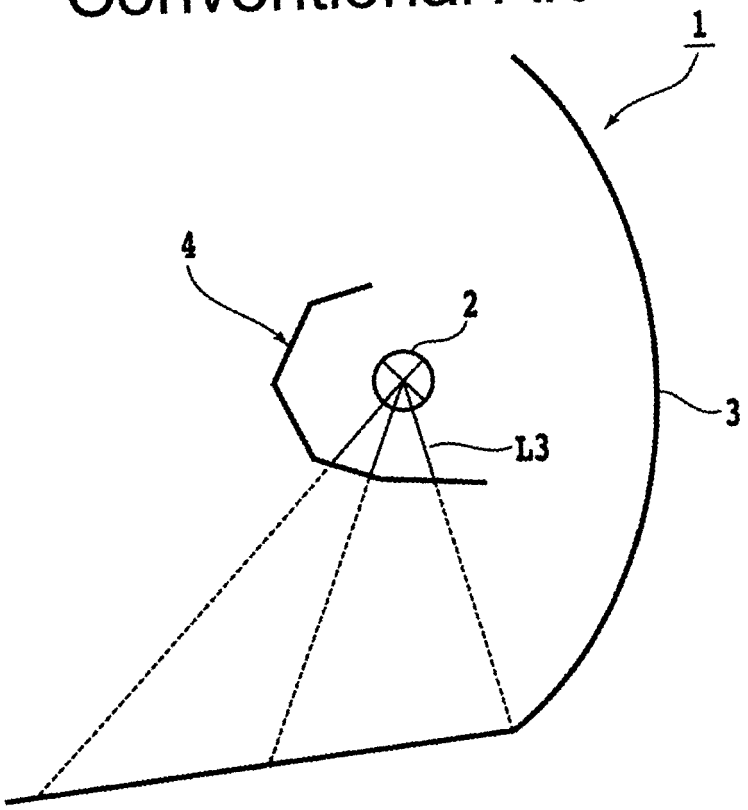

Fig. 5

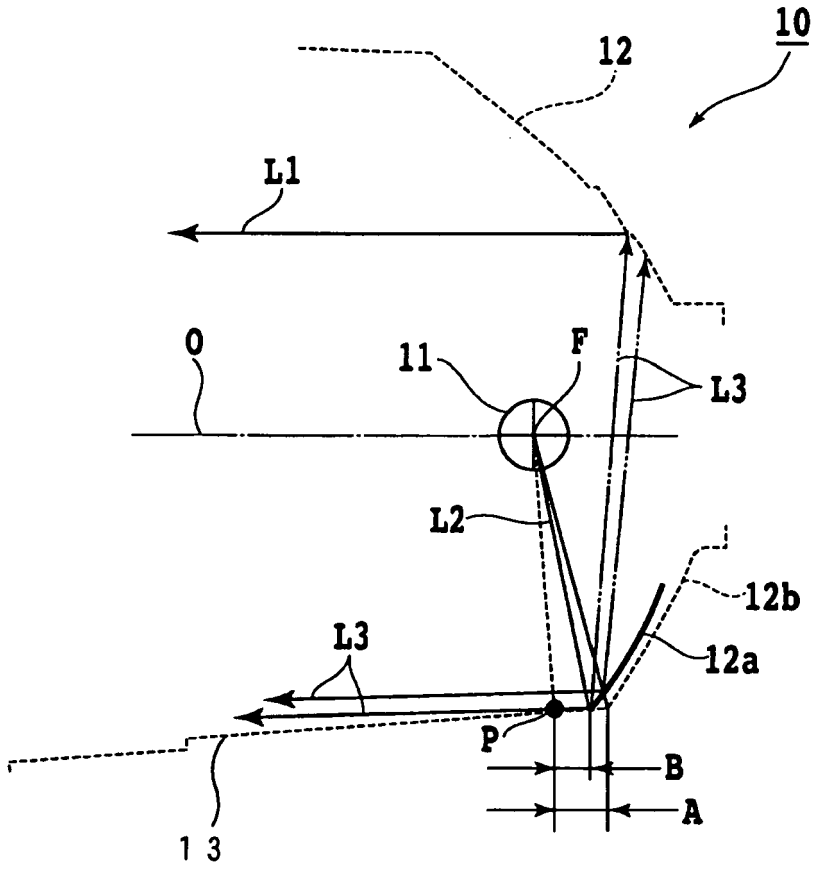

Fig. 6

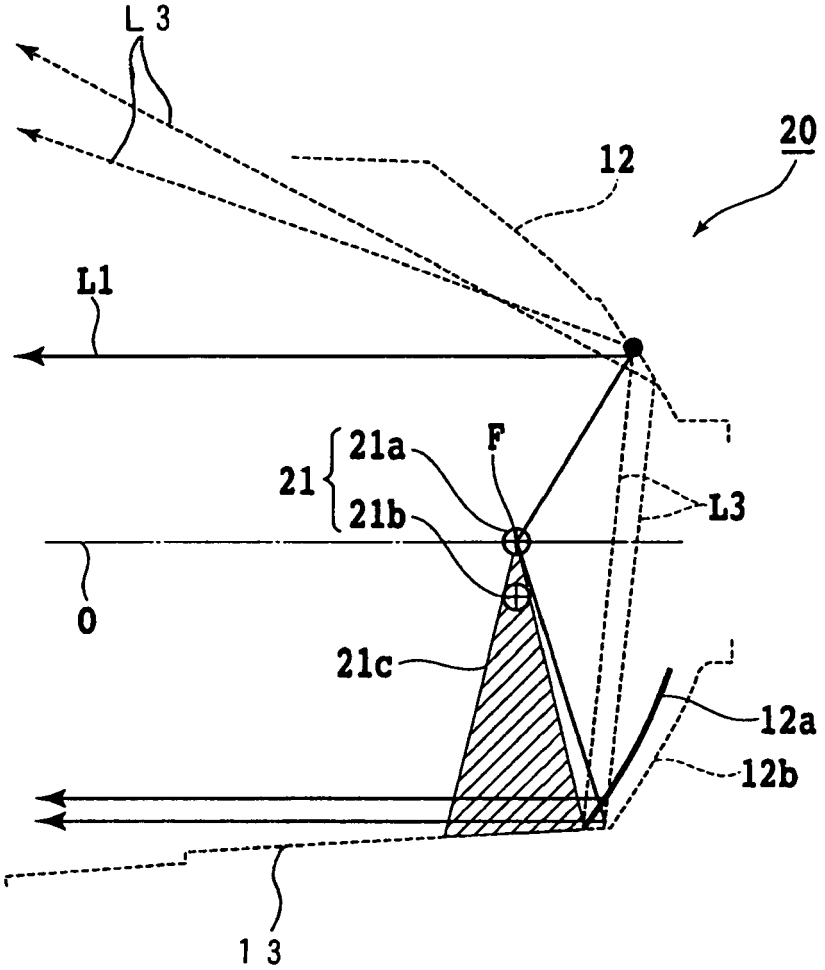

Fig. 7

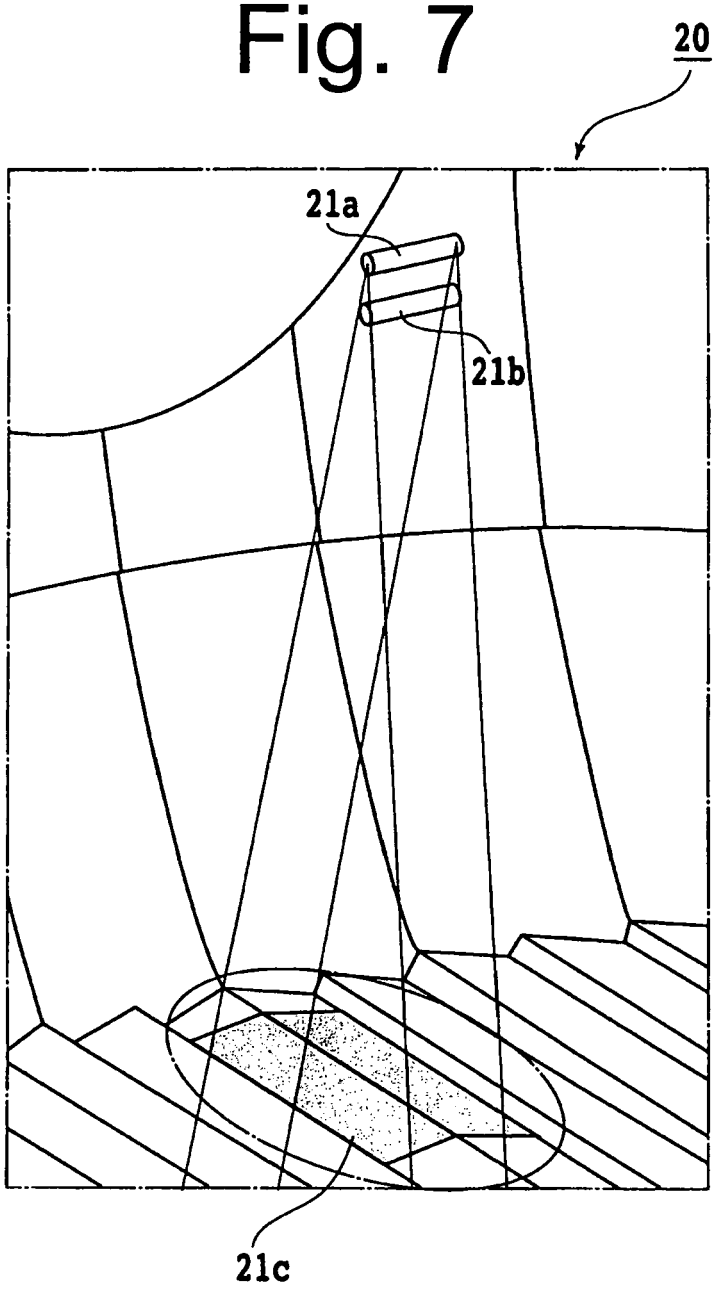

Fig. 8

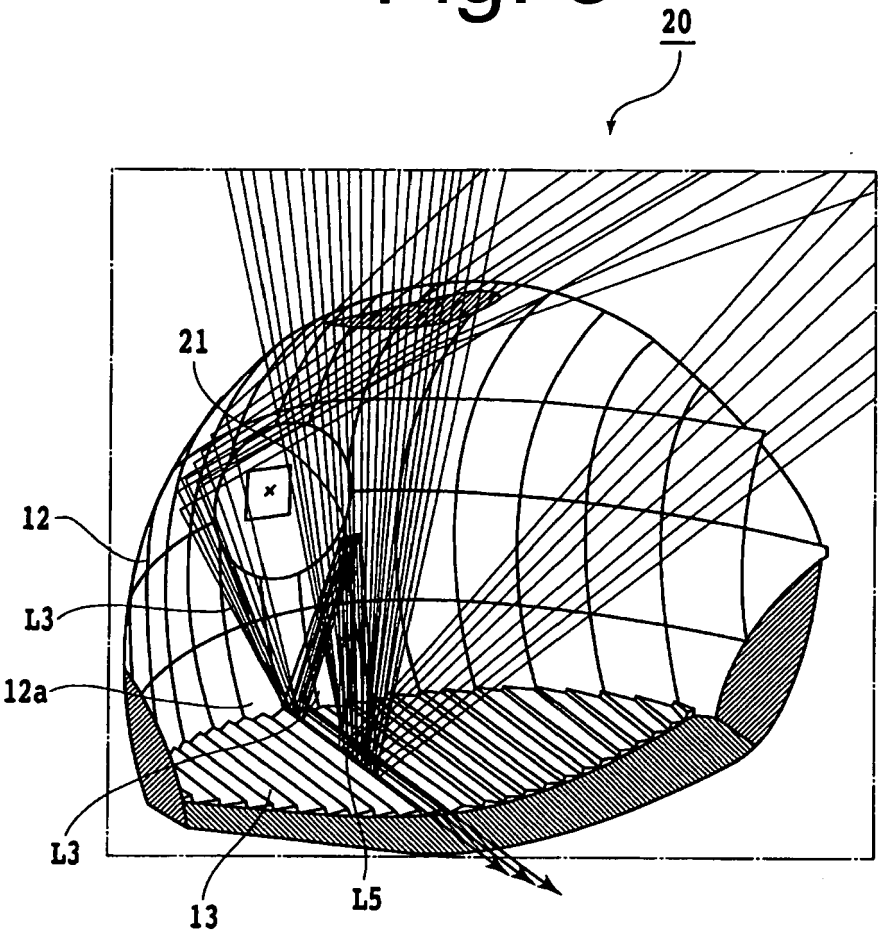

Fig. 9

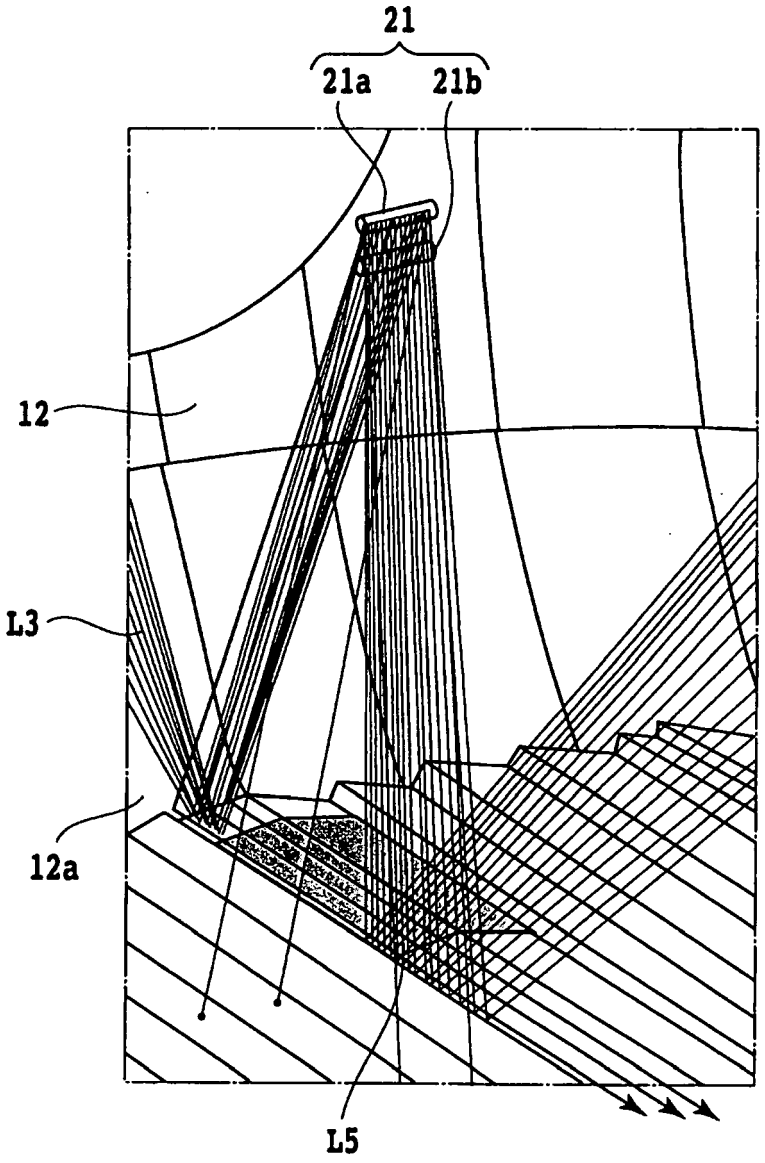

Fig. 10

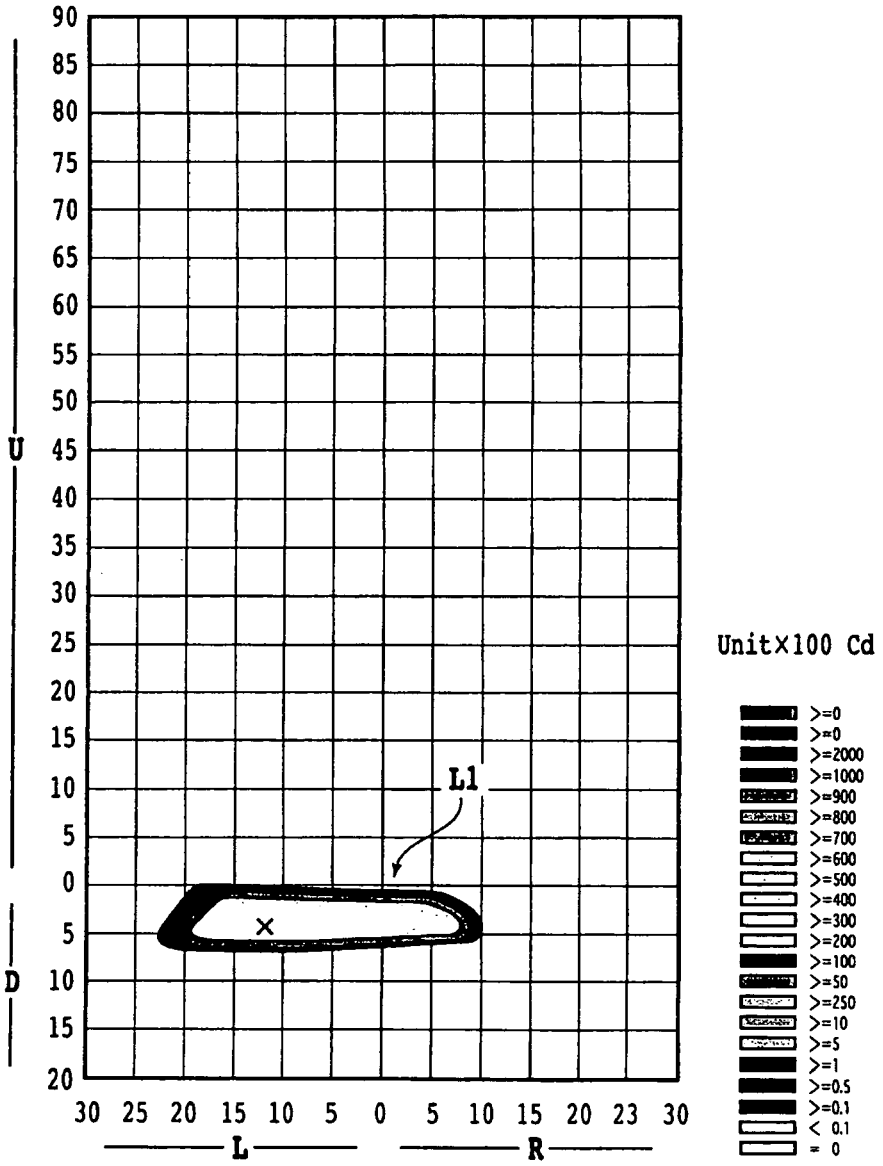
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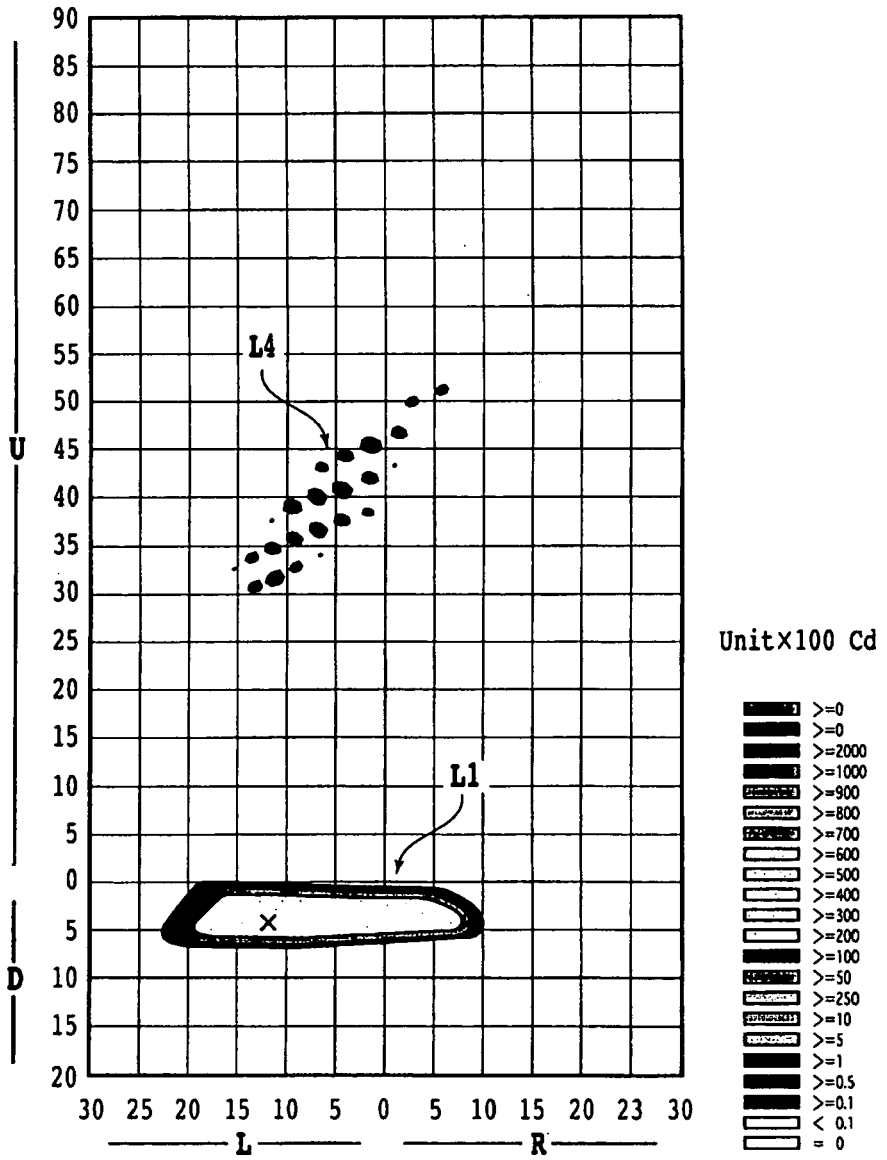
Fig. 11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