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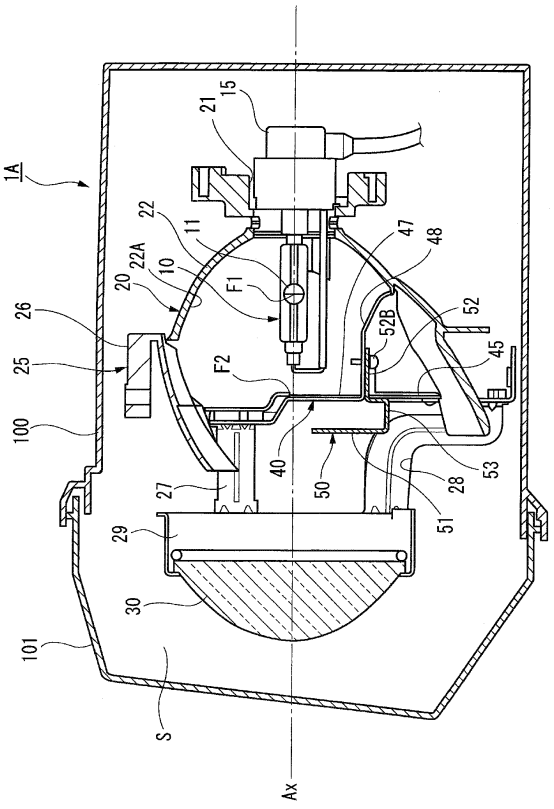
(54) **Vehicle headlamp**

(57) A vehicle headlamp (1A, 1B, 1C) is provided which includes a light source (11), a projection lens (30) that is disposed in front of the light source (11) and which projects light from the light source (11) to the front, a first shield member (40) that is disposed near a rear focal point of the projection lens (30) and which can switch light distribution patterns between at least one of a right high beam light distribution pattern and a left high beam light distribution pattern in both of which light from the light source (11) is partially cut off and at least one of a normal high beam light distribution pattern in which no part of light from the light source (11) is cut off and a low beam pattern, and a second shield member (50) that is disposed in a position which is spaced by a predetermined distance forwards or rearwards away from the rear focal point of the projection lens (30) and which cuts off light of a high beam which illuminates an upper area.

FIG. 1



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Description

Background to the Invention

[0001] The present invention relates to a vehicle headlamp.

[0002] In vehicle headlamps, there is known a vehicle headlamp which enables the switching of beam patterns or light distribution patterns thereof in order to attain both an increase in forward visibility of a driver of a vehicle and prevention of drivers of a preceding vehicle and an oncoming vehicle (hereinafter, both the vehicles being also referred to as a forward traveling vehicle) from being dazzled by the glare of the headlamps of the vehicle between a high beam light distribution pattern for illuminating the whole of an illumination area lying above a cut-off line of the headlamp and a partially cut off high beam light distribution pattern in which a portion of an illumination area which corresponds to the forward traveling vehicle is cut off (refer to JP- A- 2010- 162960) .

[0003] However, the results of visibility tests carried out in various kinds of road environments by the inventor have found out that when a right high beam light distribution pattern in which a left portion of the high beam is cut off, a left high beam light distribution pattern in which a right portion of the high beam is cut off and a normal high beam light distribution pattern in which no portion of the high beam is cut off are switched over in the environments where with a few street lights the forward vision of a vehicle is poorly lit, drivers participating the tests felt a sensation of physical disorder about near an upper portion of the illumination area of the high beam.

[0004] An object of the invention is to provide a vehicle headlamp which can reduce the risk of a driver feeling a sensation of physical disorder when he or she switches the high beam light distribution patterns.

Summary of the Invention

[0005] One or more embodiments of the present invention provides a vehicle headlamp including a light source, a projection lens that is disposed in front of the light source and which projects light from the light source to the front, a first shield member that is disposed near a rear focal point of the projection lens and which can switch light distribution patterns between at least one of a right high beam light distribution pattern and a left high beam light distribution pattern in both of which light from the light source is partially cut off and at least one of a normal high beam light distribution pattern in which no part of light from the light source is cut off and a low beam pattern, and a second shield member that is disposed in a forward position or rearward position away from the rear focal point of the projection lens and which cuts off light of a high beam which illuminates an upper area.

[0006] In addition, the vehicle headlamp of the invention includes a base plate which holds the first shield member, and the second shield member is fixed to the base plate.

[0007] Additionally, the vehicle headlamp of the invention includes a lens holder which holds the projection lens, and the second shield member is fixed to the lens holder.

[0008] Further, in the vehicle headlamp of the invention, the second shield member is made up of a metal member and is attached to the lens holder while being deflected.

[0009] According to the vehicle headlamp of the invention, the light of the high beam which illuminates the upper area is cut off by the second shield member. In addition, the second shield member is disposed by the predetermined distance forwards or rearwards away from the rear focal point of the projection lens, and therefore, a boundary between the illuminated area and the unilluminated area blurs in the upper area of the high beam. Consequently, the sensation of physical disorder is reduced which is felt by the driver on the upper area of the high beam when the respective light distribution patterns of the high beams are switched over.

Brief Description of the Drawings

[0010]

Fig. 1 is a vertical sectional view illustrating a first embodiment of a vehicle lamp according to the invention.

Fig. 2 is an exploded perspective view of the vehicle lamp shown in Fig. 1.

Fig. 3 is a perspective view of a second shade unit shown in Fig. 1.

Fig. 4 shows exemplary diagrams showing light distribution patterns which are formed by the vehicle lamp shown in Fig. 1.

Fig. 5 is a perspective view illustrating a second embodiment of a vehicle lamp according to the embodiment.

Fig. 6 is a perspective view illustrating a third embodiment of a vehicle lamp according to the invention.

Detailed Description

[0011] Hereinafter, embodiments of the present invention will be described in detail with reference to the drawings. It should be noted that in each of the drawings used in the description below, in order to show constituent members in recognizable sizes, the reduction scale is changed as required. In embodiments of the invention, numerous specific details are set forth in order to provide a more thorough understanding of the invention. However, it will be apparent to one of ordinary skill in the art that the invention may be practiced without these specific details. In other instances, well- known features have not been described in detail to avoid obscuring the invention.

(First Embodiment)

[0012] Firstly, referring to Figs. 1 to 4, a vehicle lamp according to a first embodiment of the invention will be described. Fig. 1 is a vertical sectional view illustrating a first embodiment of a vehicle lamp according to the invention, Fig. 2 is an exploded perspective view of the vehicle lamp shown in Fig. 1, Fig. 3 is a perspective view of a second shade unit shown in Fig. 1, and Fig. 4 shows exemplary diagrams showing light distribution patterns which are formed by the vehicle lamp shown in Fig. 1.

[0013] A vehicle lamp 1A of this embodiment is used as a vehicle headlamp. As shown in Fig. 1, the vehicle lamp 1A includes a lamp body 100 and a transparent cover 101 which covers an opening portion in the lamp body 100. A lamp compartment S is defined by the lamp body 100 and the transparent cover 101, and constituent members, which will be described later, are accommodated in an interior of the lamp compartment S.

[0014] As shown in Figs. 1 and 2, the vehicle lamp 1A includes a light source bulb 10 having an optical axis Ax which extends in a front-to-rear direction of a vehicle which has a light source 11, a projection lens 30 that is disposed in front of the light source 11 and which project light from the light source 11 to a front side of the vehicle lamp 1A, a reflector 20 which reflects light from the light source 11 towards the optical axis Ax, a holder unit 25 which supports fixedly the projection lens 30 and the reflector 20, a first shade unit 40 (an example of a first shield member) and a second shade unit 50 (an example of a second shield member) which are both configured to cut off partially light from the light source 11 (light reflected by the reflector 20).

[0015] The light source bulb 10 is disposed so that the light source 11 thereof is directed to face the interior of the lamp compartment S and is configured as a discharge bulb such as a metal halide bulb. A bulb socket 15 is attached integrally to a side of the light source bulb 10 which lies to face a rear side of the vehicle lamp 1A. The light source 11 of the light source bulb 10 is disposed further rearwards than a rear focal point F2 of the projection lens 30.

[0016] The projection lens 30 is formed into a plano convex aspherical lens having a convex surface on a side facing the front side and a flat surface on a side facing the rear side of the vehicle lamp 1A and is disposed on the optical axis Ax. This projection lens 30 projects a light source image formed on the rear focal point F2 thereof on to an imaginary vertical screen disposed ahead of the vehicle lamp 1A as a reverted image.

[0017] The reflector 20 has a bulb socket attaching portion 21 to which the bulb socket 15 of the light source bulb 10 can be attached and a reflection surface portion 22 which is provided integrally with the bulb socket attaching portion 21 on a side of the bulb attaching portion 21 which lies to face the vehicle lamp 1A. As shown in Fig. 1, when the bulb socket 15 is attached to the bulb socket attaching portion 21, the light source 11 of the light source bulb 10 projects to the front side of the vehicle lamp 1A so that a light emitting portion thereof is substantially superposed on the optical axis Ax of the vehicle lamp 1A.

[0018] The reflection surface portion 22 is provided so as to cover the light source 11 from above and sides and partially from below. An inner surface 22A of the reflection surface portion 22 which faces the light source 11 is formed into a smooth curved surface having a substantially elliptic cross section and functions as a reflection surface which reflects part of light from the light source 11 so as to cause the light reflected to converge towards near the rear focal point F2 of the projection lens 30. Namely, a first focal point F1 of the inner surface 22A of the reflection surface portion 22 coincides substantially with the position of a light emitting center of the light source in such a state that the projection lens 30, the holder unit 25, the reflector 20, and the first and second shade units 40, 50 are built in the lamp compartment S. A second focal point F2 of the inner surface 22A of the reflection surface portion 22 coincides substantially with the rear focal point of the projection lens 30 (hereinafter, the rear focal point of the projection lens 30 will also be referred to as the rear focal point F2).

[0019] Additionally, a material which can reflect, for example, incident light with high efficiency is deposited on the inner surface 22A of the reflection surface portion 22.

[0020] The holder unit 25 has a holder main body 26 which is attached to the front of the reflector 20, a lens holder 29 that is disposed on a side of the reflector 20 which faces the front side of the vehicle lamp 1A and which holds the projection lens 30, and first and second connecting pieces 27, 28 which connect the lens holder 29 and the holder main body 26 together with a frame 41, which will be described later, of the first shade unit 40 held therebetween.

[0021] A substantially flange-shaped fixing portion 26A is provided on the holder main body 26, and this fixing portion 26A fixedly supports the frame 41 (an example of a base plate) of the first shade unit 40. The lens holder 29 has a substantially cylindrical shape and is formed slightly larger than an outside diameter of the projection lens 30. The lens holder 29 fixedly supports the projection lens 30 in a predetermined position on a front end portion of the vehicle lamp 1A.

[0022] The first connecting piece 27 is made up of a pair of plate-shaped members which are each provided integrally on an upper side of the lens holder 29 so as to extend from an upper side of a rear end portion of the lens holder 29 towards the rear of the vehicle lamp 1A. The second connecting piece 28 is made up of a pair of plate-shaped members which are each provided integrally on a lower side of the lens holder 29 so as to extend from a lower side of the rear end portion of the lens holder 29 towards the rear of the vehicle lamp 1A. Additionally, an extending portion 28A is formed on each of the pair of second connecting pieces 28 at a proximal end portion thereof which faces the lens holder 29 so as to extend in

a radial direction of the lens holder 29.

[0023] The first shade unit 40 is disposed near the rear focal point of the projection lens 30 and cuts off part of light from the light source 11 (refer to Fig. 1). As shown in Fig. 2, the first shade unit 40 includes the frame 41 having a plate-like shape which is fixedly supported on the fixing portion 26A of the holder main body 26, two gear units 42, 42 individually connected to actuators 46 such as motors, and two shield plate portions 43a (for a low beam), 43b (for a high beam) that individually mesh with the corresponding gear units 42, 42 and which are rotatably held on the frame 41. A first through hole 44 is provided in an upper portion of the frame 41 for passage of light from the light source 11. Light from the light source 11 passes through the first through hole 44 to enter the projection lens 30.

[0024] In addition, a second through hole 45 is also formed in a lower portion of the frame 41. A bridge portion 47 is formed between the first and second through holes 44, 45, and this bridge portion 47 bridges left and right end portions in a straight-line fashion. A support plate 48 (an example of a base plate) is provided at a substantially central lower end portion of the bridge portion 47 so as to extend to the rear of the vehicle lamp 1 (refer to Fig. 1).

[0025] The two shield plate portions 43a, 43b of the first shade unit 40 are each rotated independently so as to overlap partially the first through hole 44 when viewed from the optical axis Ax, whereby the vehicle lamp 1A switches its light distribution patterns between at least one of a right high beam light distribution pattern and a left high beam light distribution pattern in both of which light from the light source 11 is partially cut off and at least one of a normal high beam light distribution pattern in which no light from the light source 11 is cut off and a low beam light distribution pattern.

[0026] As shown in Fig. 3, the second shade unit 50 is formed an integral unit by bending a metallic narrow elongated plate by using a press and has a shield plate portion (an example of a second shield member) 51, an attaching plate 52, and a connecting portion 53 which connects the first shield plate portion 51 and the attaching portion 52. The shield plate portion 51 has a rectangular plate shape and is provided so as to be normal to the optical axis Ax. The attaching portion 52 has a rectangular shape and is provided so that surfaces of the attaching portion 52 follow a horizontal direction. In addition, three through holes 52A are provided in a substantially central portion of the attaching portion 52. A middle portion of the attaching portion 52 is bent so as to be formed in a substantially L shape when viewed from a side thereof and is connected to the shield plate portion 51 and the attaching portion 52 along longitudinal edge portions thereof.

[0027] As shown in Fig. 1, bolts 52B are inserted through the through holes 52A in the attaching portion 52 and nuts are tightened on the bolts 52B, whereby the second shade unit 50 is fixed to the support plate 48 of the frame 41. Because of this, the shield plate portion 51 of the second shade unit 50 is fixedly supported in a position which is spaced by a predetermined distance forwards towards the front of the vehicle lamp 1 away from the rear focal point F2 of the projection lens 30. The shield plate portion 51 of the second shade unit 50 cuts off a lower area of light from the light source 11 within the vehicle lamp 1A in a position which deviates from the second focal point F2 of the projection lens 30, as a result of which light of a high beam which illuminates an upper area of, for example, an imaginary vertical screen is cut off.

[0028] Next, referring to Fig. 4, light distribution patterns will be described which can be illuminated or formed by the vehicle lamp 1A of this embodiment.

[0029] It should be noted that Fig. 4 shows light distribution patterns which are supposed to be projected on to the imaginary vertical screen which is disposed in a position laid 25 m ahead of the vehicle lamp 1A. The imaginary vertical screen is specified by an original point O through which an optical axis passes, an H axis (an axis of abscissas) which specifies a horizontal direction and a V axis (an axis of ordinates) which specifies a vertical direction.

[0030] The vehicle lamp 1A of this embodiment can form four light distribution patterns shown at (a) to (d) in Fig. 4.

[0031] Fig. 4(a) shows a normal low beam light distribution pattern LoC. In this light distribution pattern LoC, there is no such situation that the driver of a forward traveling vehicle or a pedestrian is dazzled by the glare of the vehicle lamp 1A while the vehicle is driven in an urban area. This light distribution pattern is obtained by setting the first shade unit 40 of the vehicle lamp 1A in a low beam shining mode by a predetermined control unit. Namely, in the first shade unit 40, the low beam shield plate portion 43a takes a light cutting off posture (a posture in which it is laid horizontally as shown in Fig. 2) and the partially high beam shield plate portion 43b takes a retracted posture (a posture in which it is rotated slightly downwards from its horizontal position as shown in Fig. 2), as a result of which the low beam shield plate portion 43a partially overlaps a lower portion of the first through hole 44 in the frame 41, whereby light from the light source 11 is partially cut off by the overlapping portion to thereby obtain the light distribution pattern LoC.

[0032] Fig. 4(b) shows a normal high beam light distribution pattern HiC. In this light distribution pattern HiC, the forward vision of the driver of the subject vehicle can be ensured to a maximum extent. This light distribution pattern HiC is obtained by setting the first shade unit 40 of the vehicle lamp 1A in a high beam shining mode by the predetermined control unit. Namely, in the first shade unit 40, both the low beam shield plate portion 43a and the high beam shield plate portion 43b take the retracted postures, whereby they do not overlap the first through hole 44 in the frame 41, as a result of which light from the light source is not cut off by the shield plate portions 43a, 43b. On the other hand, the light which passes through the first through hole 44 is partially cut off by the

shield plate portion 51 of the second shade unit 50. As this occurs, since the shield plate portion 51 of the second shade unit 50 deviates towards the front of the vehicle lamp 1A from the rear focal point F2 of the projection lens 30, an upper area FA of a high beam shone is cut off in such a state that a boundary between an illuminated area and an unilluminated area blurs.

[0033] Fig. 4(c) shows a left high beam light distribution pattern HiCL, and Fig. 4(d) shows a right high beam light distribution pattern HiCR. In this light distribution pattern HiCL, areas of an H-V area other than an upper right-hand side area are illuminated, and hence, this light distribution pattern is one which is suitable for such a case that a preceding vehicle and a pedestrian do not exist on a lane where the subject vehicle is running while neither an oncoming vehicle nor a pedestrian exists on a lane for opposite traffic. Thus, with this light distribution pattern HiCL, the forward vision of the driver of the subject vehicle is ensured while the driver of the oncoming vehicle and the pedestrian on the opposite traffic's lane are both prevented from being dazzled by the glare of the headlamps of the subject vehicle.

[0034] On the other hand, in the light distribution pattern HiCR, areas of the H-V area other than an upper left-hand side area are illuminated, and hence, this light distribution pattern is one which is suitable for such a case that neither a preceding vehicle nor a pedestrian exists on the subject vehicle's lane while an oncoming vehicle and a pedestrian exist on the opposite traffic's lane. As with the light distribution pattern HiCL, with this light distribution pattern HiCR, the forward vision of the driver of the subject vehicle is ensured while the driver of the oncoming vehicle and the pedestrian on the opposite traffic's lane are both prevented from being dazzled by the glare of the headlamps of the subject vehicle.

[0035] These light distribution patterns HiCL, HiCR are obtained by setting the first shade unit 40 of the vehicle lamp 1A is set in a right or left high beam shining mode by the predetermined control unit. Namely, in the first shade unit 40, of the two shield plate portions 43a, 43b, only the partial high beam shield plate portion 43 takes the light cutting off posture, in which the partial high beam shield plate portion 43b overlaps either of a left-hand side portion and a right-hand side portion of the lower portion of the first through hole 44 in the frame 41, whereby light from the light source 11 is partially cut off by the overlapping portion. Here, part of light from the light source 11A passes through the first through hole 44 without being cut off by the shield plate portion 43 of the first shade unit 40. Then, part of the light having passed so through the first through hole 44 travels towards an upper area, and part of the light illuminating the upper area is then cut off by the shield plate portion 51 of the second shade unit 50. As this occurs, since the shield plate portion 51 of the second shade unit 50 is disposed in the position which is offset towards the front of the vehicle lamp 1A from the second focal point F2 of the projection lens 30, the upper left-hand side area FL (refer to Fig. 4(c)) of the high beam or the upper right-hand side area FR (refer to Fig. 4(d)) of the high beam is left unilluminated or cut off in such a state that the boundary between the illuminated area and the unilluminated area blurs.

[0036] It should be noted that the vehicle lamp 1A that has been described heretofore is intended to be fitted in a left front or right front position of the vehicle and that the construction of the vehicle lamp 1A substantially remains the same whether it is disposed in the left front or right front position of the vehicle. When the vehicle lamp 1A is such as to be disposed in the left front position of the vehicle, the shapes of the shield plate portions 43a, 43b should be designed so as to form the left high beam light distribution pattern HiCL, whereas when the vehicle lamp 1A is such as to be disposed in the right front position of the vehicle, the shapes of the shield plate portions 43a, 43b should be designed so as to form the right high beam light distribution pattern HiCR.

[0037] Thus, according to the vehicle lamp 1A of this embodiment, in the normal high beam light distribution HiC, the left high beam light distribution pattern HiCL and the right high beam light distribution pattern HiCR, the light of the high beam which illuminates the upper area is cut off by the second shade unit 50. In addition, the shield plate portion 51 of the second shade unit 50 is disposed in the position which is spaced forwards by the predetermined distance away from the rear focal point F2 of the projection lens 30, and therefore, the boundary between the illuminated area and the unilluminated area blurs. Consequently, it becomes possible to reduce the risk of the driver feeling the sensation of physical disorder on the substantially upper area of the high beam when the high beam light distribution patterns are switched over.

(Second Embodiment)

[0038] Next, a vehicle lamp according to a second embodiment of the invention will be described by reference to Fig. 5. Fig. 5 is a perspective view illustrating a second embodiment of a vehicle lamp according to the invention.

[0039] It should be noted that like reference numerals will be given to constituent portions like to those of the first embodiment, and the description thereof will be omitted or made briefly.

[0040] As shown in Fig. 5, a second shade unit 60 of a vehicle lamp 1B of this embodiment is formed into an integral unit by bending a thin metallic plate by pressing and has a shield plate portion (an example of a second shield member) 61 which cuts off part of light from a light source 11, an attaching portion 62, and a connecting portion 63 which connects the shield plate portion 61 and the attaching portion 62 together. The shield plate portion 61 has a rectangular plate-like shape and is provided so as to be normal to an optical axis Ax. The attaching portion 62 is provided so that surfaces thereof become normal to the optical axis Ax. In addition, two through holes 62A are provided in each of left and right end portions of

the attaching portion 62. The connecting portion 63 is provided so as to extend to the rear of the vehicle lamp 1B from an upper edge portion of a substantially central portion of the attaching portion 62 to connect to a proximal end portion of the shield plate portion 61.

[0041] The second shade unit 60 of this embodiment is fixed to extending portions 28A of two connecting pieces 28, 28 of a lens holder 29 by inserting bolts (not shown) through the through holes 62A in the attaching portion 62 and tightening nuts on the bolts. Then, the shield plate portion 61 of the second shade unit 60 is fixedly supported in a position which is spaced by a predetermined distance forwards towards the front of the vehicle lamp 1B away from a rear focal point F2 of a projection lens 30.

[0042] The other configurations are similar to those of the first embodiment.

[0043] Thus, as has been described above, according to the vehicle lamp 1B of this embodiment, since the second shade unit (the example of the second shield member) 60 is fixed to the lens holder 29, it is possible to realize an increase in working efficiency.

[0044] The other working effects are similar to those of the first embodiment.

(Third Embodiment)

[0045] Further, a vehicle lamp according to a third embodiment of the invention will be described by reference to Fig. 6. Fig. 6 is a perspective view illustrating the vehicle lamp according to the third embodiment of the invention.

[0046] It should be noted that like reference numerals will be given to constituent portions like to those of the first embodiment, and the description thereof will be omitted or made briefly.

[0047] A plurality of (four in this embodiment) rectangular through holes 29A are provided circumferentially at substantially equal intervals in an outer circumferential surface of a lens holder 29 of this embodiment. In addition, as shown in Fig. 6, a second shade unit 70 is formed integrally by punching out a metallic piece having a desired shape from a thin metallic plate by pressing, and thereafter, the metallic piece so punched out is curved or bent. As shown in Fig. 6, the second shade unit 70 so formed has a shied plate portion (an example of a second shield member) 71 which partially cuts off light from a light source 11, an attaching portion 72, and a connecting portion 73 which connects the shield plate portion 71 and the attaching portion 72 together. The shield plate portion 71 has a rectangular plate-like shape and is provided so that surfaces thereof become vertical to an optical axis Ax. An elastic force acts in the rounded second shade unit 70 in a direction in which the rounded second shade 70 is expanded diametrically. Rectangular fitting projecting portions (four in this embodiment) 72A are provided circumferentially at equal intervals on an outer circumferential surface of the attaching portion 72. The connecting portion 73 is provided so as to extend towards the rear of a vehicle lamp 1C from a lower end face portion of the attaching portion 72A of the attaching portion 72 to connect to a proximal end portion of the shield plate portion 71.

[0048] In attachment of the second shade unit 70, the second shade unit 70 is inserted in the lens holder 29 in such a state that the fitting projecting portions 72A on the attaching portion 72 coincide with the through holes 29A in the lens holder 29 in the circumferential direction, so that the fitting projecting portions 72A on the attaching portion 72 are fitted in the corresponding through holes 29A in the lens holder 29. By dosing so, the second shade unit 70 of this embodiment is attached to the lens holder 29 while being deflected to thereby be pressed against the lens holder 29 by virtue of the elastic force acting therein as a result of the deflection. Additionally, the shield plate portion 71 of the second shade unit 70 is fixedly supported in a position which is spaced by a predetermined distance forwards towards the front of the vehicle lamp 1C away from a rear focal point F2 of a projection lens 30.

[0049] The other configurations are similar to those of the first embodiment.

[0050] Thus, according to the vehicle lamp 1C of this embodiment, the second shade unit (the example of the second shield member) 70 is made of up of the metallic member and is attached to the lens holder 29 while being deflected. Therefore, the necessity of fixing the second shade unit 70 to the lens holder 29 with bolts is obviated, improving the working efficiency. In addition, a reduction in production costs can be realized.

[0051] The other working effects are similar to those of the first embodiment.

[0052] It should be noted that the invention is not limited to the embodiments that have been illustrated heretofore and hence can be modified as required without departing from the spirit and scope of the invention.

[0053] For example, in the embodiments, while the shield plate portion of the second shade unit is provided in the position which is spaced forwards towards the front of the vehicle lamp by the predetermined distance from the rear focal point of the projection lens, the shield plate portion of the second shade unit may be provided in a position which is spaced rearwards towards the rear of the vehicle lamp by the predetermined distance away from the rear focal point of the projection lens, as long as the second shade unit deviates from the rear focal point of the projection lens.

Claims

1. A vehicle headlamp comprising:

a light source;
a projection lens that is disposed in front of the light source and which projects light from the light source to the front;

a first shield member that is disposed near a rear focal point of the projection lens and which can switch light distribution patterns between at least one of a right high beam light distribution pattern and a left high beam light distribution pattern in both of which light from the light source is partially cut off and at least one of a normal high beam light distribution pattern in which no part of light from the light source is cut off and a low beam pattern; and
a second shield member that is disposed in a forward position or rearward position away from the rear focal point of the projection lens and which cuts off light of a high beam which illuminates an upper area.

2. The vehicle headlamp according to Claim 1, comprising:

a base plate which holds the first shield member, wherein
the second shield member is fixed to the base plate.

3. The vehicle headlamp according to Claim 1, comprising:

a lens holder which holds the projection lens, wherein
the second shield member is fixed to the lens holder.

4. The vehicle lamp according to Claim 3, wherein
the second shield member is made up of a metal member and is attached to the lens holder while being deflected.

FIG. 1

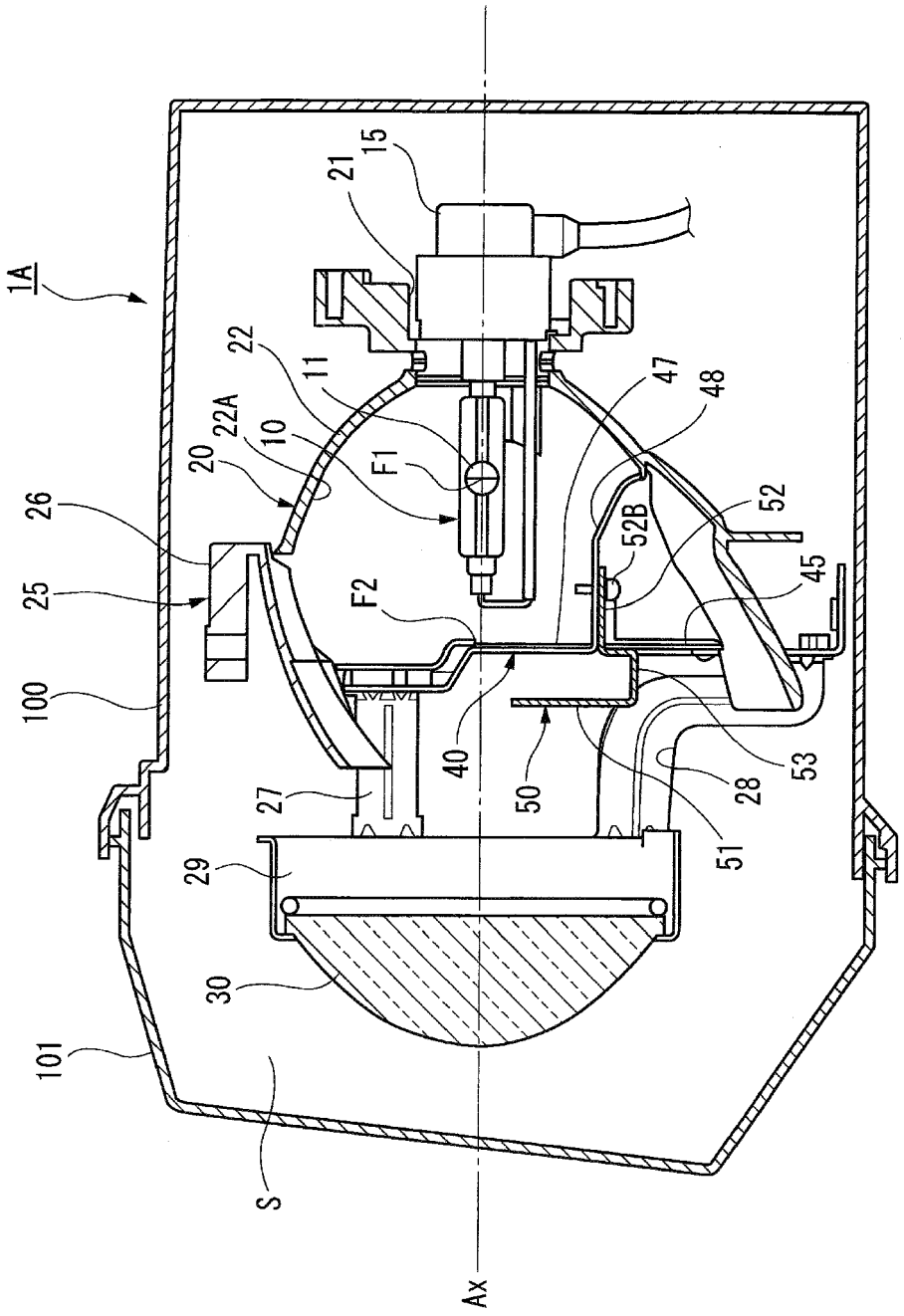
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FIG. 2

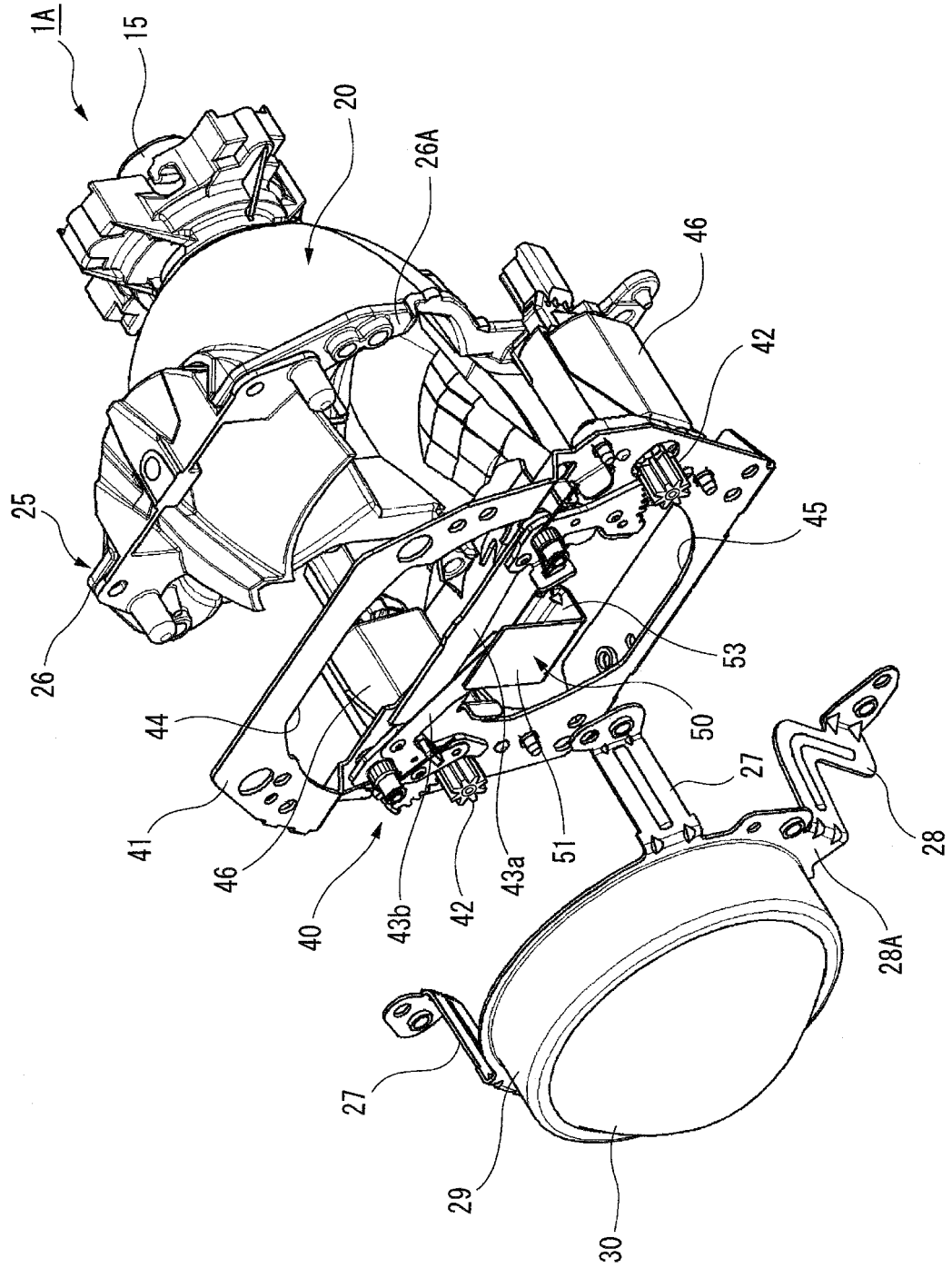
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FIG. 3

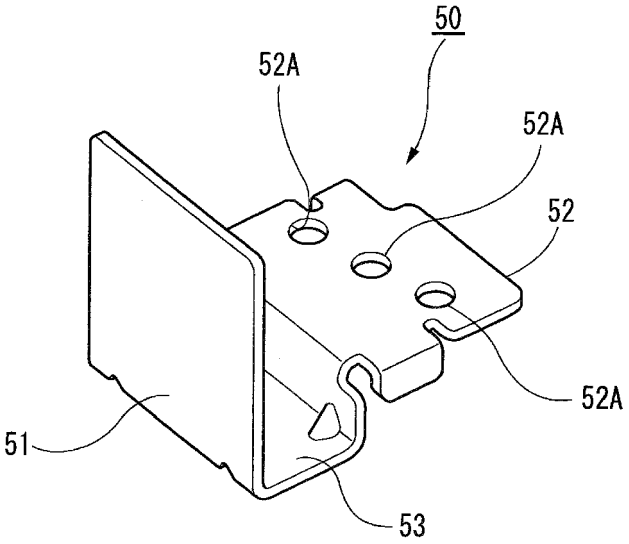


FIG. 4

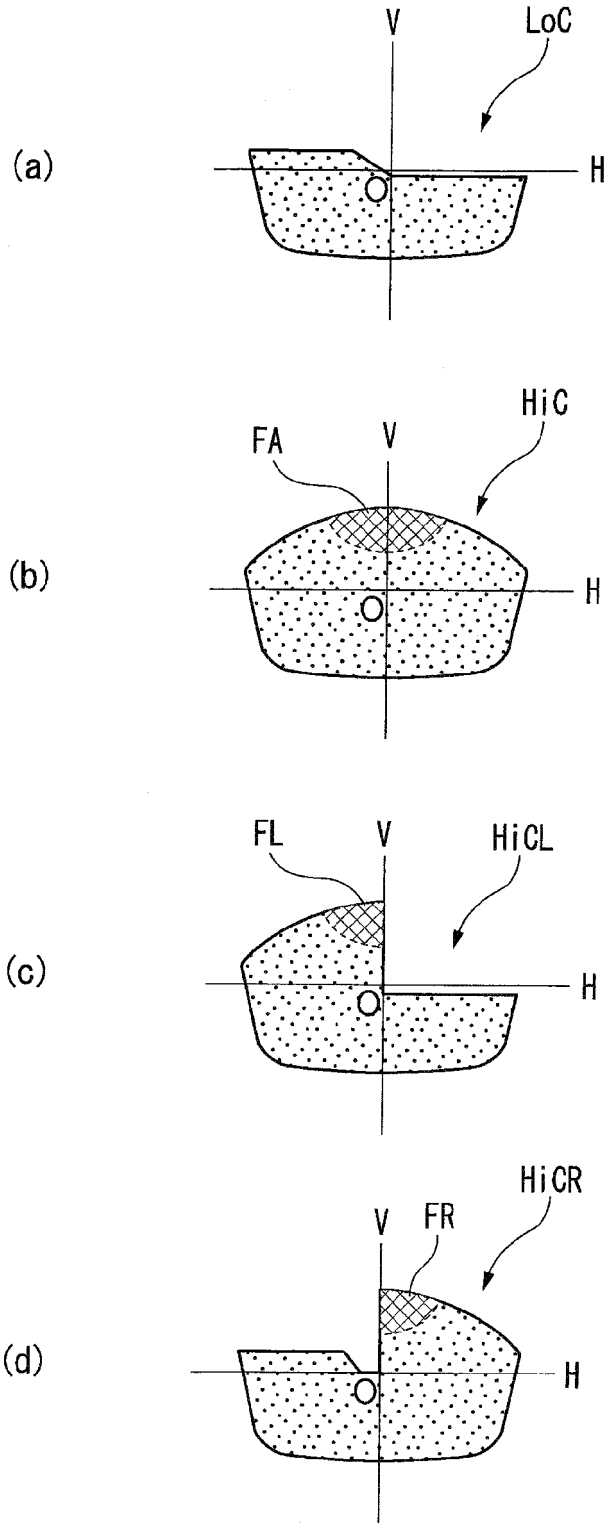
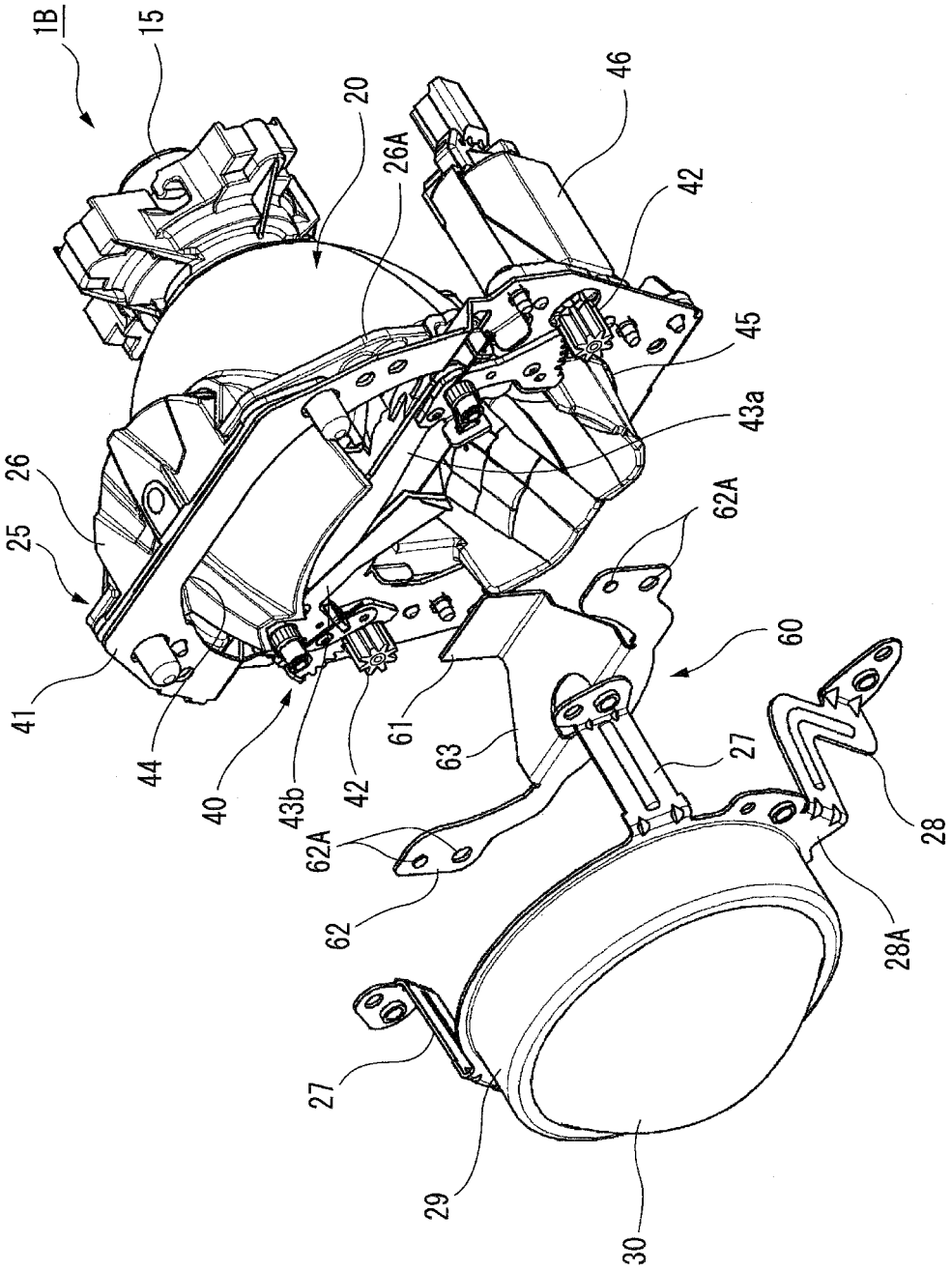


FIG. 5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28A
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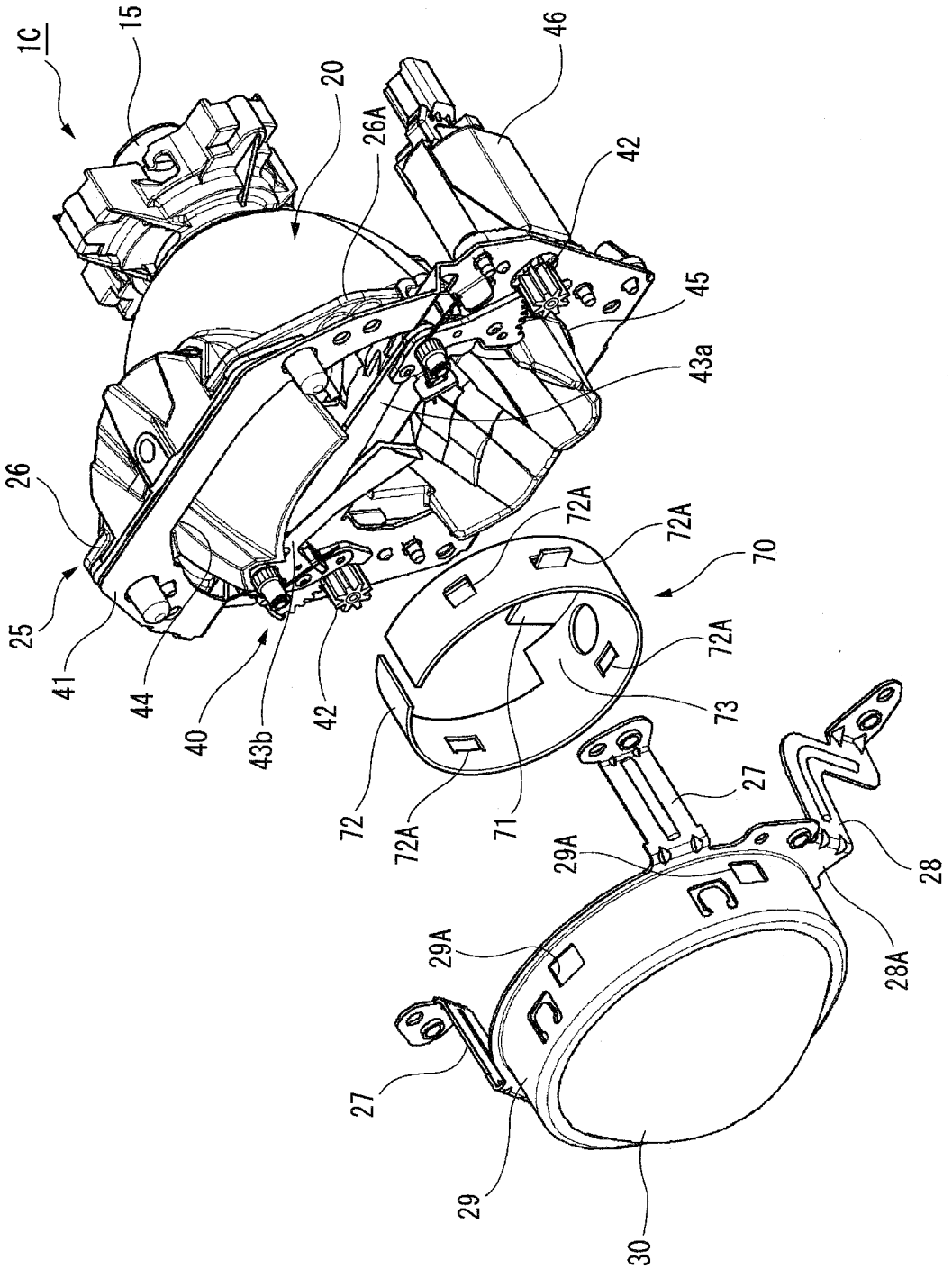
29
30

FIG. 6


1C
15
20
26A
46
42
45
43a
26
25
41
44
40
43b
42
72A
72A
70
72A
73
72
72A
71
27
29A
28
28A
29A
27
29
30

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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