

## Appeal decision

Appeal No. 2014-7822

Tokyo, Japan  
Appellant KOHA Co., Ltd.

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The case of appeal against the examiner's decision of refusal of Japanese Patent Application No. 2009-87031, entitled "Light Source Module and Display Device" (the application published on October 21, 2010, Japanese Unexamined Patent Application Publication No. 2010-239021) has resulted in the following appeal decision:

### Conclusion

The appeal of the case was groundless.

### Reason

#### No. 1 History of the procedures

March 31, 2009	Patent application
December 28, 2012 2013)	Notice of reasons for refusal (dispatched on January 8,
March 8, 2013	Written opinion and written amendment
August 23, 2013 2013)	Notice of reasons for refusal (dispatched on August 27,
October 28, 2013	Written opinion and written amendment
January 24, 2014 October 28, 2013)	Decision to dismiss amendment (amendment dated on
2014)	Examiner's decision of refusal (delivered on January 28,
April 25, 2014	Demand for trial of the case and written amendment
August 11, 2014	Written statement

#### No. 2 Decision to dismiss amendment for the amendment dated April 25, 2014

##### [Conclusion of Decision to Dismiss Amendment]

The amendment dated April 25, 2014 (hereinafter, referred to as "the Amendment") shall be dismissed.

##### [Reason]

###### 1 Summary of amendment

(1) The Amendment includes the amended matter in which the description of Claim 1 in the scope of claims before the amendment (the scope of claims amended by the written amendment dated March 8, 2013),

"A light source module, comprising:  
a light-emitting element;  
a light direction changing element which is composed of a transparent material further comprises a light inputting surface through which the light emitted from the light-emitting element is inputted thereinto, a reflecting surface for reflecting the light inputted through the light inputting surface, and a light outputting surface for refracting the light reflected by the reflecting surface to emit in the lateral direction; and  
a holder piece attached to the light direction changing element; wherein  
the holder piece comprises a housing portion opening toward the light direction changing element, and is adapted to hold a circuit board mounting the light-emitting element in the housing portion;  
the light direction changing element includes a light diffusing agent; and  
the content of the light diffusion agent is 0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material."

is amended to:

"A light source module, comprising:  
a light-emitting element;  
a light direction changing element which is composed of a transparent material further comprises a light inputting surface through which the light emitted from the light emitting element is inputted thereinto, a reflecting surface for reflecting the light inputted through the light inputting surface, and a light outputting surface for refracting the light reflected by the reflecting surface to emit in the lateral direction; and  
a holder piece provided on the light inputting surface side so as to be fitted to the fitting part of the case part of the light direction changing element; wherein  
the holder piece comprises a housing portion opening toward the light direction changing element and is adapted to hold a circuit board mounting the light-emitting element in the housing portion;  
the light direction changing part of the light direction changing element and the case part include a light diffusing agent;  
for part of light incident on the light inputting surface and directed toward the reflecting surface, the direction of light beams thereof incident from the light inputting surface is changed by the light diffusing agent and the light is transmitted as a first light from a back side of the reflecting surface toward a front side thereof, and the remaining light is reflected by the light diffusing agent or on the reflecting surface, and emitted as a second light from the emitting surface toward the lateral; and  
the content of the light diffusion agent is 0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material, thereby setting the quantity of the first light and the quantity of the second light at a predetermined ratio."

(2) The amendment made for the above Claim 1 includes the following amended matters:

A As for the "light direction changing element" which is composed of a transparent material and comprises a light inputting surface through which the light emitted from the light-emitting element is inputted thereto, a reflecting surface for reflecting the light inputted through the light inputting surface, and a light outputting surface for refracting the light reflected by the reflecting surface and emitting it in the lateral direction"; whereas, after the amendment, it includes "a light direction changing part having an light inputting surface through which the light emitted from the light-emitting element incident, a reflecting surface for reflecting the light incident from the light inputting surface, and a light outputting surface for refracting the light reflected by the reflecting surface and emitting it in a lateral direction" and "a case part in which a fitting part is formed."

B As for the "holder piece" attached to the light direction changing element, before the amendment it was "provided on the light direction changing element"; whereas, it is amended to "provided on the light inputting surface side so as to be fitted to the fitting part of the case part of the light direction changing element.

C As for the light diffusing agent, before the amendment it was included in "the light direction changing element"; whereas it has been amended such that it is included in "the light direction changing part of the light direction changing element and the case part" and "for part of light incident on the light inputting surface and directed toward the reflecting surface, the direction of light beams thereof incident from the light inputting surface is changed by the light diffusing agent and the light is transmitted as a first light from a back side of the reflecting surface toward a front side thereof; the remaining light is reflected by the light diffusing agent or on the reflecting surface, and emitted as a second light from the emitting surface toward the lateral."

D As for "the content of the light diffusion agent," before the amendment it was "0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material"; whereas it has been amended to "0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material, thereby setting the quantity of the first light and the quantity of the second light at a predetermined ratio."

## 2. Propriety of amendment

The above amended matter A restricts the light direction changing element in including "a case part in which a fitting part is formed." In Claim 1 before the amendment, the light direction changing element further comprises a light inputting surface, a reflecting surface, and a light outputting surface; whereas in Claim 1 after the amendment, it is also specified by the configuration of "a case part in which a fitting part is formed" in addition to the above matter specifying the invention. Accordingly, it should be said that the amendment of Claim 1 is to add a configuration that was not present in the claim before the amendment. Therefore, the amendment of Claim 1 does not meet the requirement of "to restrict matters required to identify the invention stated in the claim before the amendment" which is stipulated in parentheses in Article 17-2(5)(ii) of the Patent Act.

Thus, the Amendment violates the provisions of Article 17-2(5) of the Patent Act and therefore should be dismissed in accordance with the provisions of paragraph 1 of Article 53 of the Patent Act which is applied mutatis mutandis under paragraph 1 of Article 159 of the Patent Act, without examining the other amended matters.

### 3. Independent requirements for patentability

The Amendment should be dismissed as described in the above 2; however, whether or not the invention according to Claim 1 after the Amendment (hereinafter, referred to as "the Amended Invention") is independently patentable at the time of the patent application will be examined for confirmation.

#### (1) Cited Document and Cited Invention

##### A Described matters in the Cited Document

International Publication No. WO2008/007492 that is a Cited Document which had been distributed in Japan or a foreign country or had become available to the public through electric communication lines prior to the filing of the application includes the following description with drawings (note by the body: the underlines have been added by the body).

#### (A) "[Scope of Claims]"

##### [Claim 1]

"A light source module, comprising: a light direction changing part which includes a recessed part having a light light inputting surface through which light incident, a light reflecting surface for reflecting the light incident from the light light inputting surface, and a light emitting surface for emitting the light reflected by the light reflecting surface sideward; and a light emitting part which is arranged with a gap provided in the recessed part of the light direction changing part and makes the light incident on the light light inputting surface."

##### [Claim 2]

"A light source module according to Claim 1 of the scope of claims, further comprising: a unit body having an arrangement space; and a circuit board arranged in the arrangement space; wherein

the light emitting part is mounted on the circuit board." ...

##### [Claim 5]

"A light source module according to Claim 2 of the scope of claims, wherein the unit body comprises a holder piece which holds the light emitting lamp; and

the light direction changing part includes a fitting part which is fitted to the holder piece."

#### (B) "[0010]"

Accordingly, the present invention aims at providing a light source module, a surface light emitting unit, and a surface light emitting device that can simplify an installation work and reduce a manufacturing cost, can sufficiently suppress the occurrence of light emission unevenness and color unevenness, and further can have versatility."

#### (C) "[0015]"

##### [First embodiment]

...

##### [0025]

<Configuration of light emitting lamps 7,7, ...>

As shown in FIG. 8, each of the light emitting lamps 7,7, ... includes an LED 28 as a light emitting part that emits a white light to a light extraction side, and a light direction changing optical element 29 serving as a light direction changing part that makes the light emitted from this LED 28 incident and emits it sideward; and the light emitting lamps 7,7 are mounted on the lamp installation side of the circuit board 6. The size of a space between two adjacent light emitting lamps 7, 7 among the light emitting lamps 7,7, ... is set to approximately 100 mm.

[0026]

The LED 28 is, as shown in FIG. 9, formed by sealing by a package 282 a sealing resin 286 which includes a blue LED element 284 that emits a blue light and a silicate phosphor 285 that emits a yellow light by being excited by the blue light emitted from this blue LED element 284; and is arranged on the element installation side of the circuit board 6. In addition, it is configured so that a white light is emitted as described above on the basis of mixture of a blue light emitted from the blue LED element 284 and a yellow light emitted from the phosphor. As the blue LED element 284, for example, a blue LED element composed of a GaN-based semiconductor compound having a light emission wavelength region of 450 nm to 460 nm is used. As the phosphor 285, there may be used a silicate-based phosphor or a garnet-based phosphor, such as a YAG (Yttrium Aluminum Garnet) phosphor or the like.

[0027]

The package 282 is formed of a white resin material and has a recessed part 281 including an inclined surface 281a and a bottom surface 281b as reflectors. A pair of leads 293A and 283B are derived to the outside from the bottom surface 281b of the recessed part 281. The blue LED element 284 is electrically connected to one end part of a pair of leads 283A and 283B; and the other end part of the pair of leads 283A and 283B is electrically connected to a conductive pattern on the circuit board 6.

[0028]

The light direction changing optical element 29 includes, as shown in FIG. 8, a light light inputting surface 29A for making emitted light from the LED 28 incident, a light reflecting surface 29B for reflecting the light incident from this light light inputting surface 29A, and a light emitting surface 29C for emitting the light reflected by this light reflecting surface 29B sideward (diagonally frontward/backward), and is arranged on a lamp installation side of the circuit board 6; and the whole thereof is formed of a transparent material such as a PMMA (poly methyl methacrylate) resin. In addition, when the light emitted from the LED 28 enters the light light inputting surface 29A, the greater part of the light is refracted and the refracted light is totally reflected by the light reflecting surface 29B, and further, the light is refracted and emitted diagonally forward, diagonally backward, and sideward from the light emitting surface 29C and is emitted from the light reflecting surface 29B (interface).

...

[0034]

The light emitting surface 29C is, as shown in FIG. 8, formed of a circumferential surface having a uniform outside diameter. In addition, as described above, it is configured so that light reflected by the light reflecting surface 29B is emitted diagonally frontward, diagonally backward, and sideward. Further, to improve the light emission efficiency, it is preferable that it has a structure hardly causing internal reflection and refraction and has a mirror surface. The above description is

provided for a case where the light emitting surface 29C is formed of a circumferential surface; however, it may be formed of a lateral of a polygonal prism (triangular prism, quadrangular prism, ...). On the light emitting surface 29C, surface roughening may be performed to provide light diffusion characteristics. Instead of performing this surface roughening, mixing a light diffusing agent into the light direction changing optical element 29 can also improve the light diffusion characteristics."

(D) "[0054]

[Second embodiment]

FIG. 14 is an assembly perspective view showing the whole of a surface light emitting unit according to the second embodiment of the present invention. FIG. 15 is a sectional view that is shown to describe a light emitting lamp of the surface light emitting unit according to the second embodiment of the present invention. FIG. 15 (a) shows a sectional view A-A of FIG. 14, and FIG. 15 (b) shows a sectional view B-B of FIG. 14. FIG. 16 is a figure that is shown to describe a light direction changing part in the light emitting lamp of the surface light emitting unit according to the second embodiment of the present invention. FIG. 16 (a) shows a perspective view, FIG. 16 (b) shows a plane view, and FIG. 16 (c) shows a bottom view. FIG. 17 is a sectional view that is shown to describe the light direction changing part in the light emitting lamp of the surface light emitting unit according to the second embodiment of the present invention. In FIG. 14 to FIG. 17, members and parts which are identical or equivalent to those in FIG. 1 to FIG. 8 and FIG. 13 are denoted by identical reference symbols with the detailed explanation thereof omitted.

[0055]

As shown in FIG. 14, the surface light emitting unit 101 according to the second embodiment is characterized by including a unit body 102 of a long size, and a plurality of light emitting lamps 103, 103, ... (four pieces in this embodiment) which are arranged in parallel in a longitudinal direction of the unit body 102.

[0056]

Therefore, the unit body 102 is formed of a plate member of a substantially C-shaped cross-section made of a metal material such as aluminum which has a recessed part 102A fitted to the light direction changing part of each of the light emitting lamps 103, 103, ...; and is configured so as to be connectable to other unit bodies. As materials of the unit body 102, a metal material or a resin material such as an ABS resin is used. In the unit body 102, as shown in FIG. 15 (a) and (b), part of the bottom surface of the recessed part 102A is cut and raised for formation, to provide a plurality of holder pieces 104, 104, ... (only one piece is illustrated in FIG. 15) that hold the plurality of light emitting lamps 103, 103, .... The holder pieces 104, 104, ... are provided with stepped parts 104A and 104A that hold a plurality of circuit boards 106 (described later) by bending both side edges of the holder pieces for formation. On each of the stepped parts 104A and 104A, two pin insertion holes (not illustrated) that open upward and downward are provided. In longitudinal-direction both end parts of the unit body 102, through holes 102B and 102B (illustrated in FIG. 14) for installing the surface light emitting unit 101 at a rear surface plate 2C of a case 2 (both are illustrated in FIG. 1) are provided. It should be noted that a single light emitting lamp 103 and a single holder piece 104 constitute a light source module. In addition, a plurality of light emitting lamps 103 which are connected in series by a cable and a

plurality of holder pieces 104 also constitute a light source module.

[0057]

Since the light emitting lamps 103, 103, ... are substantially identical in configuration, only one of the light emitting lamps 103 is described: the light emitting lamp 103 includes, as shown in FIG. 15 (a) and (b), an LED 28 serving as a light emitting part for emitting a white light to a light extraction side, a light direction changing optical element 105 serving as a light direction changing part through which the light emitted from the LED 28 incident and emitting it sideward, and a circuit board 106 that is interposed between a light incident side end surface of this light direction changing optical element 105 and stepped parts 104A and 104A of the holder piece 104; and it is mounted within the recessed part 102A (illustrated in FIG. 14) of the unit body 102.

[0058]

The light direction changing optical element 105 includes, as shown in FIG. 15 (a), (b) and FIG. 16 (a) to (c), in addition to a recessed part (fitting part) 108 fitted to the holder piece 104 and a recessed part 109 for storing the LED 28, a light light inputting surface 29A for making emitted light from the LED 28 incident, a light reflecting surface 29B for reflecting the light incident from this light light inputting surface 29A, and a light emitting surface 29C for emitting the light reflected by this light reflecting surface 29B sideward and diagonally frontward/backward; is arranged on a lamp installation side of the unit body 102; and the whole thereof is formed of a transparent material such as a PMMA (poly methyl methacrylate) resin as with the light direction changing optical element 29. In addition, when the light emitted from the LED 28 enters the light light inputting surface 29A, the greater part of the light is refracted and the refracted light is totally reflected by the light reflecting surface 29B, and further, the light is refracted and emitted diagonally forward, diagonally backward, and sideward from the light emitting surface 29C and is emitted from the light reflecting surface 29B (interface).

[0059]

The light direction changing optical element 105 is, as shown in FIG. 16 (c) and FIG. 17, provided with first positioning pins 106A and 106A and second positioning pins 106B, 106B, 106B, and 106B which protrude on the light incident lateral. The first positioning pins 106A and 106A are positioned in the vicinity of the light light inputting surface 29A and are fitted to the pin fitting holes (not illustrated) of the circuit board 106. The second positioning pins 106B, 106B, 106B, and 106B are positioned at four corners on the light incident lateral and are fitted to the pin fitting holes (not illustrated) of the stepped parts 104A, 104A. In addition, the light direction changing optical element 105 is provided with: notches for cable insertions 106C, 106C, 106C, and 106C that allow insertion of the cables 107; space parts for resin filling 106D, 106D, 106D, and 106D that communicate with these notches 106C, 106C, 106C, and 106C; and space parts for board connection 106E, 106E, 106E, 106E that communicate with these space parts 106D, 106D, 106D, and 106D, respectively.

[0060]

The circuit board 106 has, as shown in FIG. 15 (a) and (b), a wiring pattern (not illustrated) that is electrically connected with an electrode terminal part exposed on a rear surface of the LED 28 of the light emitting lamp 103; and is arranged within the recessed part 108 of the light direction changing optical element 105. On the circuit

board 106, an electronic component 110 composed of a Zener diode is mounted as shown in FIG. 15 (b). This allows, even when any one of the light emitting lamps 103, 103, ... does not light up due to a failure, etc., one of the other light emitting lamps 103, 103, ... to light up. Two mutually adjacent circuit boards 106, 106 among the circuit boards 106, 106, ... are connected in series by the cable 107.

[0061]

[Effect of the second embodiment]

According to the second embodiment described above, effects similar to the effects (1) to (6) of the first embodiment can be obtained."

(E)"[0062]

[Third embodiment]

FIG. 18 is a sectional view that is shown to describe the light direction changing part in the light emitting lamp of the surface light emitting unit according to the third embodiment of the present invention. The light direction changing optical element of the third embodiment is such that in the light direction changing optical element 29 of the first embodiment, the light reflecting surface 29D, which is inclined, is provided between the light reflecting surface 29B on the upper part and the light emitting surface 29C on the lateral.

[0063]

Light emitted from the LED 28 is incident from the second light light inputting surface 29c of the bottom surface of the light direction changing optical element 29, the light is reflected by the light reflecting surface 29B on the upper surface, and most of the light is emitted from the light emitting surface 29C on the lateral; however, by providing a light reflecting surface 29D of a partial shape of an approximate cone between the light reflecting surface 29B and the light emitting surface 29C, part of the light reflected by the light reflecting surface 29B is reflected by the light reflecting surface 29D; furthermore, a diffuse reflection is performed on the diffusing surface 29E formed of fine unevenness on the bottom surface, and light is emitted from the light reflecting surface 29B on the upper part. It should be noted that a diffusing surface may be provided on the upper surface of the board 6 without providing the diffusing surface 29E on the light direction changing optical element 29.

[0064]

This causes, in the first embodiment, light to be entirely emitted toward the lateral, and therefore, when it is used for an especially thin surface light source, the part immediately above the light source becomes dark. By emitting light also in the upper direction of the light source, a uniform light source can be obtained even in the case of an ultra-thin type."

(F) FIG. 15 is as follows:



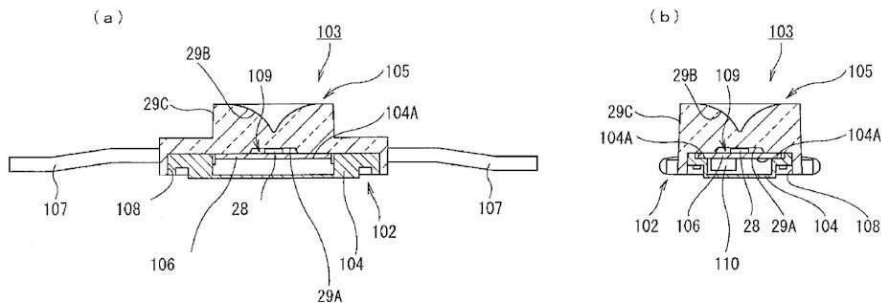


FIG. 15

B Cited Invention

(A) According to the description of [0056] of the above A (D), the light emitting lamps and holder pieces constitute the light source module, and a cited invention is identified based on descriptions of the scope of claims and the light source module constituted by the light emitting lamps and holder pieces of the surface light emitting unit of the second embodiment. In this case, the portion describing the surface light emitting unit of the second embodiment includes the description of "In FIG. 14 to FIG. 17, members and parts which are identical or equivalent to those in FIG. 1 to FIG. 8 and FIG. 13 are denoted by identical reference symbols with the detailed explanation thereof omitted" ([0054]), and therefore, description of embodiment 1 is taken into consideration for the members and parts which are denoted by identical symbols.

(B) According to the above A (A), the Cited Document describes the following light source module:

"A light source module, comprising:

a light direction changing part which includes a recessed part having a light inputting surface for making light incident, a light reflecting surface for reflecting the light incident from the light inputting surface, and a light emitting surface for emitting the light reflected by the light reflecting surface sideward;

a light emitting part which is arranged with a gap provided in the recessed part of the light direction changing part and makes the light incident on the light inputting surface;

a unit body having an arrangement space; and

a circuit board arranged in the arrangement space; wherein

the light emitting part is mounted on the circuit board;

the unit body includes a holder piece for holding a light emitting lamp; and

the light direction changing part has a fitting part which is fitted to the holder piece."

(C) According to the description of [0057] of the above A (D), the light emitting part is an LED.

(D) According to the description of [0058] of the above A (D), the light direction

changing optical element includes, in addition to a recessed part (fitting part) fitted to a holder piece and a recessed part for housing the LED, a light light inputting surface for making light emitted from the LED incident, a light reflecting surface for reflecting the light incident from the light light inputting surface, and a light emitting surface for emitting the light reflected by this light reflecting surface sideward and diagonally frontward/backward.

(E) According to the descriptions of [0025] and [0028] of the above A (C), the light direction changing optical element serving as a light direction changing part is formed of a transparent material; when the light emitted from the LED enters the light light inputting surface, the greater part of the light is refracted and the refracted light is totally reflected by the light reflecting surface, and further, the light is refracted and emitted diagonally forward, diagonally backward, and sideward from the light emitting surface and is emitted from the light reflecting surface (interface).

(F) According to the description of the above A (D), there is provided a circuit board which is interposed between the light incident side end surface of the light direction changing optical element and the stepped parts of the holder piece.

In view of the above, the following invention is described in the Cited Document:

"A light source module, comprising:

- a light direction changing part which includes a recessed part having a light light inputting surface for making light incident, a light reflecting surface for reflecting the light incident from the light light inputting surface, and a light emitting surface for emitting the light reflected by the light reflecting surface sideward;

- a light emitting part which is arranged with a gap provided in the recessed part of the light direction changing part and makes the light incident on the light light inputting surface;

- a unit body having an arrangement space; and

- a circuit board arranged in the arrangement space; wherein

- the light emitting part is mounted on the circuit board;

- the unit body includes a holder piece for holding a light emitting lamp; and

- the light direction changing part has a fitting part which is fitted to the holder piece; and wherein

- the light emitting part is an LED;

- a light direction changing optical element serving as the light direction changing part is formed of a transparent material;

- the light direction changing optical element includes, in addition to a recessed part (fitting part) fitted to a holder piece and a recessed part for housing the LED, a light light inputting surface for making light emitted from the LED incident, a light reflecting surface for reflecting the light incident from the light light inputting surface, and a light emitting surface for emitting the light reflected by this light reflecting surface sideward and diagonally frontward/backward;

- when the light emitted from the LED enters the light light inputting surface, the greater part of the light is refracted and the refracted light is totally reflected by the light reflecting surface, and further, the light is refracted and emitted diagonally forward,

diagonally backward, and sideward from the light emitting surface and is emitted from the light reflecting surface (interface); and

the circuit board is interposed between the light incident side end surface of the light direction changing optical element and the stepped parts of the holder piece."

(Hereinafter, referred to as "the Cited Invention").

## (2) Comparison

The Amended Invention and the Cited Invention are compared.

A When a comparison is made between the "light emitting element" in the Amended Invention and the "light emitting part" which is an "LED" in the Cited Invention, the two are in a correspondence relation.

B A comparison is made between "a light direction changing part having an light inputting surface through which the light emitted from the light emitting element incident, a reflecting surface for reflecting the light incident from the light inputting surface, and a light outputting surface for refracting the light reflected by the reflecting surface and emitting it in a lateral direction" in the Amended Invention and "a light direction changing part which includes a recessed part having a light light inputting surface for making light incident, a light reflecting surface for reflecting the light incident from the light light inputting surface, and a light emitting surface for emitting the light reflected by the light reflecting surface toward a side direction" in the Cited Invention.

In the light of "the light emitted from the LED enters the light light inputting surface" and "is refracted and emitted diagonally forward, diagonally backward, and sideward from the light emitting surface ..." in the Cited Invention, the two are in a correspondence relation.

C When a comparison is made between the "case part in which a fitting part is formed" in the Amended Invention and the "recessed part (fitting part) fitted to a holder piece" in the Cited Invention, the two are in a correspondence relation.

D A comparison is made between the "light direction changing element which is composed of a transparent material" in the Amended Invention and "the light direction changing optical element serving as a light direction changing part is formed of a transparent material" in the Cited Invention. The "light direction changing optical element" in the Cited Invention corresponds to the "light direction changing element" in the Amended Invention. In view of the above, the two are in a correspondence relation.

E A comparison is made between the "holder piece provided on the light inputting surface side so as to be fitted to the fitting part of the case part of the light direction changing element" in the Amended Invention and the "holder piece" which is fitted to the "recessed part (fitting part)" included in the "light direction changing optical element" in the Cited Document.

The "holder piece" in the Cited Invention includes the "light emitting lamp" and therefore, the "holder piece" in the Cited Invention is positioned at the light light inputting surface side of the light direction changing part. The "light direction changing optical element" and "recessed part (fitting part)" in the Cited Invention

correspond to the "light direction changing element" and "case part" in the Amended Invention, respectively. Accordingly, they are in a correspondence relation.

F A comparison is made between "the holder piece has a storage part comprises a housing portion opening toward the side of the light direction changing element and has a configuration for holding a circuit board including the light-emitting element inside the storage part" in the Amended Invention and "the circuit board is interposed between the light incident side end surface of the light direction changing optical element and the stepped parts of the holder piece" and "arranged in the arrangement space" in the Cited Invention.

The "arrangement space" "between the light incident side end surface ... and the stepped parts of the holder piece" in the Cited Invention corresponds to the "storage part which opens" in the Amended Invention; and it can be said that the "holder piece" in the Cited Invention holds the circuit board by the stepped parts. In addition, considering that the Cited Invention includes the matter specifying the invention of "the light emitting part is mounted on the circuit board," the two are in a correspondence relation.

G As described above, the two are identical in terms of:

"A light source module comprising:

a light-emitting element;

a light direction changing element which is composed of a transparent material and includes a light direction changing part having an light inputting surface through which the light emitted from the light-emitting element incident, a reflecting surface for reflecting the light incident from the light inputting surface, and a light outputting surface for refracting the light reflected by the reflecting surface and emitting it in a lateral direction, and a case part in which a fitting part is formed; and

a holder piece provided on the light inputting surface side so as to be fitted to the fitting part of the case part of the light direction changing element; wherein

the holder piece comprises a housing portion opening toward the side of the light direction changing element and has a configuration for holding a circuit board including the light-emitting element inside the storage part."

On the other hand, they are different in the following points:

Different features: (1) The Amended Invention is configured such that "the light direction changing part of the light direction changing element and the case part include a light diffusing agent; for part of light incident on the light inputting surface and directed toward the reflecting surface, the direction of light beams thereof incident from the light inputting surface is changed by the light diffusing agent and the light is transmitted as a first light from a back side of the reflecting surface toward a front side thereof; the remaining light is reflected by the light diffusing agent or on the reflecting surface, and emitted as a second light from the emitting surface toward the lateral"; whereas, the Cited Invention does not have such a configuration.

(2) The Amended Invention is configured such that "the content of the light diffusion agent is 0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material, thereby setting the quantity of the first light and the quantity of the second light at a predetermined ratio"; whereas, the Cited Invention does not have such a configuration.

### (3) Judgment

The above different features will be judged below.

A First, the technical meaning of "the content of the light diffusion agent is 0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material, thereby setting the quantity of the first light and the quantity of the second light at a predetermined ratio" in the Amended Invention will be examined by taking the detailed description of the invention into consideration.

The detailed description of the invention of the present application includes:

"[0027]

FIG. 4 schematically shows light beams whose light directions have been converted by the light direction changing element 10. The addition amount of the light diffusing agent 14 to 100 wt.% of a transparent resin is adjusted to the range of 0.01 wt.% or more and 0.1 wt.% or less, so that light emitted from the LED 40 is appropriately diffused to multiple directions within the light direction changing element 10 and light transmitted from the back side of the light reflecting surface 12d of the light direction changing element 10 toward the front side thereof is diffusely irradiated substantially uniformly. This can eliminate the fluctuation of light intensity due to the shape or distortion of the light direction changing element 10."

According to the above description, it is recognized that the technical meaning of "the content of the light diffusion agent is 0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material, thereby setting the quantity of the first light and the quantity of the second light at a predetermined ratio" is that light emitted from the LED 40 is appropriately diffused to multiple directions within the light direction changing element 10 and light transmitted from the back side of the light reflecting surface 12d of the light direction changing element 10 toward the front side thereof is diffusely irradiated substantially uniformly, thereby eliminating the fluctuation of light intensity due to the shape or distortion of the light direction changing element 10.

B It is well-known technical means that the light diffusing agent causes light to be diffused by being included in a transparent material (resin, etc.) to allow the light distribution characteristics to be controlled, as described in the following a to c, for example:

a Japanese Unexamined Patent Application Publication No. 2007-227791

(Refer to the description of "[0025] ... In addition, only by including a phosphor and diffusing agent in a translucent resin beforehand, the light distribution characteristics can be improved ..." It should be noted that this publication was cited in the reasons for refusal of the examiner's decision.)

b Japanese Unexamined Patent Application Publication No. 2007-227590

(Refer to the description of "[Background Art] [0002] In conventional light emitting devices, a powdered diffusing agent is mixed into a translucent resin so as to obtain light distribution having high diffusivity.")

c Japanese Unexamined Patent Application Publication No. 2001-77427 ([0019] ... In addition, in a mold member, if desired, ... various additives such as a diffusing agent for smoothing the light distribution characteristics, etc. can be included.)

Incidentally, the section describing the embodiment 1 of the Cited Invention includes the description "[0034] ... On the light emitting surface 29C, surface

roughening may be performed to provide light diffusion characteristics. Instead of performing this surface roughing, mixing a light diffusing agent into the light direction changing optical element 29 can also improve the light diffusion characteristics." Here, the Cited Invention is such that the light incident on the light inputting surface of the light direction changing part is emitted diagonally forward, diagonally backward, and sideward from the light emitting surface and is emitted from the light reflecting surface (interface); and so, it is obvious to a person skilled in the art that by mixing a light diffusing agent into the light direction changing part, light distribution having high diffusivity is obtained and thereby upward light emitted from the light reflecting surface (interface) will increase.

C Examination will be made based on the above A and B.

The Cited Invention is a light source module that emits light diagonally forward, diagonally backward, and sideward from the light emitting surface of the light direction changing unit and is emitted upward from the light reflecting surface (interface); wherein it is recognized that there are optimum light quantities (light distribution) for light which is emitted diagonally forward, diagonally backward, sideward, and from the light reflecting surface (interface) according to the characteristics of a surface light source adopting the light source module. (for example, in the third embodiment of the Cited Invention, it is disclosed that when it is adopted to an ultra-thin surface light source, the quantity of light emitted upward of a light source is increased, as described in the above (1) A (E)). Accordingly, a person skilled in the art can adjust light distribution so as to increase the quantity of light emitted upward of a light source according to the characteristics of an applied surface light source in the light source module of the Cited Invention 1; and in this case, there is no difficulty in adopting as means for adjusting light distribution the well-known means that uses a light diffusing agent which is examined in the above B and making the light direction changing part (light direction changing optical element) include a light diffusing agent. In addition, it is recognized that the content of a light diffusing agent is a design matter that can be determined by a person skilled in the art properly according to the required quantity of light emitted upward (light distribution characteristics), the shape of the light direction changing part, etc.; and further, the numerical range in which the content of the light diffusion agent is 0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material is not recognized to be remarkable.

In view of the above, it is recognized that it could have been easily conceived by a person skilled in the art that a light diffusing agent sufficient to make luminance uniform is included in the diffusion potion in the light direction changing part in the Cited Invention to implement the matters specifying the invention of the Amended Invention relating to the above different feature.

D The function and effect of the Amended Invention could be easily predicted by a person skilled in the art from the Cited Invention, the well-known technical means, and the descriptions of the Cited Document, and it cannot be recognized to be remarkable.

(F) Consequently, the Amended Invention could have been easily made by a person skilled in the art based on the Cited Invention, the well-known technical means, and the descriptions of the Cited Document, and therefore, the appellant should not be granted a

patent for it independently at the time of patent application.

#### 4 Closing on the Amendment

As described above, the Amendment violates the provisions of Article 17-2 (5) of the Patent Act and therefore, should be dismissed under the provisions of Article 53(1) of the Patent Act which is applied mutatis mutandis by replacing certain terms pursuant to Article 159(1) of the Patent Act. In addition, the appellant should not be granted a patent for the invention after the amendment of the case independently at the time of patent application and therefore, the Amendment should be dismissed in any case.

#### No. 3 Regarding the Invention

##### 1 The Invention

Since the Amended Invention was dismissed as described above, the invention according to Claim 1 of the present application is acknowledged as follows, as specified by the matters described in Claim 1 of the scope of claims amended by the written amendment dated July 16, 2010:

"A light source module comprising:

a light-emitting element;

a light direction changing element composed of a transparent material and including an light inputting surface through which the light emitted from the light-emitting element incident, a reflecting surface for reflecting the light incident from the light inputting surface, and a light outputting surface for refracting the light reflected by the reflecting surface and emitting it in a lateral direction;

and a holder piece provided on the light direction changing element; wherein

the holder piece comprises a housing portion opening toward the side of the light direction changing element and has a configuration for holding a circuit board including the light-emitting element inside the storage part and has a configuration for holding a circuit board including the light-emitting element inside the storage part;

the light direction changing element includes a light diffusing agent; and

the content of the light diffusion agent is 0.01 wt.% or more and 0.1 wt.% or less relative to 100 wt.% of the transparent material." (Hereinafter, referred to as "the Invention.")

##### 2. Cited Document and Cited Invention which were cited

The Cited Document, the matters described therein, and the Cited Invention which were cited in the reasons for refusal stated in the examiner's decision are as described in the above "No. 2, 3(1)."

##### 3. Comparison / judgment

The Invention is one that is obtained by eliminating from the Amended Invention examined in the above "No. 2, 3": the restriction of the light direction changing element, which is a matter necessary for specifying the invention, having "a case part in which a fitting part is formed"; the restriction of "is provided on the light inputting surface side so as to be fitted to the fitting part of the case part" for the holder piece; the restriction of being included in "the light direction changing part of the light direction changing element and the case part" for the light diffusing agent; the restriction of "for part of

light incident on the light inputting surface and directed toward the reflecting surface, the direction of light beams thereof incident from the light inputting surface is changed by the light diffusing agent and the light is transmitted as a first light from a back side of the reflecting surface toward a front side thereof; the remaining light is reflected by the light diffusing agent or on the reflecting surface and emitted as a second light from the emitting surface toward the lateral" for the light direction changing element; and the restriction of setting "the quantity of the first light and the quantity of the second light at a predetermined ratio" for the technical significance of the content of the light diffusing agent.

Then, the Amended Invention that corresponds to one which includes all the constituent components of the Invention and to which other constituent components have been added could have been easily made by a person skilled in the art based on the Cited Invention, the well-known technical means, and the descriptions of the Cited Invention as described in the above "No. 2 (3);" and therefore, for a similar reason, the Invention could also have been easily made by a person skilled in the art based on the Cited Invention, the well-known technical means, and the descriptions of the Cited Document.

#### 4. Closing

As described above, the Invention could have been easily made by a person skilled in the art based on the Cited Invention, the well-known technical means, and the descriptions of the Cited Document and therefore, the appellant should not be granted a patent for the Invention in accordance with the provisions of Article 29(2) of the Patent Act.

Therefore, the appeal decision shall be made as described in the conclusion.

April 23, 2015

Chief administrative judge:	YOSHINO, Kimio
Administrative judge:	KOMATSU, Tetsuzo
Administrative judge:	HOSHINO, Koichi