

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TSUYOSHI ISHIKAWA and NOBUHISA NOGUCHI

Appeal No. 1999-2713
Application No. 08/801,805

HEARD: October 24, 2001

Before MARTIN, BARRETT, and LEVY, Administrative Patent Judges.
LEVY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection¹ of claims 2-5 and 7. Claim 1 has been canceled. Claim 6 remains withdrawn from consideration based upon a restriction requirement (Paper No. 5, mailed August 26, 1997).

¹ An amendment (Paper No. 13, filed November 3, 1998) submitted subsequent to the final rejection has been entered by the examiner (Paper No. 14, mailed November 10, 1998).

Appeal No. 1999-2713
Application No. 08/801,805

BACKGROUND

Appellants' invention relates to a side light type surface light source. A roughness is applied to the emitter surface 12 of light scattering guide plate 11 to prevent the sheet-shaped light control member 5 from adhering to the emitting surface, without loss of directivity. An understanding of the invention can be derived from a reading of exemplary claim 7, which is reproduced as follows:

7. A side light type surface light source device comprising:

a sheet-shaped light control member disposed closely along an emitting surface emitting light having directivity and functioning to correct directivity of the emitted light;

wherein a roughness is applied to the emitting surface to prevent the light control member from adhering to the emitting surface without losing the directivity of light emitted from the emitting surface.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Tanaka et al. (Tanaka)	4,617,245	Oct. 14, 1986
Hisamura et al. (Hisamura)	4,948,690	Aug. 14, 1990
Endo et al. (Endo)	5,123,077	Jun. 16, 1972

The admitted prior art described on pages 1-3 and illustrated in figures 6 and 7 of the specification (APA).

Claims 2, 4, and 7 stand rejected under 35 U.S.C. § 103 as being unpatentable over APA in view of Endo.

Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over APA in view of Endo, and further in view of Tanaka.

Claim 5/2 stands rejected under 35 U.S.C. § 103 as being unpatentable over APA in view of Endo, and "with or without" Hisamura.

Claim 5/3 stands rejected under 35 U.S.C. § 103 as being unpatentable over APA in view of Endo, further in view of Tanaka and "with or without" Hisamura.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 16, mailed March 11, 1999) and the final rejection² (Paper No. 11, mailed May 6, 1998) for the examiner's complete reasoning in support of the rejections, and to appellants' brief (Paper No. 15, filed December 23, 1998) and reply brief

² Incorporated by reference into the examiner's answer (pages 3 and 4).

(Paper No. 18, filed May 4, 1999) for appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the rejections advanced by the examiner, and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the invention as set forth in claims 2-5 and 7. Accordingly, we reverse, essentially for the reasons set forth by appellants.

We begin with the rejection of claims 2, 4, and 7 under 35 U.S.C. § 103 as unpatentable over APA considered with Endo.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re

Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole. See id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The examiner's position (final rejection, page 3) is that APA does not teach "means^[3] applied to the emitting surface of the light guide plate (2) for the purpose of reducing the tendency for the light control member to adhere to the light guide plate" to overcome this deficiency in APA the examiner turns to Endo for a teaching of providing a roughened emitting surface on the light guide plate. The examiner asserts that the emitting surface of light guide member 4A of Endo has a roughened surface, and concludes that it would have been obvious to roughen the emitter surface of APA as suggested by

³ We presume that the examiner meant to say "roughness" instead of "means" as none of the claims are in means-plus-function format.

Endo. The examiner's rationale is that the roughened surface will increase the uniform distribution of light and simultaneously reduce the tendency for the light control member to adhere to the light guide plate.

Appellants (brief, page 5) acknowledge that Endo does teach a roughened emission surface, but assert that "the only motivation to add the roughened emitting surface of Endo to the device of the admitted prior art is motivation which is based upon hindsight reconstruction." Appellants argue (brief, pages 4 and 5) that Endo fails to teach or suggest any element closely disposed to the roughened surface, and that Endo fails to teach or suggest that roughening of the emitting could be useful in preventing the adherence of the light control member to the emitting surface. Appellants further assert (brief, page 6) that APA makes no mention of a roughened emitting surface, and suggests that the emitting surface is smooth.

The examiner responds (answer, pages 6 and 7) by noting that both APA and Endo are drawn to optical devices having light guide plates, control members and prisms and diffusing elements for controlling the directivity of light. The

examiner asserts that preventing adherence between the light control element and the light guide plate is an inherent characteristic of Endo. The examiner argues that "[s]ince the use of roughened patterns formed on the emitting surface of the light guide plate is clearly suggested by Endo et al . . . it is not understood why one skilled in the art cannot apply the Endo teaching".

Endo discloses that in the prior art (figure 8) a smooth surface 4a is provided on the emission surface of the light guide 4A. A light source 4B is provided at one end of the light guide 4A. In Endo's invention, we find that Endo discloses plural light sources 4B, located at the ends of the light guiding element 4A (figure 1, and col. 2, lines 46 and 47). the light guiding element 4A is formed of transparent material having a light transmissivity of 90% to 95% (col. 4, lines 33-39). Endo discloses (col. 2, lines 11-13 and 21-54) that the emitting surface of the light guiding element 4A is formed as a curved surface. The center is concave, and the sides are convex. A space is formed between the inclined and curving surface, and the uniform diffusion layer. This prevents interference fringes from being formed by the light

guiding material and the diffusion plate. Endo further discloses (col. 5, line 63-col. 6, line 14, and col. 2, lines 57 and 58) that since the light is concentrated from both ends of the substrate to the area near the center of the light guiding element, the brightness becomes comparatively high at the center and sometimes results in a problem. In order to overcome the problem of non-uniformity of brightness, "[t]he surface of the light guiding element is formed as a rough surface in order to scatter the light at this surface." When the degree of roughness is small, less light is scattered. The light guiding element does not have the same roughness across its entire surface. The area near the center is formed with a degree of roughness set to a small value. The remaining surface is formed as a rough surface. As a result, the light is emitted "toward a region other than the center area, resulting in the brightness in the center being suppressed and a more uniform brightness can be obtained."

In APA (specification, page 3), the light guide 2 is a light scattering guide plate containing uniformly distributed light-permeable fine particles. The light-permeable fine particles distributed in the light scattering guide plate 2

scatter the light L. The examiner and appellants agree that APA does not disclose a roughened emitter surface.

From the disclosure of Endo of using a 90% to 95% transmissivity guide element or transparent glass, and providing a roughened emission surface to scatter light at the emission surface, we find no reason why a skilled artisan would have been led to provide the light guide of APA with a roughened emission surface, because APA uses fine particles in the light guide to scatter the light. Endo needs the roughened emission surface to scatter the light because of the high transmissivity of the light guide. Since the light in APA is already scattered by the fine particles within the light guide, there is no need to scatter the light at the emission surface, where the prism 5 corrects the directivity. In addition, Endo uses a roughened emission surface to compensate for non-uniformity of brightness due to the use of light sources at both ends of the light guide. Because APA does not have light sources at both ends of the light guide, we find that an artisan would not have been led to provide a roughened surface on the emitter surface for the additional

reason that APA does not have the problem of non-uniform brightness due to opposing light sources.

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. See ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). Teachings of references can be combined only if there is some suggestion or incentive to do so. Here, the prior art contains none. Instead, it appears to us that the examiner relied on hindsight in reaching the obviousness determination. In addition, even if APA were provided with a roughened emission surface as advanced by the examiner, the claims would still not be met because there is no evidence that the level of roughness applied to the emitting surface would "prevent the light control member from adhering to the emitting surface without losing the directivity of light emitted from the emitting surface" as recited in independent claims 1 and 7. In Endo, a space is formed between the emitting surface and the uniform diffusion layer. As a result, Endo need only set the roughness of the emitting layer to the amount necessary to

insure that the desired amount of scattering occurs at the emitter surface. There is no evidence that the emitting surface roughness of Endo will be the same as the amount of roughness necessary to prevent the light control member from adhering to the emitting surface without losing the directivity of light emitted from the emitting surface.

From all of the above, we find that the examiner has failed to establish a prima facie case of obviousness of the invention set forth in claims 2, 4, and 7. Accordingly, the rejection of claims 2, 4, and 7 under 35 U.S.C. § 103 is reversed.

With respect to the rejection of dependent claims 3 and 5 based upon the additional teachings of Tanaka and Hisamura, we find that these references do not overcome the deficiencies of the basic combination of APA and Endo. Accordingly, these rejections under 35 U.S.C. § 103 are also reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 2-5 and 7 under 35 U.S.C. § 103 is reversed.

REVERSED

JOHN C. MARTIN)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
LEE E. BARRETT)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
STUART S. LEVY)	
Administrative Patent Judge)	

Appeal No. 1999-2713
Application No. 08/801,805

Page 15

STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON, DC 20001

APPEAL NO. 1999-2713 - JUDGE LEVY
APPLICATION NO. 08/801,805

APJ LEVY

APJ MARTIN

APJ BARRETT

DECISION: **REVERSED**

Prepared By:

DRAFT TYPED: 28 Jun 02

FINAL TYPED: