

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte MIKIYA SUZUKI, SHIGERU SHIKII,  
YUKIHIRO OZEKI and SHUSEI AOKI

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Appeal No. 1999-0156  
Application 08/555,901

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HEARD: 7 February 2001

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Before KRASS, SMITH, JERRY and BARRETT, Administrative Patent Judges.

SMITH, Administrative Patent Judge.

**DECISION ON APPEAL**

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-5, 7-15 and 17-19, which constitute all the claims remaining in the application. An amendment after final rejection was filed on July 15, 1997 and was entered by the examiner.

The disclosed invention pertains to an optical fiber amplifier which directly amplifies an optical signal. The gain of such amplifiers is not equal over all the wavelengths within the applicable bandwidth. It is desirable to equalize the gain of such amplifiers over all the applicable wavelengths of light. The invention achieves gain equalization by controlling a

gain equalizing means as a function of the input signal power of the input light signal.

Representative claim 1 is reproduced as follows:

1. An optical fiber amplifier comprising:

an optical fiber for direct amplifying an input light signal;

a pumping illumination source for providing the optical fiber with pumping illumination;

detecting means for detecting an input signal power of the input light signal;

gain equalizing means for equalizing a gain of the input light signal;  
and

a gain equalizing means controller for controlling the gain equalizing means based on the detected input signal power of the input light signal which is detected by the detecting means.

The examiner relies on the following references:

Nakabayashi	5,436,760	Jul. 25, 1995
Murase et al. (Murase) (Japanese Kokai)	6-268602	Sep. 22, 1994

In the final rejection, claims 1-5, 7-15 and 17-19 were rejected under 35 U.S.C. § 103 as being unpatentable over Murase when taken with Nakabayashi [final rejection, page 3]. Both references were relied on in supporting the rejection. Although the rejection in the examiner's answer is nominally stated to be the same as in the final rejection, the examiner's analysis now indicates that Murase either anticipates the claimed invention by

itself (a form of obviousness), or that it would have been obvious to combine the teachings of Murase and Nakabayashi to arrive at the claimed invention [answer, pages 3-7].

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs<sup>1</sup> and the answers for the respective details thereof.

### **OPINION**

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

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

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<sup>1</sup> Appellants filed a reply brief on April 21, 1998. This reply brief addressed the rejection on the merits and also requested that prosecution be reopened based on the examiner's change in position on the Murase reference. The examiner responded with a supplemental examiner's answer in which the examiner stated that the reply brief "has been considered only to the extent that it requests the withdrawal of the final rejection and the reopening of prosecution [sic] so that Applicants may further argue the merits of the Murase reference. This request is denied."

At the time appellants' reply brief was filed, 37 CFR § 1.193 had been amended to permit an appellant to file a reply brief. The examiner must either acknowledge receipt and entry of the reply brief or reopen prosecution to respond to the reply brief. Since the examiner clearly did not reopen prosecution as requested by appellants, we treat the reply brief as having been received and entered pursuant to 37 CFR § 1.193.

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skill in the art the obviousness of the invention as set forth in claims 1-5, 7-15 and 17-19.

Accordingly, we reverse.

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.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); 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 and the relative persuasiveness of the arguments.

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). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the briefs have not been considered [see 37 CFR § 1.192(a)].

We consider first the rejection of independent claims 1 and 8 under 35 U.S.C. § 103 as being fully met by Murase<sup>2</sup>. The examiner indicates how he reads claims 1 and 8 on the disclosure of Murase [answer, page 5]. A key feature of the examiner's analysis is that the suppression of high pulse peaks in Murase is inherently gain equalization as recited in claims 1 and 8. Based upon this interpretation, the examiner finds that all limitations of claims 1 and 8 are met by the Murase device.

Appellants argue that Murase is not directed to gain equalization and, therefore, does not teach a "gain equalizing means for equalizing a gain of the input light signal" and a gain equalizing means controller as recited in claims 1 and 8 [reply brief]. More specifically, appellants argue that the suppression of high pulse peaks disclosed in

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<sup>2</sup> Our understanding of Murase is based on a translation provided to us by the Scientific and Technical Information Center of the United States Patent and Trademark Office. A copy of this translation is attached to this decision.

Murase does not perform gain equalization over the wavelength bands of an input signal as claimed.

We agree with appellants. Murase is only concerned with suppressing peak pulses that can occur at the time that an input signal is first received by the amplifier. The suppression of these peak pulses has nothing to do with equalizing the gain of the input light signal as claimed. The examiner's position that the Murase device inherently performs gain equalization is totally without merit. Therefore, we do not agree with the examiner's new position in the answer that the claimed invention is fully met by the disclosure of Murase, and consequently, we do not sustain this particular form of the rejection.

We now consider the rejection of the appealed claims based on the collective teachings of Murase and Nakabayashi. The examiner cites Murase as teaching the control of an optical amplifier based on an input signal. Murase suppresses peak pulses based on an input light signal, but Murase has nothing to do with gain equalization as noted above. The examiner cites Nakabayashi as teaching a gain equalization means for an optical amplifier. The gain equalization means of Nakabayashi is based on a feedback signal from the amplifier rather than from an input light signal as claimed. The examiner finds that it would have been obvious to replace the feedforward control of Murase with the feedback control of Nakabayashi [answer, pages 5-7].

Appellants argue that there is no motivation to combine the teachings of Murase

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and Nakabayashi because Murase has nothing to do with gain equalization while Nakabayashi is only concerned with gain equalization [brief]. Appellants also argue that even if the teachings of Murase and Nakabayashi could somehow be combined, there would still be no teaching of controlling gain equalization in the manner recited in independent claims 1 and 8 [reply brief].

We again agree with appellants. Since Murase has nothing to do with gain equalization of an optical amplifier, there is no reason to modify Nakabayashi's feedback gain equalization technique and apply it to the input side of Murase's amplifier based on an input light signal. Therefore, we also do not agree with the examiner's original position that the claimed invention is fully met by the collective teachings of Murase and Nakabayashi, and consequently, we do not sustain this particular form of the rejection either.

In summary, we have not sustained the examiner's rejection of the appealed claims

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based on the teachings of Murase and Nakabayashi. Therefore, the decision of the examiner rejecting claims 1-5, 7-15 and 17-19 is reversed.

**REVERSED**

ERROL A. KRASS	)	
Administrative Patent Judge	)	
	)	
	)	
JERRY SMITH	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
LEE E. BARRETT	)	
Administrative Patent Judge	)	

JS:yr

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