

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

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(2) is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MASA AKI MANDAI, HITOSHI TAKEUCHI,
YUTAKA SAITO, and TOMOYUKI YOSHINO

Appeal No. 96-1406
Application 08/054,074¹

ON BRIEF

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

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134

¹ Application for patent filed April 27, 1993

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from the examiner's rejection of claims 1, 4-22, 30 and 32-34, which constitute all the claims remaining in the application. An amendment after final rejection was filed on June 14, 1995 and was entered by the examiner.

The disclosed invention pertains to a semiconductor sensor device in which a plurality of semiconductor sensor chips are disposed adjacent to one another. A plurality of coupling chips are provided for effecting mechanical and electrical connection between adjacent sensor chips.

Representative claim 1 is reproduced as follows:

1. A semiconductor sensor device comprising
a plurality of semiconductor sensor chips disposed adjacent one another; and
a plurality of coupling chips for mechanically and electrically connecting said sensor chips together, a respective coupling chip mechanically coupling a respective pair of adjacent sensor chips together and having means for electrically connecting said adjacent sensor chips to one another so that said sensor chips form a single semiconductor sensor device.

The examiner relies on the following references:

LeBlanc (European) 0,424,062 Apr. 24, 1991

Hatada et al. (Hatada), "LED array modules by New method Micron Bump Bonding Method," IEEE/CHMT IEMT Symposium, September 1989, pages 230-233.

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Claims 1, 4-22, 30 and 32-34 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Hatada in view of LeBlanc.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer 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 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 obviousness of the invention as set forth in claims 1, 4-22, 30 and 32-34. Accordingly, we reverse.

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With respect to independent claim 1, the examiner basically takes the position that Hatada teaches the invention of claim 1 except for the use of sensor chips. The examiner cites LeBlanc as a teaching of connecting a plurality of sensor chips in side-by-side relation to each other. The examiner concludes that it would have been obvious to the artisan to attach the sensor chips of LeBlanc together in the manner taught by Hatada [answer, pages 3-4].

Appellants argue that neither of the applied references discloses a device having a plurality of coupling chips, with each coupling chip mechanically coupling a respective pair of adjacent sensor chips together and having means for electrically connecting the adjacent sensor chips to one another as recited in independent claim 1. Appellants argue that each of Hatada and LeBlanc uses a single substrate to mechanically interconnect the circuit chips to one another. Thus, appellants argue that the plurality of coupling chips recited in claim 1 are not taught or suggested by Hatada and LeBlanc, either singly or in combination [brief, pages 4-8]. The examiner responds that the plurality of semiconductor integrated circuit chips on the support board act as "a

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plurality of coupling chips" for the LSI drivers and LED chips of Hatada's array module [answer, page 5].

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 (CCPA 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

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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).

As indicated by the cases just cited, the examiner has at least two responsibilities in setting forth a rejection under 35 U.S.C. § 103. First, the examiner must identify all the differences between the claimed invention and the teachings of the prior art. Second, the examiner must explain why the identified differences would have been the result of an obvious modification of the prior art. In our view, the examiner has not properly addressed his first responsibility so that it is impossible that he has successfully fulfilled his second responsibility.

We agree with appellants that neither Hatada nor LeBlanc teaches the claimed plurality of coupling chips as recited in claim 1. It is also clearly apparent that the collective teachings of these references cannot suggest something which is not apparent from either of the references. There simply is no suggestion in the applied prior art that a

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plurality of semiconductor sensor chips should be connected by coupling chips as recited in claim 1.

The examiner seems to have accepted that the glass substrate of Hatada and LeBlanc cannot be considered a plurality of coupling chips by now seeking to call the integrated circuit chips on the support board as the plurality of coupling chips. We cannot follow this reasoning at all. There is no way that the integrated circuit chips on the support board of Hatada or LeBlanc can be said to mechanically connect adjacent sensor chips to each other.

The collective teachings of Hatada and LeBlanc do not support the rejection proposed by the examiner. Although we cannot say whether there is better prior art available than the prior art applied by the examiner, we can say that the evidence of obviousness produced by the examiner fails to support the rejection of independent claim 1. Therefore, the applied prior art also does not support the rejection of the claims which depend from claim 1.

The decision of the examiner rejecting claims 1, 4-22,

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30 and 32-34 is reversed.

REVERSED

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JERRY SMITH)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
LEE BARRETT)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
)	
MICHAEL R. FLEMING)	
Administrative Patent Judge)	

LOEB and LOEB
10100 SANTA MONICA BOULEVARD
22ND FLOOR
LOS ANGELES CA 90067-4164

JS/dym