

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KRAIG A. QUINN, BRIAN T. ORMOND and JOSEF E. JEDLICKA

Appeal No. 1997-3727
Application 08/416,127

ON BRIEF

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

LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of all the pending claims, 1 and 3 to 5.

The invention relates to a method of removing a chip from a chip array having a plurality of chips, each chip being

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attached by an adhesive to a flexible substrate. Typically, these are semiconductor chips which may include linear arrays of photosensors, or alternately, portions of ink-jet ejectors. The invention provides a method of removing a selected chip from the substrate with minimum risk of damage to the neighboring chips.

The invention is further illustrated by the following claim.

1. A method of removing a chip from a chip array having a plurality of chips, each chip being attached by an adhesive to a flexible substrate, comprising the step of:

causing the substrate to assume a convex bow;

causing the adhesive attaching the chip to the substrate to release the chip by applying a lateral force, in a direction substantially parallel to a main surface of the substrate, to the chip.

The Examiner relies on the following references:

Japanese Patent Applications

Sugimoto 1981	56-050,530	May 7,
Suda 1992	04-317,355	Nov. 9,

Claim 1 stands rejected under 35 U.S.C. § 102 over Sugimoto. Claims 3 to 5 stand rejected under 35 U.S.C. § 103

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over Sugimoto in view of Suda.

Rather than repeat the positions and the arguments of Appellants and the Examiner, we make reference to the brief and the answer for their respective positions.

OPINION

We have considered the rejections advanced by the Examiner. We have, likewise, reviewed Appellants' arguments against the rejections as set forth in the brief.

It is our view, after consideration of the record before us, that the rejections under 35 U.S.C. § 102 and under 35 U.S.C. § 103 are not proper. Accordingly, we reverse.

At the outset, we note that Appellants have elected [brief, page 5] to group claim 1 by itself, and claims 3 to 5 together. We now consider the various rejections.

Rejection under 35 U.S.C. § 102

The Examiner has rejected claim 1 as being anticipated by Sugimoto.

We note that a prior art reference anticipates the

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subject of a claim when the reference discloses every feature of the claimed invention, either explicitly or inherently (see Hazani v. Int'l Trade Comm'n, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed. Cir. 1997) and RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984)).

Regarding claim 1, the crux of the issue is whether Sugimoto anticipates the claimed limitation "causing ... the chip ... to release ... by applying a lateral force, in a direction substantially parallel to a main surface of the substrate, to the chip" [emphasis added]. We agree with Appellants that Sugimoto shows a force being applied to the chip by elements 6 and 7 in a direction perpendicular, rather than parallel, to the main surface of the substrate 2. The Examiner asserts [answer, page 2] that "it is inherent in the process that the bowed substrate 1 applies a lateral force to the chip, in a direction substantially parallel to the surface of the substrate adhered to the chip, causing the substrate to, 'come(s) off slightly' from the chip." We are of the view

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that the Examiner has not shown this "inherency" of the lateral force. The only force we find, in Sugimoto, being applied to the chip is by element 7 and that force is perpendicular to the substrate. We cannot speculate as to what other prior art may exist to meet claim 1. However, we are persuaded by Appellants that Sugimoto does not anticipate claim 1.

Rejections under 35 U.S.C. § 103

Claims 3 to 5 are rejected as being obvious over Sugimoto and Suda.

As a general proposition in an appeal involving a rejection under 35 U.S.C. § 103, an Examiner is under a burden to make out a prima facie case of obviousness. If that burden is met, the burden of going forward 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 In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re

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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).

We take the independent claim 4. Whereas we agree with the Examiner that Suda shows a groove [6,7] which does form a back-cut, we do not find the claimed step of "sawing the chip near the groove" We agree with Appellants [brief, page 7] that "[n]ot only is the [sawing] step ... not disclosed in any cited art, but neither reference, alone or in combination, suggests that performing this step is at all desirable." In fact, this type of sawing would be counter to the objective of suda's invention of producing chips out of a wafer, not destroying them. Therefore, we do not sustain the obviousness rejection of claim 4 and its grouped claims 3 and 5 over Sugimoto and Suda.

In conclusion, we reverse the Examiner's final rejection of claims 1 under 35 U.S.C. § 102 over Sugimoto. Further, we reverse the obviousness rejection under 35 U.S.C. § 103 of

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claims 3 to 5 over Sugimoto and Suda.

REVERSED

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