

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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte TROY CARTER

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Appeal No. 2001-2043  
Application No. 09/044,629

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ON BRIEF

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Before COHEN, ABRAMS, and BAHR, Administrative Patent Judges.  
COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 9 through 15. These claims constitute all of the claims remaining in the application.

Appellant's invention pertains to a method of inverting a plurality of die-level carriers along a z-axis. A basic understanding of the invention can be derived from a reading

Appeal No. 2001-2043  
Application No. 09/044,629

of exemplary claims 9 and 15 which claims can be found in  
Paper No. 23.

As evidence of obviousness, the examiner has applied the  
documents listed below:

Jackson	3,191,791	Jun. 29, 1965
Boardman	5,492,223	Feb. 20, 1996
Shcherbin et al	SU 1,537,459	Jan. 23, 1990

(Shcherbin)(Soviet Union)

The following rejections are before us for review.

Claims 9 through 11, 13, and 14 stand rejected under  
35 U.S.C. § 103(a) as being unpatentable over Boardman.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as  
being unpatentable over Boardman in view of Jackson.

Claim 15 stands rejected under 35 U.S.C. § 103(a) as  
being unpatentable over Boardman in view of the Soviet Union  
reference.

Appeal No. 2001-2043  
Application No. 09/044,629

The full text of the examiner's rejections and response to the argument presented by appellant appears in the answer (Paper No. 22), while the complete statement of appellant's argument can be found in the main and reply briefs (Paper Nos. 19 and 23).

#### OPINION

In reaching our conclusion on the issues raised in this appeal, this panel of the board has carefully considered appellant's specification and claims, the applied teachings,<sup>1</sup> and the respective viewpoints of appellant and the examiner. As a consequence of our review, we make the determinations which follow.

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<sup>1</sup> In our evaluation of the applied prior art, we have considered all of the disclosure of each document for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

Appeal No. 2001-2043  
Application No. 09/044,629

We cannot sustain the examiner's respective rejections of appellant's claims.

As explained in the specification (pages 4, 7 and 9), a mated pair of die-level test and burn-in flipping trays is inverted causing die-level carriers in pockets of the first tray to transition under the influence of gravity to corresponding pockets in the second tray in an orientation inverted about the z-axis. Figs. 6 and 7 show a mated pair of flipping trays, with Fig. 6 showing a phantom carrier 30 in a lid down orientation, and Fig. 7 depicting the phantom carrier 30 in a lid up orientation. The specification (page 9) points out that moving from Fig. 6 to Fig. 7 is merely a matter of rotating or rolling the mated trays such that the top tray becomes the bottom tray and vice versa.

Independent claim 9 specifies a method of inverting a plurality of die-level carriers along a z-axis comprising, inter alia, depositing the die-level carriers in a first orientation in a plurality of pockets of a first tray, mating a second tray with the first tray, and rotating the first and

Appeal No. 2001-2043  
Application No. 09/044,629

second trays thereby depositing the die-level carriers into the corresponding pockets in the second tray in a second orientation.

Independent claim 15 sets forth a method of inverting a plurality of electronic components along a z-axis comprising, inter alia, depositing the electronic components in a first orientation in a plurality of pockets of a first tray, mating a second tray with the first tray, and rotating the first and second trays, wherein during rotation the electronic components translate through a distance along the z-axis thereby being deposited into the corresponding pockets in the second tray in a second orientation.

In each of the examiner's rejections under 35 U.S.C. § 103(a), the Boardman document is the basic reference. A reading of the Boardman disclosure reveals to us that one having ordinary skill in this art would readily appreciate that the patentee intended for semiconductor devices to be effectively captured between two capable alignment and retention systems (column 5, lines 19 through 21) such that

Appeal No. 2001-2043  
Application No. 09/044,629

the devices would be effectively prevented from being displaced from the cells if the trays were subjected to shock and vibration (column 5, lines 41 through 44).

As clearly evident from the Boardman patent, the patentee configured the disclosed invertible trays such that no movement of the semiconductor devices was intended to take place. On the other hand, appellant's method requires that die-level carriers or electronic components transition or move by virtue of the depositing of the carriers or components in pockets of a first orientation in a first tray and a depositing of the carriers or components into pockets of a second tray after the rotation of the first and second trays. Thus, the Boardman teaching is significantly different from the method of appellant's claims 9 and 15.

The Soviet Union reference addresses the reorientation of stepped components (see single figure of drawings) such that the components are shifted or transferred out of the sockets of one cassette into the socket of another cassette when a package of the cassettes is turned around a horizontal axis

Appeal No. 2001-2043  
Application No. 09/044,629

through an angle of 180°. However, as we see it, this latter teaching, considered in conjunction with the overall teaching of Boardman reference, would clearly not have motivated one having ordinary skill in the art to modify the Boardman patent since to do so would obviously destroy Boardman's objective of semiconductor device capture and retention.

The brief does not discuss the Jackson document, applied with the Boardman teaching in the separate rejection of dependent claim 12 under 35 U.S.C. § 103(a). Suffice it to say that we readily discern that the Jackson reference does not cure the deficiency of the Boardman disclosure, as focused upon, supra.

In summary, this panel of the board has not sustained any of the rejections on appeal.

Appeal No. 2001-2043  
Application No. 09/044,629

The decision of the examiner is reversed.

REVERSED

IRWIN CHARLES COHEN	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
NEAL E. ABRAMS	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
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	)	
JENNIFER D. BAHR	)	
Administrative Patent Judge	)	

Appeal No. 2001-2043  
Application No. 09/044,629

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Appeal No. 2001-2043  
Application No. 09/044,629

THOMAS M. COESTER  
BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
12400 WILSHIRE BLVD 7TH FLOOR  
LOS ANGELES, CA 90025

COHEN

APPEAL NO. 2001-2043 - JUDGE

APPLICATION NO. 09/044,629

APJ COHEN

APJ BAHR

APJ ABRAMS

DECISION:

Prepared By:

**DRAFT TYPED:** 13 Jun 02

**FINAL TYPED:**