

***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(2) is not binding precedent of the Board.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. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* YUKIHIKO TERASAWA  
and MAKOTO HAMANO

---

Appeal No. 1996-2089  
Application 07/978,626<sup>1</sup>

---

HEARD: December 7, 1999

---

Before WARREN, WALTZ and LIEBERMAN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

*Decision on Appeal and Opinion*

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 11 through 20.<sup>2</sup> Claims 1 through 10 are also of record and have been withdrawn from consideration by the examiner under 37 CFR § 1.142(b).

We have carefully considered the record before us, and based thereon, find that we cannot sustain the ground of rejection of the appealed claims under 35 U.S.C. § 103 over Sato et al. in view of

---

<sup>1</sup> Application for patent filed November 19, 1992.

<sup>2</sup> See the specification, pages 18-20, and the amendment of March 23, 1994 (Paper No. 9).

Cuthbert et al. and Dyer et al. or Berretta et al.<sup>3</sup> It is well settled that the examiner must satisfy his burden of establishing a *prima facie* case of obviousness by showing that some objective teaching or suggestion in the applied prior art taken as a whole and/or knowledge generally available to one of ordinary skill in the art would have led that person to the claimed invention, including each and every limitation of the claims, without recourse to the teachings in appellants' disclosure. *See generally, In re Rouffet*, 149 F.3d 1350, 1355-56, 1357-58, 47 USPQ2d 1453, 1456, 1457-58 (Fed. Cir. 1998); *In re Oetiker*, 977 F.2d 1443, 1447-48, 24 USPQ2d 1443, 1446-47 (Fed. Cir. 1992) (Nies, J., concurring); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988); *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988). We agree with appellants that the examiner has failed to carry his burden of making out a *prima facie* case of obviousness with respect to the claimed invention.

The dispositive issue in this appeal is whether one of ordinary skill in this art would have modified the apparatus of Sato et al. in order to provide the same with "an enclosure" which contains the "etching roller and the means for supplying etching liquid" and has "an opening through which a peripheral edge portion of the wafer extends into the enclosure for contact with the etching roller face," as specified in appealed claim 11. The examiner has provided two alternative approaches to this issue in contending that one of ordinary skill in this art would have made the modification. First, the examiner alleges that it would have been obvious to "provide an enclosure for the etching roller (21b) and the etchant supplying nozzle (23) in Sato's apparatus to separate these structure [sic, structures] from the wafer and the atmosphere as a *matter of design choice*" (answer, page 4, emphasis supplied; supplemental answer, page 2). And second, the examiner finds that one of ordinary skill in the art would have enclosed the same components of Sato et al. to "prevent [harmful] vapors from reacting with the center of the wafer" since "the object of Sato is to treat only the edge of the vapor [sic, wafer]" and Cuthbert et al. teach "providing an enclosure around the periphery of the wafer being treated with a solvent and providing air flow to direct unwanted material, which would include solvent vapor, away

---

<sup>3</sup> The references relied on by the examiner are listed at page 2 of the answer. We refer to these references in our opinion by the name associated therewith by the examiner.

from the center of the wafer” (answer, page 5; see also *id.*, page 7, and supplemental answer, page 2). Appellants submit that the examiner has not established on the record either that Cuthbert et al. would have suggested such an enclosure to one of ordinary skill in this art or that this person would have made the modification as “a matter of design choice,” pointing out that the specific structure required by the element of claim 11 set forth above is not taught or suggested in the evidence of record (principal brief, pages 7-9 and 11-12; reply brief, pages 3-5).

We, like appellants, do not find the examiner’s reasoning supported by the evidence of record. The only evidence of an *enclosed* apparatus for treating the edge of a wafer supplied by the examiner is Cuthbert et al. We find that this reference advances a solution to problems encountered in treating the edge of a wafer with a “jet of solvent . . . while the wafer is spinning” inside of a “spin-on coating apparatus” which is an *enclosed* apparatus and thus, forming an enclosure is *not* part of the solution taught in the reference (e.g., abstract, col. 2, lines 34-41, with reference to Cuthbert et al. FIGs. 5-7, col. 2, lines 55-57, and particularly, col. 5, lines 2-48). Furthermore, we find that both Sato et al. and Berretta et al. treat the edge of the wafer differently from Cuthbert et al. in that these references apply the etching solution in an *unenclosed* apparatus via a roller to the edge of a wafer which is not spinning, and Sato et al. further teach means to contain the etching solution during this type of application (cols. 2-4). Thus, we find no teachings or suggestion to combine these references with the reasonable expectation of arriving at the claimed invention, including the element of claim 11 set forth above, and indeed, even if one of ordinary skill in the art combined the teachings of Sato et al., Cuthbert et al. and Berretta et al., the most likely result would be the modification of the apparatus of Cuthbert et al. by replacing the “jet of solvent” system with a roller applicator system as suggested by Sato et al. and by Berretta et al., which is not the claimed invention. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1050-54, 5 USPQ2d 1434, 1438-41 (Fed. Cir. 1988). Furthermore, in order for the examiner to establish that one of ordinary skill in this art would have modified Sato et al. by choosing a design based on knowledge in the art, the examiner must advance on the record evidence of that knowledge along with an explanation of why that person would have combined such knowledge with the teachings of Sato et al. in order to make the choice necessary to arrive at the claimed invention.

In this respect, we again point out that Cuthbert et al. is the only evidence of record of an *enclosed* apparatus for treating the edge of a wafer. *Compare Rouffet*, 149 F.3d at 1358, 47 USPQ2d at 1457-58.

Accordingly, it is manifest that the only direction to appellants' claimed invention as a whole on the record before us is supplied by appellants' own specification. *Rouffet*, 149 F.3d at 1358, 47 USPQ2d at 1457-58; *Fine, supra*; *Dow Chem., supra*.

The examiner's decision is reversed.

*Reversed*

CHARLES F. WARREN	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
THOMAS A. WALTZ	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
PAUL LIEBERMAN	)	
Administrative Patent Judge	)	

Appeal No. 1996-2089  
Application 07/978,626

Bruce L. Adams  
Adams & Wilks  
50 Broadway - 31st Floor  
New York, NY 10004