



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/239,295	09/30/2005	Gordon Bease	278563US6YA	9833
22850	7590	01/31/2013	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			BLAN, NICOLE R	
			ART UNIT	PAPER NUMBER
			1714	
			NOTIFICATION DATE	DELIVERY MODE
			01/31/2013	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* GORDON BEASE and HONGYUN COTTLE

---

Appeal 2011-003458  
Application 11/239,295  
Technology Center 1700

---

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and  
LINDA M. GAUDETTE, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

Appellants filed a Request For Rehearing pursuant to 37 C.F.R. § 41.52 on January 2, 2013, of our Decision entered November 2, 2012, wherein we affirmed the Examiner's grounds of rejection of appealed claims 1-10, 12-14, 16-18, 20 and 21 under 35 U.S.C. § 103(a) over the basic combination of Chen and Seamons.<sup>1</sup> Dec. 2; Req. 1.

Requests for rehearing must comply with 37 C.F.R. § 41.52(a)(1) which specifies in pertinent parts that “[t]he request for rehearing must state with

---

<sup>1</sup> We determined that a discussion of Blonigan was not necessary to our Decision with respect to the second ground of rejection. Dec. 2-3.

particularity the points believed to have been misapprehended or overlooked by the Board.” Thus, 37 C.F.R. § 41.52(a)(1) limits “requests to the points of law or fact which appellant feels were overlooked or misapprehended by the Board” and were raised in the brief and any reply brief(s). Manual of Patent Examining Procedure § 1214.03 (8th ed., Rev. 3, August 2005).

Appellants contend we erred in a “main assertion” in stating “Appellants have also not shown that one of ordinary skill in the art routinely following the process parameters disclosed by Chen would not have been able to clean a Ni deposit on a system component using a carbonyl gas to form a volatile nickel carbonyl product” (Dec. 6; Req. 1); and we misapprehended Appellants’ contentions that Qian and Fuller establish that one of ordinary skill in the art would not have had a reasonable expectation of success in arriving at the method for dry cleaning a processing system encompassed by claim 1, “i.e., reacting a nickel deposit on the system component with the carbonyl gas to form a gaseous nickel carbonyl product, and exhausting the gaseous nickel carbonyl product from the process chamber,” via the combination of Chen and Seamons. Dec. 4-6; Req. 2. We disagree.

We pointed out that Chen was relied on solely for the disclosure of using carbonyl gases to etch Ni from a substrate; and that Seamons was relied on solely for the disclosure that “it is conventionally known to clean a chamber with a reaction gas that reacts with the deposit to form a volatile gas,” and not the dry cleaning process parameters, including the reaction gas employed, exemplified by Seamons in disclosing dry cleaning a CVD reaction chamber used to deposit silicon dioxide on a wafer with a cleaning plasma. Dec. 3-4. Indeed, we did not combine the processing conditions of Seamons’ exemplary embodiment with Chen’s process. Dec. 3 (citing *e.g.*, *In re Keller*, 642 F.2d 413, 425 (CCPA 1981))

(“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”).

On this basis, we fully considered “Appellants’ position that the record does not support the Examiner’s position because the combined teachings of Chen and Seamons would not have led to a workable method of dry cleaning system components that has a reasonable expectation of success as shown by Qian and Fuller.” Dec. 4-6. For completeness, we noted that Appellants did not contend that Chen’s reactive carbonyl gas, which forms a volatile reactive product, could not remove a Ni deposit from a system component. Dec. 6.

Upon reconsideration, we are no more persuaded now than before by Appellants’ position with respect to the absence of a reasonable expectation of success based on Qian and Fuller. Req. 3-5. We did not overlook or misapprehend the different processing conditions of Chen, Seamons and Qian argued by Appellants in the Reply Brief and now again here. Dec. 4-5; Reply Br. 6-8; Req. 3-4. Upon consideration of the respective use of different gases in the processes disclosed in each of Chen, Seamons and Qian in following Appellants’ position, we found that “contrary to Appellants’ position, Qian in fact shows that etching gases can be used as cleaning gases,” pointing out, in this respect, that “Chen would have disclosed that plasmas comprising carbonyl gas(es) selectively etch Ni, and Qian’s etching gases used for cleaning are also used by Seamons as cleaning gases.” Dec. 5. Our discussion of the relative disclosures of the references in this manner did not include consideration of Chen’s carbonyl gases bodily incorporated into “the cleaning, reacting, and exhausting method of” Seamons as Appellants contend. Req. 3-4. *Keller*, 642 F.2d at 425.

Turning now to Fuller, in the Reply Brief, Appellants argued the “particularities of nickel carbonyl plasma processing,” and the “the proximity required for the successful plasma etching via carbonyl formation,” relying specifically on the “close electrode spacing of 0.5 inches,” disclosed at column 5 of Fuller, with respect to whether there is a reasonable expectation of success that the combination of Chen and Seamons would “clean a system component” or “necessarily form the same gaseous products as disclosed in Chen.” Reply Br. 9. *See* Fuller col.5 l.31-45.

We found that the reference disclosed embodiments in which two different reactors are used for plasma etching, via carbonyl formation, of both layers of a composite film of molybdenum disilicide over doped polysilicon: one reactor in which the proximity or spacing between electrodes is specified, as Appellants argued, and another reactor in which it is not. Dec. 5-6 (citing Fuller col.5 ll.13-45). Thus, we were not convinced by Appellants’ position that the asserted specific electrode proximity in the particular embodiment of Fuller was necessary for one of ordinary skill in the art to have a reasonable expectation of forming Chen’s gaseous nickel carbonyl products in dry cleaning a system.

While we agree with Appellants’ position, now submitted, that Fuller would have disclosed to one of ordinary skill in the art a general requirement for “a plasma in proximity to said thin film” of metal regardless of the type of reactor, Appellants still provide no correlation between such a requirement and the process of Chen. Req. 5. *See* Fuller col.2 l.47 to col.3 l.37.

We have carefully considered Appellants’ Request for Rehearing but we are unconvinced of error in our Decision based on Appellants’ position.

Appeal 2011-003458  
Application 11/239,295

Accordingly, we have granted Appellants' Request for Rehearing to the extent that we have reconsidered our Decision, but we deny the Request with respect to making any change in our Decision.

Appellants' Request for Rehearing is DENIED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2011).

DENIED

bar