

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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* KEUN-DEOK PARK,  
DONG-JOON KIM, WON-II JEONG  
and HYUNG-MIN LEE

---

Appeal No. 2003-0024  
Application No. 09/748,948

---

HEARD: March, 05, 2003

---

Before PAK, LORIN, and JEFFREY T. SMITH, *Administrative Patent Judges*.  
JEFFREY T. SMITH, *Administrative Patent Judge*.

***DECISION ON APPEAL***

Applicants appeal the decision of the Primary Examiner finally rejecting claims 2 to 8, all of the claims in the application.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 134.

---

<sup>1</sup> In rendering our decision, we have considered Appellants arguments presented in the Brief, filed March 6, 2002, and the Reply Brief, filed August 13, 2002.

### ***BACKGROUND***

The subject matter of Appellants' invention relates to a method for producing doped silica glass. According to Appellants, "the present invention provides a more efficient method of doping." (Brief, p. 4). Claim 2, which is representative of the claimed invention, appears below:

2. A method for producing a doped silica glass comprising the steps of:
  - (a) dispersing fumed silica in deionized water;
  - (b) agitating the fumed silica dispersed in the water while adding a dopant containing gas;
  - (c) drying the agitated product to form a dry gel;
  - (d) calcining the dry gel via a heat application while supplying with a gas for removing impurities;
  - (e) pulverizing the calcined product into particles of predetermined size;
  - (f) mixing and redispersing the pulverized silica powder in the deionized water to form a sol;
  - (g) aging the sol at room temperature to stabilize the sol and remove bubbles in the sol;
  - (h) pouring the aged gel into mold forming into predetermined shape;
  - (i) demolding the molded gel;
  - (j) drying the demolded gel at a first predetermined temperature and level of humidity to form a dry gel;

Appeal No. 2003-0024  
Application No. 09/748,948

(k) applying a first heat treatment to the dried gel at a second predetermined temperature to remove organic materials in the dried gel; and

(l) applying a second heat treatment at a sintering temperature to vitrify the first heat treated dried gel.

### ***CITED PRIOR ART***

As evidence of unpatentability, the Examiner relies on the following references:

Motoki et al. (Motoki)	4,680,048	Jul. 14, 1987
Fleming et al. (Fleming)	4,767,429	Aug. 30, 1988
Baik et al. (Baik)	5,912,397	Jun. 15, 1999

The Examiner has rejected claims 2 to 6 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Baik and Motoki; and claims 7-8 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Baik, Motoki and Fleming. (Final Rejection, pp. 2-4).

### **DISCUSSION**

Rather than reiterate the conflicting viewpoints advanced by the Examiner and Appellants concerning the above-noted rejection, we refer to the Answer and the Briefs.

Appellants have indicated that the claims stand or fall together. (Brief, p. 4).<sup>2</sup> We will select one claim for each rejection to determine the issues on appeal. 37 CFR

---

<sup>2</sup> Appellants have failed to provide a grouping of the claims for each ground of rejection. Claims 7 and 8 are subject to different ground of rejection.

Appeal No. 2003-0024  
Application No. 09/748,948

§ 1.192 (c)(7) and (8) (2001). *See In re McDaniel*, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) (“if the brief fails to meet either requirement, the Board is free to select a single claim from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim”).

The Examiner has concluded that the combined teachings of Baik and Motoki renders the invention of claim 2 prima facie obvious. (Final Rejection, pp. 2 to 4). Appellants argued that the rejection is improper because the teaching attributed to Motoki are inaccurate. (Brief, p 5). Appellants argue that Motoki “fails to disclose or suggest the use of a gaseous dopant in a liquid phase (e.g. while agitating the fumed silica in water, as recited in step (b) of instant claim 2).” (Brief, p. 5).

We do not agree. A reference is available for all that it teaches to a person of ordinary skill in the art. *In re Inland Steel Co.*, 60 USPQ2d 1396, 1401, 1402 (CA FC 2001); *In re Fritch*, 972 F.2d 1260, 1264, 23 USPQ2d 1780, 1782 (Fed. Cir. 1992) (“[A] prior art reference is relevant for all that it teaches to those of ordinary skill in the art.”). In the present case, claim 6 of Motoki discloses the use of dopant in gaseous form is appropriate. Appellants also acknowledge that “it is known in the art to introduce a gaseous dopant during a sintering process.” (Brief, p. 5). Motoki discloses, column 2, that “[a] dopant is included by adding the dopant to the hydrolyzed solution of silicon

Appeal No. 2003-0024  
Application No. 09/748,948

alkoxide, ultra fine particle, the sol solution, the wet gel, the dry gel or during sintering.”

Thus, a person of ordinary skill in the art would have reasonably expected that a dopant in gaseous form could have been added in any of the stages identified by Motoki. “For obviousness under § 103, all that is required is a reasonable expectation of success.”

*In re O’Farrell*, 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Appellants also argue that Baik and Motoki “only disclose a single heat treatment process, i.e. a sintering process.” (Brief, p. 7). The Appellants assert claim 2 requires heating the dried gel at a predetermined temperature to remove organic materials in the dried gel and a second heat treatment at a sintering temperature. (Steps (k) and (l)). We are not persuaded by Appellants’ argument. Baik discloses, example 2, that the gel was dried for ten days at 30°C, twenty-four hours at 40°C and twenty-four hours at 50°C. Subsequently, the dried gel was subject to 900°C for about five hours to remove the remaining moisture and organic materials. The dried gel was sintered at 1300°C. (Col. 6). Motoki also discloses a similar heating sequence to remove Hydroxide groups. (Example 1). Thus, both Baik and Motoki disclose the heating sequence required by claim 2.

The Examiner also rejected claims 7 and 8 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Baik, Motoki and Fleming. (Final Rejection, p. 4). Appellants argues that Fleming fails to remedy the deficiencies of Baik and Motoki with regard to claim 2. Thus, claims 7 and 8 are patentable for the same reasons as

Appeal No. 2003-0024  
Application No. 09/748,948

claim 2. (Brief, p. 9). The Examiner has presented reasonable arguments as to why the invention of the claims 7 and 8 are unpatentable. The Appellants have not specifically rebutted the Examiner's position that the additional limitations of claims 7 and 8 are unpatentable. Thus, for the reasons stated above, in the Final Rejection and in the Answer, the rejection is affirmed.

Based on our consideration of the totality of the record before us, having evaluated the *prima facie* case of obviousness in view of Appellants' arguments and evidence, we conclude that the subject matter of claims 2 to 8 would have been obvious to a person of ordinary skill in the art from the combined teachings of the cited prior art.

#### ***CONCLUSION***

The Examiner's rejections of claims 2 to 6 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Baik and Motoki; and the rejection of claims 7 and 8 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Baik, Motoki and Fleming are affirmed.

#### ***OTHER ISSUES***

An information disclosure statement, filed March 17, 2003, has been submitted by Appellants. The Examiner should review Appellants' submission prior to disposition of the application.

Appeal No. 2003-0024  
Application No. 09/748,948

Time for taking action

No time period for taking any subsequent action in connection with this appeal  
may be extended under 37 CFR § 1.136(a).

**AFFIRMED**

CHUNG K. PAK  
*Administrative Patent Judge*

HUBERT C. LORIN  
*Administrative Patent Judge*

JEFFREY T. SMITH  
*Administrative Patent Judge*

)  
)  
)  
)  
)  
)  
) **BOARD OF PATENT**  
) **APPEALS**  
) **AND**  
) **INTERFERENCES**  
)  
)  
)  
)

JTS/kis

Appeal No. 2003-0024  
Application No. 09/748,948

CHA & REITER  
411 HACKENSACK AVENUE  
9TH FLOOR  
HACKENSACK, NJ 07601