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.
11/779,580	07/18/2007	Oh-Hun Kwon	2500.2.87.1DIV	2479

12407 7590 02/20/2013
Fox Rothschild LLP / Coors Tek-Saint Gobain
PRINCETON PIKE CORPORATE CENTER
997 LENOX DRIVE, BLDG. #3
LAWRENCEVILLE, NJ 08648

EXAMINER
FRANKLIN, JODI COHEN

ART UNIT	PAPER NUMBER
1741	

NOTIFICATION DATE	DELIVERY MODE
02/20/2013	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):

ipdocket@foxrothschild.com
pscha@CoorsTek.com
cdonahue@foxrothschild.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte OH-HUN KWON,
CHRISTOPHE COUREAU, RICHARD A. GORSKI,
and MATTHEW A. SIMPSON

Appeal 2011-009872
Application 11/779,580
Technology Center 1700

Before BEVERLY A. FRANKLIN, MARK NAGUMO, and GEORGE C. BEST, *Administrative Patent Judges*.

BEST, *Administrative Patent Judge*.

DECISION ON APPEAL

On May 17, 2010, the Examiner finally rejected claims 36, 40-50, 52-54, 56-60, 65, 66, and 68-70 of Application 11/779,580 under 35 U.S.C. § 103(a) as obvious. Appellants seek reversal of these rejections pursuant to 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

For the reasons set forth below, we REVERSE.

BACKGROUND

The '580 application describes a method for creating and forming an electrostatic discharge ("ESD") safe ceramic composite (Spec. ¶ [0002]). In particular, the '580 application describes ceramic components based upon zirconia-toughened alumina materials (*id.*). Such materials are alleged to be useful in applications that are ESD sensitive (*id.* at ¶ [0003]).

Claim 36 is representative of the '580 application's claims and is reproduced below:

> 36. A method of forming an ESD safe ceramic component, comprising:
>
> densifying a ceramic body by hot isostatic pressing (HIPing), the ceramic body comprising
>
> > (i) a base material of a zirconia toughened alumina, the base material comprising a primary component of Al_2O_3 and a secondary component of ZrO_2, wherein the ZrO_2 comprises tetragonal ZrO_2, and
> >
> > (ii) a resistivity modifier to reduce an electrical resistivity of the base material, wherein the resistivity modifier comprises TiO_2, MnO_2, Fe_2O_3, CoO, NiO, Cr_2O_3, SnO_2, $LaMnO_3$, $BaO \cdot 6Fe_2O_3$, $LaCrO_3$, or $SrCrO_3$,
>
> wherein HIPing is carried out at a temperature not greater than 1350°C and the base material contains Al_2O_3 and ZrO_2 in an Al_2O_3:ZrO_2 volume ratio not less than 55:45, wherein the ceramic body has a volume resistivity within a range of about 10^5 to 10^{11} ohm-cm.

(App. Br. 15) (some paragraphing added).

REJECTIONS

1. The Examiner finally rejected claims 36, 40, 41, 65, 66, and 68-70 under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,950,937 ("Iwai," issued Sept. 14, 1999) and WO 98/49121 ("Shinji," published Nov. 5, 1998)[1] in further view of evidence from U.S. Patent No. 6,087,285 ("Oomichi," issued July, 11, 2000) (Final Rejection ("FR") 2 (May 17, 2010).
2. The Examiner finally rejected claims 41-44, 52, and 58 under 35 U.S.C. § 103(a) as obvious over Iwai, Shinji, and Oomichi in further view of U.S. Patent Application Publication No. 2002/0177518 A1 ("Kwon," Nov. 28, 2002) (FR 4).
3. The Examiner finally rejected claims 45-50, 53, 54, 56, and 57 under 35 U.S.C. § 103(a) over Iwai, Shinji, Oomichi, and Kwon in further view of U.S. Patent No. 5,484,750 ("Greskovich," issued Jan. 19, 1996) (FR 6).
4. The Examiner finally rejected claims 59 and 60 under 35 U.S.C. § 103(a) as obvious over Iwai and Kwon and in further view of U.S. Patent No. 4,723,862 ("Ito," issued Feb. 9, 1988) (FR 7).[2]

---

[1] We follow the Examiner, who without objection relied upon U.S. Patent No. 6,274,524 B1 (issued Aug. 14, 2001) as the English language equivalent to WO 98/49121.

[2] Claims 59 and 60 ultimately depend from claim 36. Because Shinji is part of the basis for the rejection of claim 36, we assume that the Examiner inadvertently omitted Shinji from the description of this rejection. If Shinji were intentionally omitted, we would reverse this rejection because the Examiner would have failed to identify a description or suggestion of one or more claim elements in the prior art.

DISCUSSION

Appellants seek reversal of all four grounds of rejection identified above. An issue that is dispositive of this appeal is:

> Did the Examiner reversibly err in finding that a person of ordinary skill in the art would have reasonably expected that using the resistivity modifiers described in Shinji to modify the volume resistivity of Iwai's zirconia-toughened alumina would succeed in creating the claimed ESD safe ceramic component?

Because we answer this question in the affirmative, we reverse the Examiner's rejections of the '580 application's claims.

The Examiner relies on the combination of Iwai and Shinji as describing or suggesting the composition of the claimed ESD safe ceramic (Ans. 4-5) and merely cites Oomichi as evidencing that ceramic bodies could be sintered at 1350°C (*id.* at 5-6). Iwai describes a zirconia-toughened alumina composition for use as an abrasion-resistant industrial coating, e.g., on an impact grinder (*see generally* Iwai 1:10-47).

The Examiner finds that Iwai does not describe the use of any resistivity modifier as required by independent claims 36 and 40 (Ans. 4). To supply a description of this claim limitation, the Examiner turns to Shinji (*id.* at 4-5). Shinji describes forming zirconia into a sintered product with a volume resistivity within the scope of the '580 application's claims (Shinji Abstract). Shinji achieves the required volume resistivity by incorporating resistivity modifiers into the zirconia body before sintering (*id.* at 1:66-2:40). Shinji further reports that the incorporation of the resistivity modifiers does not have a substantial adverse effect on the sintered zirconia's mechanical properties (*id.* at Abstract).

The Examiner argues that a person of ordinary skill in the art would have combined Iwai and Shinji because "[i]t would have been obvious to

one of ordinary skill in the art to use any of the resistivity modifiers taught by Shunji [*sic*, Shinji] for modifying a sintered zirconia article in the zirconia-alumina sinter of Iwai in order produce a ceramic article that would release electricity at an appropriate or desired rate, thus creating an ESD safe ceramic" (Ans. 4-5).

Appellants argue that a person of ordinary skill in the art would not have had a reasonable expectation of success in using Shinji's resistivity modifiers, which are taught for essentially pure zirconia, ZrO_2, in Iwai's zirconia-toughened alumina (App. Br. 6-7).

The weight of the evidence supports Appellants. Shinji describes the use of resistivity modifiers in sintered zirconia products that contain less than 2% by weight alumina (Shinji 3:29-33). Contrary to the Examiner's argument that the low level of alumina described in Shinji is merely a preferred embodiment (Ans. 12), Shinji regards the alumina as an impurity that is to be avoided (Shinji 3:29-33).

Based on the record before us, there is no evidence supporting the Examiner's determination that a person of ordinary skill in the art would have reasonably expected that Shinji's resistivity modifiers could have been successfully incorporated into Iwai's zirconia-toughened alumina material. Nor has the Examiner provided any reasoning that is sufficient to bridge the evidentiary gap. Thus, the Examiner has not established a prima facie case of obviousness. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991) (explaining that a reasonable expectation of success is a necessary part of a prima facie case of obviousness). Furthermore, the combination of Iwai and Shinji is the basis of the rejection of every appealed claim, and the remaining references do not cure the deficiencies of Iwai and Shinji. We therefore reverse the rejections of claims 36, 40-50, 52-54, 56-60, 65, 66, and 68-70.

CONCLUSION

Because the Examiner did not establish a prima facie case of obviousness, we reverse the Examiner's rejections of claims 36, 40-50, 52-54, 56-60, 65, 66, and 68-70.

REVERSED

bar