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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HIROFUMI FUJII, YOSHIO TERADA
and KAZUMASA IGARASHI

Appeal 2011-012848
Application 12/350,764
Technology Center 1700

Before RICHARD E. SCHAFER, CHARLES F. WARREN, and JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from a final rejection of claims 9 through 16. We have jurisdiction under 35 U.S.C. § 6.

Appellants' invention is directed to a dust removal member comprising a silicon wafer and a thermoplastic resin formed on the silicon wafer. (App. Br. 6). Claim 9 is illustrative of the subject matter on appeal and is reproduced below:

> 9. A dust removal member comprising a silicon wafer and a thermoplastic resin formed on the silicon wafer, wherein the thermoplastic resin has a modulus of elasticity at room temperature, 25°C, of 1 GPa or lower and a modulus of elasticity at 250°C of 1 MPa or higher.

The Examiner relied on the following references in rejecting the appealed subject matter:

Fujii	US 6,300,037 B1	Oct. 9, 2001
Chandrasekaran	US 6,364,465 B1	Apr. 2, 2002
Namikawa	US 2003/0136430 A1	July 24, 2003

Huntsman, The Jeffamine Polyetheramines (2007) *available at* www.Huntsman.com.

Jeng-Shyong Lin & Hsien-Tang Chiu, *Preparation and Properties of Conductive Polyimide Films*, 9 J. POLYMER RES. 189 (2002).

Appellants, App. Br. 7, request review of the following rejections from the Examiner's final office action:

1. Claims 9-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Namikawa, Chandrasekaran, and Huntsman.

2. Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Namikawa, Chandrasekaran, Huntsman and Fujii.

3. Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Namikawa, Chandrasekaran, Huntsman and Lin.

OPINION[1]

The dispositive issue on appeal is: Did the Examiner err in determining that it would have been obvious to one of ordinary skill in the art to use Chandrasekaran's thermoplastic material in the dust removal member of Namikawa and arrive to the subject matter of independent claim 9?[2]

After review of the respective positions provided by the Appellants and the Examiner, we agree with Appellants that the Examiner has identified insufficient evidence to establish that the combination of Namikawa and Chandrasekaran would have rendered obvious Chandrasekaran's thermoplastic layer as suitable for use in a dust removal member as required by the subject matter of independent claim 9.

The Examiner found that Namikawa discloses a cleaning member for cleaning foreign matters away from the interior of the substrate processing equipment having a tensile modulus not lower than 0.98 N/mm^2. Ans. 4. The Examiner also found that Namikawa does not teach a thermoplastic material having the required modulus of elasticity at 250 ^{o}C. *Id.* The Examiner found that Chandrasekaran discloses a photosensitive composition

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[1] We will limit our discussion to independent claim 9.
[2] A discussion of the Fujii and Lin references will be unnecessary for disposition of the present appeal. The Examiner relied upon these references for describing features not related to the dispositive issue.

(for ink jet heads) comprising polyimide based on the same ingredients as one disclosed by Appellants.[3] *Id.* at 4-5. The Examiner found that Chandrasekaran discloses the thermoplastic to be suitable for a photoresist layer.[4] *Id.* at 10-11. The Examiner concluded that it would have been obvious to a person of ordinary skill in the art to use Chandrasekaran's thermoplastic material in Namikawa's dust removal member because Chandrasekaran's thermoplastic material has required good mechanical properties and photoresistivity desirable for silicon wafer coatings. *Id.* at 6.

Appellants argue, and we agree, that a person of ordinary skill in the art would not have looked to Chandrasekaran for describing a thermoplastic layer suitable for use in a dust removable member such as described in Namikawa. App. Br. 8-10. As correctly noted by Appellants, Chandrasekaran is directed to making ink jet heads while the claimed invention and Namikawa are both directed to cleaning layers. *Id.* at 8. As also noted by Appellants, Chandrasekaran is directed to the problem of delamination of the thermoplastic layer from metal such as gold while the claimed invention and Namikawa are mainly directed to finding a suitable resin that can maintain adhesion for cleaning purposes. *Id.* at 9-10. The Examiner has not adequately addressed Appellants' arguments.

Accordingly, we reverse the Examiner's rejections for the reasons given above and presented by Appellants.

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[3] The Examiner relied on Huntsman for establishing the polyimides disclosed in Chandrasekaran are the same as the claimed invention. Ans. 5.
[4] The Examiner recognized that claim 14 recites that the dust removal member further comprises a photosensitizing resin.

ORDER

The rejection of claims 9-14 under 35 USC § 103(a) as unpatentable over Namikawa, Chandrasekaran, and Huntsman is reversed.

The rejection of claim 15 under 35 USC § 103(a) as unpatentable over Namikawa, Chandrasekaran, Huntsman and Fujii is reversed.

The rejection of claim 16 under 35 USC § 103(a) as unpatentable over Namikawa, Chandrasekaran, Huntsman and Lin is reversed.

REVERSED

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