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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ALLAN FARBER, ARIELA DONVAL, DORON NEVO, MOSHE ORON, and RAM ORON

Appeal 2010-012220
Application 10/398,859
Technology Center 2800

Before JOHN A. JEFFERY, JEFFREY S. SMITH, and JEREMY J. CURCURI, *Administrative Patent Judges*.

CURCURI, *Administrative Patent Judge*.

DECISION ON APPEAL[1]

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-5, 7-21, and 23-31.[2] Claims 6 and 22 are canceled.

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[1] Rather than repeat the Examiner's positions and Appellants' arguments in their entirety, we refer to the following documents for their respective details: the Appeal Brief (App. Br.) filed January 29, 2010; the Examiner's Answer (Ans.) mailed April 27, 2010; and the Reply Brief (Reply Br.) filed June 25, 2010.

[2] Claim 17 depends from claim 15; this appears to be a mistake and our analysis assumes that claim 17 depends from claim 16. Claims 23 and 30 depend from claim 16; this appears to be a mistake and our analysis assumes

App. Br. 4. We have jurisdiction under 35 U.S.C. § 6(b), and we heard the appeal on January 11, 2013.

Claims 1-5, 7-21, and 23-31 are rejected under 35 U.S.C. § 103(a) as obvious over Ando (US 2002/0024752 A1; published Feb. 28, 2002), Taneda (US 6,218,658 B1; issued Apr. 17, 2001), and Fan (US 4,732,449; issued Mar. 22, 1988). Ans. 4-5.

We reverse.

STATEMENT OF THE CASE

Appellants' invention relates to an optical-limiting solid mixture containing particles that produce reversible thermal changes in response to light above a predetermined optical power level. Abstract. Claim 1 is illustrative and reproduced below with the key disputed limitations emphasized:

1. An optical power limiter comprising

an input optical transmission element,

an output optical transmission element, and

a power-limiting element disposed between said input and output elements for transmitting optical signals from said input element to said output element, said power-limiting element comprising

an optically transparent solid dielectric matrix material having a refractive index that changes with temperature and containing *dispersed*

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that claims 23 and 30 depend from claim 17. Claims 24 and 25 depend from canceled claim 22; this appears to be a mistake and our analysis assumes that claims 24 and 25 also depend from claim 17. Claims 26-29 depend from claim 24; this appears to be a mistake and our analysis assumes that claims 26-29 depend from claim 25. *See* App. Br. 14; Ans. 2-3.

light-absorbing nano-powder particles of at least one material that is reversibly heated in response to light above a predetermined optical power level, the heating of said solid nano-powder particles in turn heating said matrix material to produce nonlinear changes in the refractive index of said matrix material due to thermal gradients between particles and thereby changing the optical transmission properties of said power-limiting element, said particles having a diameter of less than 0.1 micron and *said material being at least one element selected from the group consisting of Ag, Au, Ni, Va, Ti, Co, Cr, C, Re and Si.*

PIVOTAL ISSUE

Under 35 U.S.C. § 103(a), has the Examiner erred by finding that Ando, Taneda, and Fan collectively teach dispersed light-absorbing nano-powder particles of at least one material, the material being at least one element selected from the group consisting of Ag, Au, Ni, Va, Ti, Co, Cr, C, Re and Si, as recited in claim 1? The issue turns on whether the scope of "the material being at least one element" is limited to a pure chemical substance consisting of one type of atom and excluding a compound or an alloy containing the element.

ANALYSIS

THE OBVIOUSNESS REJECTION OF CLAIMS 1-5, 7-21, AND 23-31

The Examiner finds that Ando, Taneda, and Fan collectively teach all recited limitations of claim 1. Ans. 4-5. The Examiner relies on Ando's metal oxide particles for teaching the disputed limitations. Ans. 4 (citing Ando, ¶¶11-21). The Examiner reasons that it would have been obvious to

one of ordinary skill in the art at the time of the invention to modify Ando to have the optical fiber configuration taught by Taneda to facilitate the design of optical fuses. Ans. 4-5.

Appellants argue, among other arguments, that Ando discloses the use of metal oxides and fails to teach the recited particles made of at least one material that is at least one element selected from the group consisting of Ag, Au, Ni, Va, Ti, Co, Cr, C, Re and Si. App. Br. 8-11.

In the Answer's Response to Arguments section, the Examiner explains that Appellants' claim language is satisfied by any material comprising oxygen and at least one element selected from the recited group. Ans. 8. The Examiner further states that Ando teaches beyond the use of metal oxides. Ans. 8 (citing Ando, ¶20); *see also* Ans. 10-11 (citing Ando, ¶¶19-20, 47, 80). The Examiner further relies, for the first time in the Response to Arguments section of the Answer, on Taneda's dielectric material Si complex. Ans. 8 (citing Taneda, Fig. 4; col. 7, ll. 12-16; col. 8, ll. 46-63).

In the Reply Brief, Appellants argue that Ando's ¶20 describes atomic ratios of metal oxides, and that Ando's ¶¶19-20 state nothing about predictable variability, and in any event, it is not possible to use atomic ratios to predict performance of a material for which an atomic ratio cannot exist. Reply Br. 4. Appellants further argue that Ando's ¶¶47, 80 do not support the Examiner's contention. Reply Br. 4.

Regarding the Examiner's reliance for the first time on Taneda's dielectric material Si complex (Ans. 8), such shifts in the Examiner's position run counter to notions of fundamental fairness in appellate proceedings, for the appeal was taken based on the Examiner's position

articulated in the rejection – not the Response to Argument. Such shifts must therefore be designated as a new ground of rejection to give Appellants a fair opportunity to respond to the new position—a procedural requirement not followed here. *See* MPEP § 1207.03; *see also In re Kronig*, 539 F.2d 1300, 1302-03 (CCPA 1976). Although Appellants did not petition this procedural inconsistency, but instead filed a Reply Brief addressing the Examiner's new position, we nonetheless decline to reach the merits of the Examiner's newer position because it is inconsistent with that taken in the rejection from which the appeal was taken, which relies solely on Ando's metal oxide particles for the disputed limitation.[3]

Appellants contend that the term "the material being at least one element" limits the element to a pure chemical substance consisting of one type of atom distinguished by its atomic number, which is the number of protons in its nucleus. App. Br. 9. Appellants further contend, in the Appeal Brief, that the term "the material being at least one element" excludes the material being an element chemically joined in a compound or an alloy of two or more different elements. App. Br. 9. Further, the example of "the material being at least one element" in Appellants' Specification discloses the element carbon black powder, which is a pure chemical substance. Spec. 10:8-14; Fig. 8. Given Appellants' statements in the Appeal Brief, at Oral Hearing, and the example disclosed in Appellants' Specification, we interpret the scope of "the material being at least one element" as limited to

[3] The Board reviews the Examiner's final rejection in appeals under 35 U.S.C. § 134(a). *See In re Webb*, 916 F.2d 1553, 1556 (Fed. Cir. 1990). *Accord Ex parte Wu*, No. 2010-002378, 2012 WL 1375099, at *4 (BPAI 2012) (non-precedential); *Ex parte Shaw*, No. 2009-013330, 2012 WL 1071560, at *3 (BPAI 2012) (non-precedential).

a pure chemical substance consisting of one type of atom, which excludes a compound or an alloy containing the element.

We do not agree with the Examiner's position, with regard to claim 1, that Ando teaches the disputed limitation. Ando's ¶¶11-21, 47 describe the use of metal oxides, and Ando's ¶80 describes post-treatments for the substrate. We agree with Appellants that Ando's metal oxide particles fail to teach the recited particles made of at least one material that is at least one element selected from the group consisting of Ag, Au, Ni, Va, Ti, Co, Cr, C, Re and Si. The fact that Ando teaches a metal oxide of a metal listed in the recited group is unavailing, as a particle being made of a metal oxide does not teach that the particle is made of the element itself, in pure form consisting of one type of atom.

On this record, we are persuaded that the Examiner has erred in rejecting claim 1, and we therefore do not sustain the Examiner's rejection of claim 1, as well as claims 2-5 and 7-15 which depend from claim 1.

We reach a similar conclusion regarding independent claim 16, which recites "particles of at least one element selected from the group consisting of Ag, Au, Ni, Va, Ti, Co, Cr, C, Re and Si." Weighing Appellants' arguments against the Examiner's finding, we conclude that Appellants have shown error in the Examiner's rejection of claim 16, and we therefore do not sustain the Examiner's rejection of claim 16 as well as claims 17-21 and 23-31 which depend from claim 16.

ORDER

The Examiner's decision rejecting claims 1-5, 7-21, and 23-31 is reversed.

REVERSED

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