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OSRAM SYLVANIA Inc. 200 Ballardvale Street Wilmington, MA 01887			HINCAPIE SERNA, GUSTAVO A	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS TESSNOW

Appeal 2019-006494
Application 13/894,712
Technology Center 3700

Before MURRIEL E. CRAWFORD, MICHAEL W. KIM, and
PHILIP J. HOFFMANN, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–17 and 22. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

According to Appellant, the “disclosure relates to heat sinks for solid state illumination systems, and[,] more particularly[,] pertains to two-

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as “OSRAM SYLVANIA Inc.” Appeal Br. 2.

component aluminum alloy heat sinks.” Spec. ¶2. Below, we reproduce independent claim 1 as representative of the appealed claims.

1. A heat sink (10) comprising:
an extruded component (12) comprising a first aluminum material, said extruded component (12) configured to be coupled to a solid state light source (18); and
a cast component (14) comprising a second aluminum material overmolded onto a portion of said extruded component (12) to form an interface layer (16), wherein said interface layer (16) is formed of at least one of said first and said second aluminum materials, said interface layer (16) abutting against and coupling said extruded component (12) to said cast component (14).

REJECTIONS AND PRIOR ART

The Examiner rejects the claims as follows:

- I. Claims 1–7, 11–13, 16–17, and 22² under 35 U.S.C. § 103 as unpatentable over Rembold et al. (US 6,257,327 B1, issued July 10, 2001), (“Rembold”), Chinniah et al. (US 8,608,347 B2, issued Dec. 17, 2013) (“Chinniah”), and Cali et al. (US 8,292,766 B2, issued Oct. 23, 2012) (“Cali”);

² After the Examiner mailed the Final Office Action, Appellant filed an Amendment removing certain subject matter from claim 1, and adding new claim 22 depending from claim 1 and including that subject matter. Response to Final Office Action of Oct. 16, 2018, 2, 4. In the Advisory Action, the Examiner indicated entry of the claim amendments. Advisory Action 1. The Examiner’s further statements in the Advisory Action seem to indicate that claim 22 is rejected as obvious based on Rembold, Chinniah, and Cali, for the reasons set forth in the Final Office Action’s rejection of independent claim 1. *Id.* 2. Appellant’s understanding is the same as ours. See Appeal Br. 12

- II. Claims 8–10 under 35 U.S.C. § 103 as unpatentable over Rembold, Chinniah, Cali, and Yang (US 2009/0308584 A1, published Dec. 17, 2009);
- III. Claim 14 under 35 U.S.C. § 103 as unpatentable over Rembold, Chinniah, Cali, and Tennessen et al. (US 2011/0206969 A1, published Aug. 25, 2011) (“Tennessen”);
- IV. Claims 1 and 15 under 35 U.S.C. § 103 as unpatentable over Reis et al. (US 7,592,695 B2, issued Sept. 22, 2009) (“Reis”) and Cali; and
- V. Claim 22 under 35 U.S.C. § 112(b) as indefinite.

OPINION

Rejection I—Obviousness rejection of claims 1–7, 11–13, 16–17, and 22 based on Rembold, Chinniah, and Cali

The Examiner finds Rembold discloses a finned heat sink and “pedestal,” which “can be coupled to a solid state light source.” Final Action 2. The Examiner finds Rembold discloses that one of these two components is extruded and one is cast, based on Rembold’s statement that “body **34** and **35** pedestal **36** of heat sink **32** may be made of various grades of aluminum such as cast aluminum or extruded aluminum.” *Id.* at 2–3 (citing Rembold 2:33–36). The Examiner also finds that “overmolding is a known process . . . and inherently form[s] an interface layer,” because Cali teaches, according to the Examiner, that “the interface between bodies that are extruded or cast from a metal, such as aluminum, can be pressed fit, keyed, slotted, overmolded, glued, threaded, crimped, etc.” *Id.* at 3 (citing Cali col. 7, ll. 16–22).

Appellant argues that the Examiner's rejection is in error because Cali is non-analogous art, as Cali "has nothing to do with the problem of heat transfer." Appeal Br. 4. Appellant asserts that "there is no reasonable dispute that Cali's overrunning pulley for torque protection of rotating power transfer systems is not in the same field of endeavor as heat sinks." Appeal Br. 11. Appellant further argues:

The problem being addressed in the present application is lowering thermal resistance or impedance between closely coupled portions of heat sinks. Applicant respectfully submits that Cali is not reasonably pertinent because it neither (1) addresses the same problem nor (2) serves the same purpose as the device of claim 1.

Appeal Br. 11; *see also id.* 11–12.

The Examiner, in response, determines that "Cali is directed to the particular problem of assembling two pieces of material together, just as the claimed invention is." Answer 4.

We do not agree with the Examiner. Cali discloses that its embodiments "generally relate to torque load transfer, limitation, decoupling, and vibration dampening devices." Cali col. 1, ll. 16–18. The background of Cali describes prior art problems with torque-transfer pulleys, such as "no decoupling of the rotor's rotational inertia from the pulsations of an internal combustion engine," and having "no springy engagement in the torque direction, and therefore are not frequency tunable to decouple the rotor's inertia from the engine's pulsations." *Id.* at col. 1, ll. 49–64. In addition, the sole section of Cali the Examiner cites discloses the following:

All embodiments described below can include bodies that are steel, sintered metal, metal injection molded (MIM), molded out of thermoplastics or thermosets, or are extruded or cast from

a metal, such as aluminum or iron. The interface of parts to these bodies can be press fit, keyed, slotted, overmolded, glued, threaded, crimped, ring-locked, or other suitable methods.

Cali col. 7, ll. 16–22. Not only is this sole section set forth in the middle of the “DETAILED DESCRIPTION” section, but we take issue with the Examiner’s characterization of the section. Specifically, we find that the paragraph merely indicates that there are a wide variety of metals and non-metallic materials, formed and connected in a variety of techniques which may be used in Cali, and are persuaded that it is a hindsight mischaracterization to say that Cali itself concerns the problem of “assembling two pieces of material together,” as asserted by the Examiner.

“A reference is reasonably pertinent [to the problem faced by the inventor] if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). Based on what Cali overwhelmingly identifies as the subject matter with which it is concerned—i.e., torque pulleys made from any of a wide variety of materials and techniques—we are persuaded that the ordinary artisan would not have looked to Cali when addressing problems that arise with aluminum manufacturing techniques for solid-state light device heat sinks.

Because Cali is non-analogous art, the Examiner errs by relying on Cali in claim 1’s obviousness rejection. Accordingly, we do not sustain the Examiner’s rejection of independent claim 1, and of claims 2–7, 11–13, 16, 17, and 22 that depend from claim 1, based on Rembold, Chinniah, and Cali.

Rejections II and III—Obviousness rejections of claims 8–10 and 14 based on Rembold, Chinniah, Cali, and either Yang or Tennessen

The Examiner does not establish on the record that either Tennessen or Yang discloses the subject matter that Cali is relied on for disclosing with respect to independent claim 1’s rejection. Consequently, we do not sustain the Examiner’s obviousness rejections of claims 8–10 and 14 that depend from claim 1.

Rejection IV—Obviousness rejection of claims 1 and 15 based on Reis and Cali

In rejecting claim 1 as obvious based on Reis and Cali, the Examiner relies on the same reasoning discussed above—i.e., that “overmolding is a known process,” and “inherently form[s] an interface layer,” based on the same section of Cali. Final Action 3.

Thus, we agree with Appellant that Cali is non-analogous art for reasons similar to those discussed above. *See* Appeal Br. 14. Accordingly, we do not sustain the Examiner’s rejection of independent claim 1, and of claim 15 that depends from claim 1, as obvious based on Reis and Cali.

Rejection V—Indefiniteness rejection of claim 22

Claim 22, which depends from independent claim 1, recites “wherein said interface layer (16) is defined by the molten and re-solidified portion of the extruded component (12) in contact with the molten second aluminum material of the overmolded cast component (14).” According to the Examiner, claim 22 is indefinite because “[t]here is insufficient antecedent basis” for *the* molten and re-solidified portion of the extruded component, and *the* molten second aluminum material of the overmolded cast

component. Answer 3. Appellant argues that the claim is definite and understood. Reply Br. 2–3.

We acknowledge that it is customary to introduce a claim term with the article “a” or “an” rather than “the,” for example. However, not every introduction of a claim term with “the” is indefinite. As the Manual of Patent Examining Procedure explains, “the failure to provide explicit antecedent basis for terms does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite.” MPEP § 2173.05(e) (citation omitted). In this case, we agree with Appellant that the claim recitations under discussion are not indefinite, as one would understand that the interface layer is formed by a molten and re-solidified portion of the extruded component, in contact with a molten second aluminum material of the overmolded cast component. Further, we agree with Appellant that the claim does not require that the second aluminum material of the overmolded cast component remain molten. Reply Br. 3.

Consequently, we do not sustain the Examiner’s indefiniteness rejection of claim 22.

CONCLUSION

We REVERSE the Examiner’s §§ 103 and 112 rejections of claims 1–17 and 22.

In summary:

Claim Rejected	35 U.S.C. §	Basis/Reference(s)	Affirmed	Reversed
1-7, 11-13, 16, 17, 22	103	Rembold, Chinniah, Cali		1-7, 11-13, 16, 17, 22
8-10	103	Rembold, Chinniah, Cali, Yang		8-10
14	103	Rembold, Chinniah, Cali, Tennesen		14
1, 15	103	Reis, Cali		1, 15
22	112(b)	Indefiniteness		22
Overall Outcome				1-17, 22

REVERSED