NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

AKER BIOMARINE ANTARCTIC AS,
Appellant

v.

RIMFROST AS,
Appellee

2019-1078

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-00746.

AKER BIOMARINE ANTARCTIC AS,
Appellant

v.

RIMFROST AS,
Appellee

2019-1097

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-00745.

Decided: October 3, 2019

JOHN MITCHELL JONES, Casimir Jones, S.C., Middleton, WI, for appellant.

JAMES FRANCIS HARRINGTON, Hoffmann & Baron, LLP, Syosset, NY, for appellee. Also represented by RONALD J. BARON, JOHN T. GALLAGHER; MICHAEL I. CHAKANSKY, Hoffmann & Baron LLP, Parsippany, NJ.

Before LOURIE, PLAGER, and TARANTO, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Aker Biomarine Antarctic AS ("Aker") appeals from two final written decisions of the U.S. Patent and Trademark Office Patent Trial and Appeal Board ("the Board") in two *inter partes* review proceedings holding claims 1–19 of U.S. Patent 9,028,877 ("the '877 patent) and claims 1–20 of U.S. Patent 9,078,905 ("the '905 patent") unpatentable as obvious. *See Rimfrost AS v. Aker Biomarine Antarctic AS*, No. IPR2017-00746, 2018 WL 3857128 (P.T.A.B. Aug. 10, 2018) ("*877 Decision*"); *Rimfrost AS v. Aker Biomarine Antarctic AS*, No. IPR2017-00745, 2018 WL 3857126 (P.T.A.B. Aug. 10, 2018) ("*905 Decision*"). For the reasons detailed below, we *affirm*.

BACKGROUND

The '877 and '905 patents share a written description and concern bioeffective krill oil. According to the description, in the prior art, Antarctic krill was challenging to use to produce krill oil because lipases would degrade the oil

during storage and transport. *See* '877 patent col. 2 ll. 3–6. To address this problem, the patents propose treating the krill to denature lipases and phospholipases, which can reduce enzymatic decomposition of glycerides and phospholipids. *See id.* col. 9 ll. 44–51. The '877 patent claims a method of producing krill oil and encapsulating it, while the '905 patent claims encapsulated krill oil of various compositions. According to the specification, krill oil can be useful for "decreasing cholesterol, inhibiting platelet adhesion, inhibiting artery plaque formation, preventing hypertension, controlling arthritis symptoms, preventing skin cancer, enhancing transdermal transport, reducing . . . premenstrual symptoms or controlling blood glucose levels in a patient." *Id.* col. 1 ll. 46–52.

Claim 1 of the '877 patent is exemplary of that patent, and it recites "[a] method of production of krill oil comprising: a) providing krill; b) treating said krill to denature lipases and phospholipases in said krill to provide a denatured krill product; and c) extracting oil from said denatured krill product with a polar solvent. . . ." *Id.* col. 34 ll. 59–64. Steps a) and b) "are performed on a ship." *Id.* col. 35 l. 2. The claim further requires that the extracted krill oil be composed of "from about 3% to about 10% w/w ether phospholipids; from about 27% to 50% w/w non-ether phospholipids so that the amount of total phospholipids in said krill oil is from about 30% to 60% w/w; and from about 20% to 50% w/w triglycerides." *Id.* col. 34 l. 64–col. 35 l. 2. Of particular relevance here is the composition of the krill oil.

The claims of the '905 patent are drawn to encapsulated krill oil of compositions. Exemplary is claim 12, which recites "[e]ncapsulated krill oil comprising: a capsule containing an effective amount of krill oil." '905 patent, col. 36 ll. 29–30. Similar to the oil claimed in the '877 patent, the encapsulated krill oil comprises "from about 3% to about 10% w/w ether phospholipids; from about 27% to 50% w/w non-ether phospholipids so that the amount of total

phospholipids in the composition is from about 30% to 60% w/w; and from about 20% to 50% w/w triglycerides." *Id.* col. 36 ll. 32–36.

Rimfrost AS ("Rimfrost") petitioned for *inter partes* review of claims of both patents, and the Board determined that claims 1–19 of the '877 patent and claims 1–20 of the '905 patent would have been obvious in view of a combination of references.[1] To satisfy the claim limitations requiring treating the krill with heat to denature lipases and extracting the krill oil with a polar solvent, the Board relied on Brievik,[2] Catchpole,[3] and Fricke 1984.[4] To satisfy the composition recited in claim 1, the Board relied on Catchpole to disclose the total, ether, and non-ether phospholipid parameters. The Board then relied on Fricke 1984 to disclose the triglyceride levels recited in the claim. *877 Decision*, 2018 WL 3857128, at *11–12.

Before the Board, Aker did not dispute that the references taught every limitation in the claims. *877 Decision*, 2018 WL 3857128, at *12. Aker did dispute, however, whether a person of skill would have had a motivation to combine the references with a reasonable expectation of success and whether the prior art taught away from using krill oil to treat inflammatory conditions. The Board rejected Aker's arguments.

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[1] Because the Board's reasoning in the *'877 Decision* as relevant to this appeal is largely representative of its reasoning in the *905 Decision*, we refer only to the *877 Decision*.

[2] U.S. Patent App. Pub. 2010/0143571.

[3] WO 2007/123424.

[4] Fricke et al., Lipid, *Sterol and Fatty Acid Composition of Antarctic Krill (Euphausia superba Dana)*, 19 LIPIDS 821 (1984).

Aker appealed. We have jurisdiction under 35 U.S.C. §§ 141(c), 319, and 28 U.S.C. § 1295(a)(4)(A), and we have combined these appeals for disposition in one opinion.

DISCUSSION

Our review of a Board decision is limited. *In re Baxter Int'l, Inc.*, 678 F.3d 1357, 1361 (Fed. Cir. 2012). We review the Board's legal determinations *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004), but we review the Board's factual findings underlying those determinations for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A finding is supported by substantial evidence if a reasonable mind might accept the evidence as adequate to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). "Where there is adequate and substantial evidence to support either of two contrary findings of fact, the one chosen by the board is binding on the court regardless of how we might have decided the issue if it had been raised de novo." *Mishara Constr. Co. v. United States*, 230 Ct. Cl. 1008, 1009 (1982).

Obviousness is a question of law based on underlying facts, including the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill, and relevant evidence of secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Whether a skilled artisan would have been motivated to combine prior art references is also a question of fact. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238–39 (Fed. Cir. 2010).

In these two appeals, Aker raises two arguments. Challenging the Board's decision in both patents, Aker first argues that a person of skill would not have been motivated to combine the asserted references. Second, although the Board rejected Aker's teaching away argument for the same reasons in both decisions, Aker challenges the Board's finding only for the '905 patent that the prior art

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