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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte EVANGELIA S. ARVANITIDOU and MICHAEL PRENCIPE

Appeal 2015-006346
Application 12/983,460
Technology Center 1600

Before DONALD E. ADAMS, DEMETRA J. MILLS, and
JEFFREY N. FREDMAN, *Administrative Patent Judges*.

ADAMS, *Administrative Patent Judge*.

DECISION ON APPEAL¹

This appeal under 35 U.S.C. § 134(a) involves claims 1, 3–6, 10, 12, 13, and 17–19 (Final Act. 1).² Examiner entered rejections under 35 U.S.C. § 103(a). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

STATEMENT OF THE CASE

Appellants disclose “dentrifrice[] compositions containing antioxidant active ingredients. In particular, . . . non-aqueous dentrifrices showing

¹ Appellants identify “[t]he real party in interest in this appeal [as] the Colgate-Palmolive Company” (Br. 2).

² Claims 9 and 20–28 stand withdrawn from consideration (Final Act. 1).

oxidation stability” (Spec. ¶ 1). Claim 1 is representative and reproduced below:

1. An oral composition comprising
 - at least one humectant;
 - at least one abrasive compound;
 - 0.001% to 5% by weight of at least one plant extract selected from the group consisting of rosemary, oregano, Baikal skullcap, *S. lateriflora*, *S. orthocalyz*, grape seed, and grape skin;
 - an antioxidant selected from the group consisting of stannous compounds, stannate compounds, ammonium sulfates, BHT, and sodium metabisulfite; and less than 6% by weight water
 - wherein the composition undergoes no observable discoloration upon storage for three days at a temperature of 50°C.

(Br. 9.)

The claims stand rejected as follows:

Claims 1, 3, 6, 10, 12, and 17–19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Zhu ’494,³ greentea-extract.info,⁴ Rababah,⁵ and Yilmaz.⁶

³ Zhu et al., WO 01/17494 A1, published Mar. 15, 2001.

⁴ “greentea-extract.info,” <http://www.greentea-extract.info/antioxidant.html> (accessed 4/5/2012). See Apr. 11, 2012 PTO-892.

⁵ Rababah et al., *Total Phenolics and Antioxidant Activities of Fenugreek, Green Tea, Black Tea, Grape Seed, Ginger, Rosemary, Gotu Kola, and Ginkgo Extracts, Vitamin E, and tert-Butylhydroquinone*, 52 J. AGRIC. FOOD CHEM. 5183–5186 (2004).

⁶ Yilmaz et al., *Major Flavonoids in Grape Seeds and Skins: Antioxidant Capacity of Catechin, Epicatechin, and Gallic Acid*, 52 J. AGRIC. FOOD CHEM. 255–260 (2004).

Claims 1, 3–6, 10, 12, 13, and 17–19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Zhu '494, greentea-extract.info, Zhu 1998,⁷ Claus,⁸ Rababah, and Yilmaz.

We vacate, and will not further discuss, the rejection over the combination of Zhu '494, greentea-extract.info, Rababah, and Yilmaz as cumulative to the rejection over the combination of Zhu '494, greentea-extract.info, Zhu 1998, Claus, Rababah, and Yilmaz.

ISSUE

Does the preponderance of evidence relied upon by Examiner support a conclusion of obviousness?

FACTUAL FINDINGS (FF)

FF 1. Zhu '494 “relates to oral compositions comprising tea polyphenol for providing breath protection and freshness, as well as other oral health benefits” (Zhu '494 1: 11–13; Ans. 2–3 and 6–7; *see also* Ans. 3 (Zhu '494 “further teaches that the polyphenols in green tea extract are thought to provide [] physiological efficacious effects”); Zhu '494 2: 4–7).

FF 2. Zhu '494 exemplifies an oral composition comprising glycerin as a humectant; silica as an abrasive compound; 2% Tea Extract, and 7% water (Zhu '494 20–21 (Example 7); Ans. 2).

FF 3. Zhu '494 discloses that an oral composition within the scope of Zhu '494's disclosure “contain[s] a water [content] of from about 5% to about 20%” (Zhu '494 14: 13–14; Ans. 3).

⁷ Zhu, “PHARMACOLOGY,” CHINESE MATERIA MEDICA 128 (1998). *See* Apr. 11, 2012 PTO-892. Google Webpage relied upon by Examiner.

⁸ Claus, *Understanding microbes: a laboratory textbook for microbiology* 423 (1989). *See* Apr. 11, 2012 PTO-892. Google Webpage relied upon by Examiner.

FF 4. Zhu '494 discloses that additional compounds may be added to Zhu '494's compositions including Vitamins E, C, and A, as well as, stannous salts (Zhu '494 15: 26–31 and 17: 27–18: 13; Ans. 3).

FF 5. Examiner relies on Rababah to disclose that “both grape seed and rosemary extracts [have] higher phenolic content than that of green tea extracts (Ans. 4; Rababah 5185: Tables 1 and 2).

FF 6. Examiner relies on Yilmaz to “disclose the major flavonoids extracted from grape seeds and skins,” wherein, “[t]he phenolic acid gallic acid and monomers catechin an[d] epicatechin are the plant phenolic compound in grape seeds and skins” and that “catechin has free radical scavenging activities” (Ans. 4; citing Yilmaz 255: col. 1 and 258: Tables 1 and 2).

FF 7. Examiner relies on Zhu 1998 to disclose:

[T]hat the root of *Scutellaria baicalensis* (Baikal skullcap) has wide antibacterial spectrum and that a decoction of the root showed in vitro antibacterial activity against hemolytic streptococcus, among other organisms and that an extract of *S. baicalensis* was effective against oral bacteria. Zhu further teaches that baicalin (a B ring flavonoid) is the major antibacterial active component.

(Ans. 7, citing Zhu 1998 128.)

FF 8. Examiner relies on Claus to disclose “that *S. mutans* can be hemolytic” (Ans. 7 (emphasis added); *see also id.* at 6 (Zhu '494 discloses that “tea polyphenol is believed to deliver breath protection due to its ability to inhibit certain bacteria such as *S. mutans* (emphasis added))).

ANALYSIS

Zhu '494, greentea-extract.info, Zhu 1998, Claus, Rababah, and Yilmaz:

Based on the combination of *Zhu '494, greentea-extract.info, Zhu 1998, Claus, Rababah, and Yilmaz*, Examiner concludes that, at the time Appellants' invention was made, it would have been prima facie obvious "to formulate the oral composition disclosed in example 7 of *Zhu []* with less than 6% by weight water," because, *Zhu's* composition "may comprise 5-25% [*]* water" (Ans. 4; FF 3). *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004) ("[W]here there is a range disclosed in the prior art, and the claimed invention falls within that range, there is a presumption of obviousness").

Examiner further finds that at the time Appellants' invention was made, it would have been prima facie obvious to (a) "substitute other polyphenol/flavonoid-rich plant extracts other than green tea based on the common knowledge[,] as evidenced by the teachings of *Rabah* and *Yilmaz*[,] that rosemary and [grape seed extract] both contain substantial amounts of various beneficial flavonoids," (b) "add the additional ingredients [as] suggested by *Zhu []*, including additional antioxidants such as vitamins A, C, or E, stannous salts," etc., and (c) "add an extract of *Scutellaria baicalensis* and/or the compound baicalin (a free B ring flavonoid)[, as suggested by *Zhu 1998*,] to the oral breath freshening compositions rendered obvious by [the combination of] *Zhu ['494, greentea-extract.info, Rababah, and Yilmaz]*" as an anti-*S mutans* bacterial agent (Ans. 4–5 and 7–8; FF 1–8).

Appellants recognize *Zhu's* "belief that catechines [sic] are important for green tea's health benefits," but, contend that *Zhu* discloses that "other

classes of phenolics are believed to act synergistically with the catechines [sic] and also to provide independent health benefits” (Br. 6). Based on the foregoing, Appellants contend that because Zhu did not identify the specific “phenolic compounds produced by green tea plants [that] provide[] physiological benefits” a person of ordinary skill in this art would not substitute green tea extract for other extracts that contain higher levels of phenolic compounds (*see* Br. 5). Initially, we note that the composition of Appellants’ claim 1 does not identify any specific purpose for the addition of at least one plant extract selected from the group consisting of, *inter alia*, rosemary and grape seed (*see* Br. 9 (Claim 1)). In this regard, Appellants’ claim 1 does not require a specific phenolic compound to be present in the claimed composition, a specific method for the preparation of the foregoing extract, or the achievement of a synergistic effect among any components that may be present in such an extract (*id.*). Thus, all that is required by Appellants’ claim 1 is that some component of rosemary and/or grape seed be present in the form of an extract for inclusion in the composition of claim 1. The evidence relied upon by Examiner, therefore, meets the requirements of Appellants’ claim 1 (*see generally* FF 1, 2, 5, and 6). Appellants fail to provide persuasive evidence or argument to support a contrary conclusion.

For the foregoing reasons, we are not persuaded by Appellants’ contentions that Rababah and Yilmaz fail to make up for Appellants’ alleged deficiencies in the combination of Zhu ’494, greentea-extract.info or that Zhu 1998 and Claus fail to make up for Appellants’ alleged deficiencies in the combination of Zhu ’494, greentea-extract.info, Rababah and Yilmaz (Br. 6 and 7).

To be complete, we recognize Appellants' contention that Example 2, and the corresponding Table 2, of their Specification reports that the "only [disclosed] formulation to achieve a rating of '5' (no observable discoloration) was the formulation containing sodium meta-bisulfite" (Br. 7, citing Appellants' Specification ¶ 54). Appellants' claim 1, however, is not limited to a composition that contains sodium metabisulfite (*see* Br. 9 (Claim 1)). To the contrary, Appellants' claim 1 lists sodium metabisulfite as one of many alternative antioxidant compounds that may be included in Appellants' composition (*id.*). Therefore, we find that Appellants' contentions are not commensurate in scope with Appellants' claim 1. In order to establish unexpected results for a claimed invention, objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support. *In re Greenfield*, 571 F.2d 1185, 1189 (CCPA 1978).

CONCLUSION OF LAW

The preponderance of evidence relied upon by Examiner supports a conclusion of obviousness.

The rejection of claim 1 under 35 U.S.C. § 103(a) as unpatentable over the combination of Zhu '494, greentea-extract.info, Zhu 1998, Claus, Rababah, and Yilmaz is affirmed. Claims 3–6, 10, 12, 13, and 17–19 are not separately argued and fall with claim 1.

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED