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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GERHARD SCHMAUS, JOACHIM ROEDING,
RAVIKUMAR PILLAI, and WILLIAM JOHNCOCK

Appeal 2015-008016
Application 11/461,762
Technology Center 1600

Before DONALD E. ADAMS, RICHARD J. SMITH, and
RACHEL H. TOWNSEND, *Administrative Patent Judges*.

ADAMS, *Administrative Patent Judge*.

DECISION ON APPEAL¹

This appeal under 35 U.S.C. § 134(a) involves claims 12–32 (Ans. 1). 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:

[A]ntimicrobial active compounds, and in particular certain mixtures, formulations and foodstuffs comprising certain compounds (alcohols, ethers, esters, acids, corresponding salts

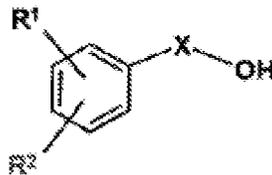
¹ Appellants identify “[t]he real party in interest [as] SYMRISE GmbH & Co. KG” (Br. 1).

and solvates) of a formula (I) [reproduced below] and at least one tropolone (derivative) of the formula (II) [reproduced below] and to products comprising such mixtures in an antimicrobially active amount [and] to certain uses and processes in which the mixtures according to the invention are employed.

(Spec. ¶¶ 2–3.)

Appellants' claim 12 is representative and reproduced below:

12. Antimicrobial mixture comprising:
(a) one or more compounds of the formula (I)



I

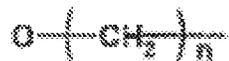
their salts or solvates,

wherein R¹ and R² in each case independently of one another are chosen from the group consisting of: H, OH, F, Cl, Br and I, and

wherein X in each case denotes:

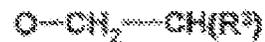
(CH₂)_m where m = 1, 2 or 3

or



where n = 1, 2 or 3

or



where R³ = CH₃ or CH₂OH

or



where p = 1 or 2,

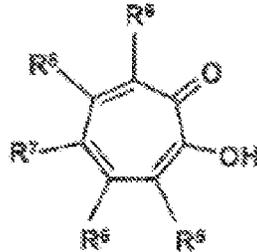
wherein in the compound(s) of the formula I

a primary alcohol function CH₂OH is optionally replaced by a radical which is chosen from the group consisting of CH₂OR⁴, COOH and COOR⁴ and/or

a secondary alcohol function CHOH is optionally replaced by the radical CHOR⁴, wherein each R⁴ denotes an aliphatic or

aromatic radical, independently of the meaning of further radicals,
and

(b) one, two or more compounds chosen from the group consisting of the tropolones of the formula (II)



wherein the substituents R⁵, R⁶, R⁷, and R⁹ independently of one another have the following meaning:

H; linear or branched, saturated or unsaturated, aliphatic hydrocarbon radical having up to 30 C atoms; OH; OR¹⁰, wherein R¹⁰ is a linear or branched, saturated or unsaturated, aliphatic hydrocarbon radical having up to 30 C atoms; COOH; COOR¹¹, wherein R¹¹ is a linear or branched, saturated or unsaturated, aliphatic hydrocarbon radical having up to 30 C atoms; NO₂, NH₂, R, Cl, Br, I, and

wherein substituent R⁸ has the following meaning:

H; linear, saturated or unsaturated, aliphatic hydrocarbon radical having up to 30 C atoms; OH; OR¹⁰, wherein R¹⁰ is a linear or branched, saturated or unsaturated, aliphatic hydrocarbon radical having up to 30 C atoms; COOH; COOR¹¹, wherein R¹¹ is a linear or branched, saturated or unsaturated, aliphatic hydrocarbon radical having up to 30 C atoms; NO₂, NH₂, F, Cl, Br, I,

wherein constituent (b) is present in an amount in the range of 0.001 - 10 wt.%, based on the amount of constituent (a),
and

wherein compounds (a) and (b) are present in an amount such that an antimicrobial activity of said compounds (a) and (b) is synergistically intensified as shown by a Kull value.

(Br. 25–27.)

The claims stand rejected as follows:

Claims 12–16 and 18–32 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Fujisaki² and Thompson.³

Claim 17 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Fujisaki, Thompson, and Oyama.⁴

ISSUE

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

FACTUAL FINDINGS (FF)

FF 1. Fujisaki discloses, *inter alia*, that

It is necessary to protect the product from the risk of contamination by microorganisms which become mixed in accidentally from the time the cosmetics are opened to the time they are used up. When cosmetics are contaminated by microorganisms, not only does this bring about . . . foul odors, discoloration and other types of deterioration of the quality.

(Fujisaki 3; *see* Final Act. 3.)

FF 2. Fujisaki discloses an antibacterial composition comprising “at least one [compound] selected from among a group consisting of (A) phenoxy ethanol, (B) phthalate esters and a tropolone derivative” (Fujisaki 18; *see also id.* at 2: Claims 1 and 2; *id.* at 2 (Fujisaki’s composition has “outstanding antibacterial characteristics”); *id.* at 9: Example 3

² Fujisaki et al., JP 02-243607 A, published Sept. 27, 1990 (PTO 10-0026 translation relied upon).

³ Thompson et al., US 2,770,546, issued Nov. 13, 1956.

⁴ Oyama, US 4,990,330, issued Feb. 5, 1991.

(exemplifying a composition comprising 53 wt% phenoxy ethanol and 2 wt% of the tropolone derivative - hinokithiol); Final Act. 3).

FF 3. Fujisaki discloses, *inter alia*, that the tropolone derivative, hinokithiol, is useful “as an antiseptic agent, first and foremost for cosmetics, as well as an antiseptic agent for food” (Fujisaki 7).

FF 4. Thompson discloses “[a]n antioxidant [for use] in edible fats and oils in order to retard the development of rancidity therein” (Thompson 2:5–6; *see* Final Act. 3).

FF 5. Thompson discloses, as “a specific embodiment,” the incorporation of 6-methyltropolone into lard to “stabiliz[e] lard against oxidative deterioration catalyzed by a metal” (Thompson 2:27–31; *see also id.* at 2:55–70 (listing 6-methyl-tropolone as a representative tropolone compound for use in Thompson’s method); *see* Final Act. 3).

FF 6. Appellants’ “antimicrobial mixtures . . . are suitable for preservation and antimicrobial treatment of perishable products, such as e.g. cosmetic products, pharmaceutical products or foods (foodstuffs)” (Spec. ¶ 31).

FF 7. Thompson discloses “that many compounds may be prepared and used in accordance with [Thompson’s disclosure] and that all of these compounds are not necessarily equivalent. The particular compound to be employed will depend upon the particular substrate in which it is to be used” (Thompson 3:62–67).

FF 8. Examiner finds that the combination of Fujisaki and Thompson fails to suggest a composition comprising sorbic acid and relies on Oyama to make up for this deficiency in the combination of Fujisaki and Thompson (Final Act. 6).

ANALYSIS

The rejection over the combination of Fujisaki and Thompson:

Based on the combination of Fujisaki and Thompson, Examiner concludes that, at the time Appellants' invention was made, it would have been prima facie obvious to use 6-methyl tropolone, as disclosed by Thompson, as the tropolone derivative in Fujisaki's composition (*see* Final Act. 4; Ans. 2–3 (Fujisaki “broadly teach[es] the use of tropolone derivatives”); FF 2; *see also* FF 1 and 3–5). In this regard, Examiner reasons that “one o[f] ordinary skill would have expected different tropolone compounds to have similar properties” (Ans. 3; *see also* Final Act. 3–4; Ans. 3 (Fujisaki and Thompson both “disclose the use of substituted tropolones to retard the development of rancidity”); FF 1, 3, and 4).

Non-analogous art:

Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

In re Clay, 966 F.2d 656, 658–59 (Fed. Cir. 1992).

Fujisaki and Thompson both “disclose the use of substituted tropolones to retard the development of rancidity” in foodstuffs and cosmetics (Ans. 3; FF 1, 3, and 4). Similarly, Appellants' “antimicrobial mixtures . . . are suitable for preservation and antimicrobial treatment of perishable products, such as e.g. cosmetic products, pharmaceutical products or foods (foodstuffs)” (FF 6). Thus, Fujisaki, and Thompson are “from the same field of endeavor” and are “reasonably pertinent to the particular

problem with which the inventor is involved.” *See Clay*, 966 F.2d at 658–59. Therefore, we are not persuaded by Appellants’ non-analogous art contentions (Br. 18).

Structural Similarity:

Fujisaki discloses a composition comprising a tropolone derivative (FF 1–3). As Examiner explains, Fujisaki’s disclosure “broadly teach[es] the use of tropolone derivatives” generically (Ans. 2–3). Fujisaki further discloses the use of a composition comprising a tropolone derivative to prevent fouling in, *inter alia*, cosmetics and foodstuffs (FF 1 and 3; *see* Ans. 3). Thompson discloses as “a specific embodiment,” the incorporation of 6-methyltropolone into lard to “stabiliz[e] lard against oxidative deterioration catalyzed by a metal” (FF 5). Thus, as discussed above, Fujisaki and Thompson both “disclose the use of substituted tropolones to retard the development of rancidity” in foodstuffs and cosmetics (Ans. 3; FF 1, 3, and 4). Therefore, while Thompson discloses that all tropolones are not equal the evidence of record supports the conclusion that the particular compounds disclosed and employed by Fujisaki and Thompson, and which are relied upon by Examiner in the rejection, are useful for the same purpose, i.e., preventing fouling (FF 7; *see* Br. 17; *cf.* FF 1, 3, and 7).

In sum, regardless of the structural characterization of Thompson’s 6-methyltropolone compared to the tropolone derivative, hinokithiol, disclosed in Fujisaki, Appellants fail to provide persuasive evidence or argument to support a conclusion that a person of ordinary skill in this art would not have formulated Fujisaki’s composition with Thompson’s 6-methyl tropolone, or that the composition suggested by the combination of Fujisaki and

Thompson falls outside the scope of Appellants' claimed invention (*see* Br. 17–18).

Unexpected Results:

Fujisaki discloses that compositions comprising phenoxy ethanol and a tropolone derivative have “outstanding antibacterial characteristics” (FF 2). The combination of Fujisaki and Thompson suggest a composition comprising phenoxy ethanol and a tropolone derivative, such as 6-methyl tropolone at concentrations that fall within the scope of Appellants' claimed invention (FF 1–5). Therefore, we recognize, but are not persuaded by Appellants' contention that “Appellant[s] [results] are unexpected because the prior art suggests that to achieve a synergistically intensified activity, you would need a much higher amount of tropolone or tropolone derivative relative to the compound of formula (I)” (Br. 20; *see id.* at 19–20).

At best, Appellants' recognized what may have been a new benefit, i.e., synergism, resulting from the combination of a phenoxy ethanol and a tropolone derivative at concentrations disclosed by Fujisaki, which fall within the scope of Appellants' claimed invention. Such an observation or discovery does not make an otherwise obvious composition patentable. *See, generally, In re Huai-Hung Kao*, 639 F.3d 1057, 1071 (Fed. Cir. 2011); *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990). In this regard, we find that the weight of the evidence on this record supports Examiner's conclusion that “Appellant[s] . . . failed to demonstrat[e] unexpected results commensurate in scope with . . . claim[] 12” (Ans. 4; *cf.* Br. 19–23).

In addition to the foregoing, we recognize, but are not persuaded by, Appellants' contentions regarding the “studies” of “Dr. Gerhard Schmaus,”

which are not presented in a Declaration and, therefore, represent attorney argument (Br. 21–22). *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974) (“Attorney’s argument in a brief cannot take the place of evidence”).

Accordingly, we do not consider Appellants’ discussion of Dr. Schmaus’ studies competent evidence of non-obviousness. *See In re Hunter*, 167 F.2d 1006, 1009 (CCPA 1948). In addition, we note that the composition of Appellants’ claim 12 does not require an anti-bacterial effect on any particular microorganism or timer period to achieve such an anti-bacterial effect.

The rejection over the combination of Fujisaki, Thompson and Oyama:

Based on the combination of Fujisaki and Thompson, Examiner concludes that, at the time Appellants’ invention was made, it would have been prima facie obvious to incorporate sorbic acid, as disclosed by Oyama, into the composition suggested by the combination of Fujisaki and Thompson (Final Act. 7).

Appellants do not separately argue the rejection over the combination of Fujisaki, Thompson, and Oyama, but instead include claim 17 among their contentions discussed above with respect to the rejection over the combination of Fujisaki and Thompson. For the reasons set forth above, having found no deficiency in the combination of Fujisaki and Thompson, we find no error in the rejection of claim 17 over the combination of Fujisaki, Thompson, and Oyama.

CONCLUSION OF LAW

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

The rejection of claim 12 under 35 U.S.C. § 103(a) as unpatentable over the combination of Fujisaki and Thompson is affirmed. Claims 13–16 and 18–32 are not separately argued and fall with claim 12.

The rejection of claims 17 under 35 U.S.C. § 103(a) as unpatentable over the combination of Fujisaki, Thompson, and Oyama is affirmed.

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