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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PAULA LOUISE MCGEECHAN and WILLIAM WOODS¹

Appeal 2016-004735
Application 12/727,405
Technology Center 1600

Before DEMETRA J. MILLS, RICHARD M. LEBOVITZ, and
RYAN H. FLAX, *Administrative Patent Judges*.

FLAX, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) involving claims directed to a sanitizer formulation and a method of sanitizing a food contact surface with such a formulation. Claims 1–3, 6, 8–10, 12–16, 21, 22, 24, 25, and 27–29 are on appeal as rejected under 35 U.S.C. § 103(a).^{2, 3} We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellants identify the Real Party in Interest as “Arch Chemicals Inc.” Br. 4.

² Appellants indicate “US Patent Application 13/351,538, a Continuation-in-Part (CIP) of the instant Application, is also pending on Appeal [No. 2016-004737].” Br. 4.

³ Oral argument in this appeal was heard on February 1, 2018; the transcript is a part of the record on appeal.

STATEMENT OF THE CASE

The Specification states:

Quaternary ammonium compounds, such as alkyldimethylbenzyl ammonium chloride (ADBAC) and didecyldimethyl ammonium chloride (DDAC), are known to be effective antimicrobials for use in household and Industrial & Institutional (I&I) sanitizer formulations. Illustratively, U.S. Patent No. 5,000,867 discloses a sanitizing composition for use in the cleaning-in-place of food industry equipment containing 0.01-5% of quaternary ammonium antimicrobial agents and 0.01-25% of guanidine anti-microbial agents, together with one or more organic acids and one or more inorganic acids.

U.S. Patent No. 5,529,713 [Gauthier⁴] discloses a cleaning and disinfecting composition for household use containing ethoxylated fatty alcohol, co-surfactant, isopropyl alcohol, polyhexamethylene biguanide hydrochloride [PHMB], didecyl dimethylammonium chloride and benzalkonium chloride [ADBAC]. The biocide is present in an amount of from 1 to 40%.

Spec. 1. The Specification further states, “alternative sanitizer formulations are needed for household indirect food contact applications that are effective, flexible and cost-effective. The present invention provides one such alternative.” *Id.* at 1–2.

Claims 1, 8, and 13 are independent claims. Claim 1 is representative; it is reproduced below:

1. A sanitizer formulation comprising:
 - (a) an antimicrobial active agent selected from the group consisting of biguanides, monoguanides, and combinations thereof;
 - (b) a dialkyldimethyl ammonium salt;

⁴ US 5,529,713 (issued June 25, 1996) (“Gauthier”).

- (c) an alkoxyated alcohol; and
- (d) water,

wherein the component (a) is present in an amount of from about 25 to about 110 ppm, the component (b) is present in an amount of from about 20 to about 125 ppm and the component (c) is present in an amount of from about 35 ppm to about 200 ppm, and wherein the component (a) and the component (b) are present in a range of weight ratios between about 1:5 to about 2.5:1.

Br. 30 (Claims App'x).

The following rejection is on appeal:

Claims 1–3, 6, 8–10, 12–16, 21, 22, 24, 25, and 27–29 stand rejected under 35 U.S.C. § 103(a) over Gauthier, Colclough,⁵ and Halloran.⁶ Final Action 9; Answer 2.

DISCUSSION

We adopt the Examiner's findings of fact, reasoning on scope and content of the claims and prior art, and conclusions set out in the Final Office Action and Examiner's Answer. *See* Final Action 2–16; Answer 2–17. Any findings of fact set forth herein are provided to highlight certain evidence.

Only those arguments made by Appellants in the Appeal Brief (no Reply Brief was submitted) have been considered in this Decision. Arguments not so presented in the Brief are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015); *see also Ex parte Borden*, 2010 WL 191083 at *2 (BPAI 2010) (informative) (“Any bases for asserting error, whether factual or legal, that are not raised in the principal brief are waived.”).

⁵ US 6,303,557 B1 (issued Oct. 16, 2001) (“Colclough”).

⁶ US 6,147,038 (issued Nov. 14, 2000) (“Halloran”).

In analyzing patentability and determining obviousness “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). “[W]hen the question is whether a patent claiming the combination of elements of prior art is obvious,” the answer depends on “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* at 417.

Selecting a narrow range from *within* a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply *overlaps* a disclosed range. . . . The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.

In re Peterson, 315 F.3d 1325, 1329–30 (Fed. Cir. 2003). “[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art.” *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980). In analyzing the criticality of a claimed range so as to evidence non-obviousness,

“it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456 (CCPA 1955). Only if the “results of optimizing a variable” are “unexpectedly good” can a patent be obtained for the claimed critical range. *In re Antonie*, 559 F.2d 618, 620 (CCPA 1977).

In re Geisler, 116 F.3d 1465, 1469 (Fed. Cir. 1997).

One way for a patent applicant to rebut a *prima facie* case of obviousness is to make a showing of “unexpected results,” i.e., to show that the claimed invention exhibits some superior

property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected.

In re Soni, 54 F.3d 746, 750 (Fed. Cir. 1995). “To be particularly probative, evidence of unexpected results must establish that there is a difference between the results obtained and those of the closest prior art, and that the difference would not have been expected by one of ordinary skill in the art at the time of the invention.” *Bristol-Myers Squibb Co. v. Teva Pharms. USA, Inc.*, 752 F.3d 967, 977 (Fed. Cir. 2014).

Statements in a brief that “merely mention [a] claim . . . and lack any type of separate, substantive argument concerning the claim” are not sufficient to constitute separate argument regarding that claim under 37 C.F.R. § 41.37(c)(1)(vii). *In re Kao*, 639 F.3d 1057, 1065 (Fed. Cir. 2011). “A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim.” 37 C.F.R. § 41.37(c)(1)(iv); *see also In re Dance*, 160 F.3d 1339, 1340 n.2 (Fed. Cir. 1998) (“Although Dance mentions the content of the dependent claims, he does not argue their merits separately from those of independent claim 33, or attempt to distinguish them from the prior art. Nor were the dependent claims argued separately before the Board. Therefore, all claims stand or fall together with claim 33.”).

We find in view of the above-cited precedent and the Examiner’s findings of fact, the Examiner established a prima facie case that the claims would have been obvious. Appellants ultimately do not contest this. Hr’g Tr. 3:13–4:8, 7:20–8:4, 8:19–20. We address Appellants’ arguments below.

To the extent Appellants argue the references individually, we do not find such arguments persuasive because the rejection is over a combination

of prior art. “Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references. [The references] must be read, not in isolation, but for what [they] fairly teach[] in combination with the prior art as a whole.” *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Appellants do not contest that Gauthier teaches the components of claim 1, but argue Gauthier teaches amounts of biguanides, dialkyldimethyl ammonium salt, and alkoxyated alcohol that differ from the respectively claimed 25–110 ppm, 20–125 ppm, and 35–200 ppm, amounts. App. Br. 12. Appellants do not contest that Colclough teaches the biguanide and quaternary ammonium salt components of the claimed formulation in ranges spanning the claimed amounts, i.e., 5–300 ppm PHMB, 5–300 ppm didecyldimethyl-ammonium salt, and also, for that matter, 5–3000 ppm of a solvent, including alcohol or glycols; however, Appellants conclude that Colclough provides no suggestion of the particularly claimed combination in the particularly claimed amounts. *Id.* at 14. Appellants argue in their brief that there is no suggestion as to how or why to optimize the amounts of the components in the prior art because only result effective variables may be obvious to optimize. *Id.* at 13. However, Appellants, reasonably, conceded these arguments at the oral argument. Hr’g Tr. 3:13–4:8, 7:20–8:4, 8:19–20.

Appellants do not contest that Halloran teaches Tergitol[®], i.e., trimethylnonyl polyethylene glycol esters, which is a type of alkoxyated alcohol or fatty alcohol (as such is described by Gauthier), but argue Halloran teaches using this component in hair conditioning compositions as a surfactant and does not cure the deficiencies of the other references, as

noted above. App. Br. 13. Appellants' point that Halloran is directed to hair products is acknowledged; however, we conclude the reference is evidence that the specifically claimed alkoxyated alcohol was available as a well-known, commercially available product. It would have been obvious to use such a product in combination with the cleaning products disclosed in the other cited references for the reasons set forth by the Examiner.

Based on Appellants' agreement at oral argument that the Examiner has established a prima facie case for obviousness, it is clear that the above-identified arguments are no longer a part of Appellants' case on appeal. Appellants established at the Hearing that non-obviousness rests upon their proof of unexpected results. Appellants argue the prior art fails to teach the "unexpected results found by appellant[s] for the claimed combination in the claimed inventive amount." *Id.* at 13, 14–18. Appellants point to the Specification's indication that it was surprising that smaller amounts of the claimed components in combination achieved a disinfecting composition, contrasted with either component alone. *Id.* at 15 (citing Spec. 3). Appellants point to Table 3 in their Specification as evidence that formulations that have DDAC and PHMB combined as claimed achieved disinfectant results while formulations having these two components uncombined did not; calling this result unexpected. *Id.* 15–16 (citing Spec. 16).

We do not find Appellants' evidence and arguments directed to unexpected results persuasive. As noted above, "[t]o be particularly probative, evidence of unexpected results must establish that there is a difference between the results obtained and those of the closest prior art, and

that the difference would not have been expected by one of ordinary skill in the art at the time of the invention.” *Bristol-Myers*, 752 F.3d at 977. Here, while it may have surprised the inventors that combining lower amounts of PHMB and DDAC worked better as disinfectants than larger amounts of either component alone, no comparison is made to formulations disclosed by the closest prior art, i.e., either of Gauthier or Colclough, which also combine PHMB and DDAC over a range of concentrations that likewise provide effective disinfectant formulations. Nor did Appellants explain why the comparisons they made constituted the “closest prior art” for the purpose of establishing unexpected results.

Because a prima facie case for obviousness has been established and the evidence for non-obviousness is not persuasive, we affirm the obviousness rejection.

As to the other claims, Appellants list each other claim on appeal under a separate heading, as required, but merely conclude that each is “independently patentable” without a substantive argument for patentability over the cited art. App. Br. 18–28 (emphasis omitted). For each such claim and heading, Appellants merely state “[f]or at least the reasons set forth above [regarding claim 1], Appellants respectfully disagree with the Examiner’s rejection,” and then quote language from the listed claim that “[t]he Examiner has failed to provide any evidence that the compositions or methods described in Gauthier-Fournier in view of Colclough and Halloran” teaches or suggests. *Id.* Such assertions do not constitute arguments on the merits. *See* 37 C.F.R. § 41.37(c)(1)(iv); *In re Kao*, 639 F.3d at 1065; *In re Dance*, 160 F.3d at 1340, n.2. Therefore, as they were effectively argued as

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a group, all claims fall with claim 1, which we have identified as representative.

SUMMARY

The obviousness rejection is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED