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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DAVID ARTHUR STURGIS, ERIC SHANE HENLEY,
RANDALL DUDLEY GRIFFITH, PHI VAN CHU, and
STEVEN MICHAEL WUJEK SR.

Appeal 2019-004192
Application 14/206,134
Technology Center 1600

Before RICHARD M. LEOVITZ, JOHN G. NEW, and
RACHEL H. TOWNSEND, Administrative Patent Judges.

LEOVITZ, *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 1–10. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as The Procter & Gamble Company of Cincinnati, Ohio. Br. 1.

CLAIM

Claim 1, the only independent claim in this appeal, is reproduced below (bracketed numbers and indents added for reference and clarity):

1. A method of manufacturing a solid stick antiperspirant composition, comprising:
 - [1] combining a first stream and a second stream,
 - [2] wherein the first stream comprises a structurant and a non-ionic ethoxylated linear alcohol having a carbon chain length from about 20 to about 40 and
 - [3] the second stream comprises an antiperspirant active comprising a zirconium salt; and
 - [4] wherein the first stream and the second stream are combined in a static mixer and the resulting composition is a single phase.

Appellant did not separately argue dependent claims 2–10. These claims fall with claims 1. 37 C.F.R. § 41.37(c)(1)(iv).

REJECTION

The Examiner finally rejected claims 1–10 under 35 U.S.C. § 103 (2012) as obvious in view of Walling et al. (US 2008/0063616 A1, published Mar. 13, 2008) (“Walling”), Banowski et al. (US 6,849,251 B2, issued Feb. 1, 2005) (“Banowski”), Galante et al. (WO 2007/030139 A1, published Mar. 15, 2007) (“Galante”), Greczyn (US 5,378,452, issued Jan. 3, 1995) (“Greczyn”), and Swaile et al. (US 2005/0123494 A1, issued Jan. 3, 1995) (“Swaile”), as evidenced by Aston Chemicals (2015) (“Aston”). Ans. 3; Final Act. 3.

The Examiner found that Walling describes combining a first and second stream in a mixer as recited in steps [1] and [4] of claim 1. Final Act. 5. The Examiner found that Walling’s first stream, which is also a hot

stream, comprises a solvent and a “gellant.” *Id.* The Examiner found that Walling teaches that a gellant can be a wax or stearyl alcohol (*id.*), which the Examiner found meets the limitation of [2] the structurant in the claimed first stream (*id.* at 3, 4).

The Examiner found that Walling describes a second stream, a cold stream, that comprises an antiperspirant comprising a zirconium salt as in [3] of claim 1. Final Act. 5.

The second stream in Walling can also comprise a “cosmetic active,” which the Examiner found can be a surfactant, the same genus of compounds of which the claimed [2] “non-ionic ethoxylated linear alcohol having a carbon chain length from about 20 to about 40” is a member.

Differences between Walling and claim 1

Claim 1 comprises [2] a first stream comprising a structurant and a *surfactant* (the hot stream); and [3] a second stream comprising an antiperspirant (the cold stream). The difference between Walling and the method of claim 1 is that Walling describes the *surfactant* in [3] the second stream (the cold stream), and not in [2] the first stream (hot stream) as required by claim 1.

To meet this deficiency, the Examiner cited Greczyn and Swaile. The Examiner found that Greczyn describes a *batch process* in which a surfactant is blended with a structurant, the same two components of the claimed [2] first stream. Final Act. 5. The claimed process, however, is not a batch process as it is in Greczyn. The Examiner found that the surfactant and structurant were combined in Greczyn with “no disclosed negative effects due to heat.” *Id.* Thus, the Examiner found one of ordinary skill in

the art would have known that a structurant and a surfactant could be combined, as recited in [2] of claim 1, with no adverse effect.

The Examiner found it would have been obvious to modify Walling by combining the surfactant with the structurant because any order of adding ingredients is obvious (citing MPEP 2144.04 (IV)C)) and Greczyn does so without describing negative effects. Final Act. 7.

The Examiner found that Swaile teaches “that foam-stabilizing agents (i.e. surfactants) are desirable to include[,] but if they are anionic or cationic[,] it is desired to minimize the interactions with the active antiperspirant” and thus nonionic surfactants, ethoxylated fatty alcohols, are preferred. Final Act. 6–7. For this reason, the Examiner concluded that Swaile implies that there is “stability issue if the two are kept in contact for too long,” providing a reason to modify Walling by separating the antiperspirant from the surfactant and placing the surfactant in the hot stream as in Greczyn and [2] of claim 1. *Id.* at 7.

The Examiner also cited Banowski for general teachings about antiperspirants and to address limitations in dependent claims. Final Act. 6, 9. The Examiner found that Galante describes a non-ionic ethoxylated linear alcohol having a carbon chain length from about 20 to about 40 as in step [2] of claim 1. Final Act. 6.

DISCUSSION

Appellant contends that Walling teaches away from putting the surfactant in the hot stream ([2] of claim 1) “by explicitly suggesting ‘any heat sensitive component’, such as surfactants, should be in the cold process stream [(3] of claim 1).” Br. 3.

This argument does not persuade us that the Examiner erred.

Walling teaches that the “cold process stream may also optionally comprise any heat sensitive component that could chemically degrade or deteriorate or react with components of the cosmetic or antiperspirant composition at elevated temperatures or corrode metal process equipment at elevated storage temperatures.” Walling ¶ 42. Appellant did not establish that the claimed surfactant is heat sensitive.

Greczyn teaches adding a surfactant to a hot stream (Greczyn at 6:40–52, in which a structurant (castor wax) and a surfactant (PEG 600 distearate) are heated to 176°F). Thus, while Appellant asserts that there is a teaching away from placing a surfactant in a hot stream, Greczyn contains an express disclosure of doing so, and in combination with a structurant. Therefore, the allegation that there is a suggested “teaching away” by Appellant is inconsistent with the actual factual teaching in Greczyn.

The Examiner also cited evidence, unchallenged by Appellant, that the elected surfactant species “is known to have high temperature stability” and “thus heat stability would not be a concern” when using this surfactant.
Ans. 10.

With respect to Swaile, Appellant argues:

There is absolutely nothing in Swaile that suggests that less time, or a time limit, is needed to allow the benefits of a surfactant without the drawbacks. Swaile merely states the drawback of a surfactant – that it may interact with the active – and suggests that a nonionic surfactant may limit this drawback. In addition, Swaile is entirely focused on foaming antiperspirant compositions, which are formulated very differently from solid stick compositions.

Br. 4.

Because a nonionic surfactant is claimed, we agree with Appellant that the Examiner’s reasoning with respect to Swaile is not fully persuasive.

However, the Examiner also reasoned that any order of adding ingredients would have been obvious to one of ordinary skill in the art and that Greczyn described such order of addition. Final Act. 7. We conclude that this is sufficient reason to have modified Walling with Greczyn's teachings. Appellant did not identify a deficiency in this reasoning.

Appellant states that Greczyn "teaches a bicarbonate salt deodorant" which "would defeat the present invention's goal of more effective active release." Br. 4. This reasoning is not persuasive because the Examiner did not rely on Greczyn's composition, but rather on its teaching that a surfactant and structurant can be combined in a hot stream without deleterious effects.

Unexpected results

"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); *see also In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991) ("[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art."). "The

evidence presented to rebut a *prima facie* case of obviousness must be commensurate in scope with the claims to which it pertains.” *In re Dill*, 604 F.2d 1356, 1361 (CCPA 1979); *see also In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (“If an applicant demonstrates that an embodiment has an unexpected result and provides an adequate basis to support the conclusion that other embodiments falling within the claim will behave in the same manner, this will generally establish that the evidence is commensurate with [the] scope of the claims.”).

Appellant argues that Table 3 of the Specification “if properly understood, demonstrates the benefits of the claimed invention.” Br. 5. Appellant states the results are “surprising.” *Id.* Appellants state that, as explained in the Specification, “the structurants in any solid antiperspirants (soft solid or solid stick) can interfere with the release of the antiperspirant active from the composition and thus reduce the efficacy of the composition.” *Id.*

For reference, Table 3 of the Specification (Spec. 7) is reproduced below:

TABLE 3

PRODUCT	SURFACTANT	PROCESS	Active/Metal-Chloride Ratio	RESULT COMPARED TO A STREAM SOLID STICK	RESULT COMPARED TO SOFT SOLID
Currently Marketed Soft Solid	No	Batch	Aluminum zirconium trichlorohydrate about 1.55	NA	Benchmark
Comparative Solid Stick Composition	Yes	Batch	Aluminum zirconium trichlorohydrate about 1.55	NA	36 mg more sweat than Benchmark
Currently Marketed Solid Stick Composition	No	Stream	Aluminum zirconium tetrachlorohydrate about 1.2	Benchmark	33.5 mg more sweat than Benchmark
Inventive Solid Stick Example 1	Yes	Stream	Aluminum zirconium trichlorohydrate about 1.55	11.5 mg less than Benchmark	22 mg more sweat than Benchmark
Inventive Solid Stick Example 2	Yes	Stream	Aluminum zirconium tetrachlorohydrate about 1.2	62 mg less than Benchmark	28.5 mg <u>less</u> sweat than Benchmark

The “inventive” compositions are the solid antiperspirant stick of Example 1 and 2. Spec. 7. The composition of Examples 1 and 2 are described on page 31 of the Specification. The antiperspirant in Example 1 is Aluminum Zirconium Trichlorohydrate Gly and in Example 2 it is Aluminum Zirconium Tetrachlorohydrate Gly. The solid sticks were prepared by a dual stream process, in which the structurant (wax) and surfactant (C20-40 Pareth 10 ethoxylate) were present in a hot stream (first stream) and the antiperspirant was present in the cold stream (second stream) in accordance with the claims. Spec. 31:14–32:8. The solid sticks of Examples 1 and 2 comprise more than ten other ingredients. Spec. 31.

Table 3 on page 7 of the Specification shows the effectiveness of different antiperspirant formulations based on the amount of sweat produced (“more sweat” means performance is worse; “less sweat” means performance is better). Appellant did not identify in the Brief how the sweat was measured or direct us to a description of the sweat test in the Specification (Br. 5).

Table 3 shows that Example 1 when compared to the “Currently Marketed Solid Stick Composition” (“Benchmark”) resulted in the production of 11.5 mg less sweat and when compared to the “Currently Marketed Soft Solid” (“Benchmark”) resulted in the production of 22 mg more sweat. Spec. 7. Example 1 was therefore better than the “Currently Marketed Solid Stick Composition,” but not the Currently Marketed Soft Solid.”

Table 3 shows that Example 2 when compared to the “Currently Marketed Solid Stick Composition” resulted in the production of 62 mg less sweat and when compared to the “Currently Marketed Soft Solid” resulted in

the production of 28.5 mg less sweat. Spec. 7. Example 2 was therefore better than the “Currently Marketed Solid Stick Composition” and the “Currently Marketed Soft Solid.”

The “Currently Marketed Solid Stick Composition” is made by the stream process but contains no surfactant. Spec. 7 (Table 3, second column titled “Surfactant” and reciting “No”). While Examples 1 and 2 are better than the “Currently Marketed Solid Stick Composition,” it is not the closest prior art because Walling discloses a two stream process in which a surfactant is present in the cold stream (Walling ¶¶ 36, 41 (cold stream contains antiperspirant and active), ¶ 51 (surfactant is an active)), but the “Currently Marketed Solid Stick Composition” does not contain surfactant. To establish unexpected results, the comparison must be made to the closest prior art and such comparison was not made here. *Bristol-Myers Squibb Co. v. Teva Pharms.*, 752 F.3d at 977; *Baxter*, 952 F.2d at 392. Thus, while the presence of surfactant may be the reason for the better results observed for the Inventive Solid Stick of Examples 1 and 2 compared to a stream process in which there was no surfactant, it cannot be determined from this comparison whether there would be similar better results for the Inventive Solid Stick of Examples 1 and 2 compared to a composition made according to the Walling prior art stream process that includes a surfactant in the cold stream rather than the hot stream.

Example 2 is better than the “Currently Marketed Soft Solid.” The “Currently Marketed Soft Solid” is made by the batch process and also does not contain surfactant. Spec. 7 (Table 3, second column titled “Surfactant” and reciting “No”). Thus, it also is not the closest prior art because it is made by a different process than Walling and lacks the surfactant present in

Walling. It cannot be determined whether the specifically claimed process is responsible for the difference, or the presence of a surfactant in Examples 1 and 2.

The only comparative example in Table 3 of an antiperspirant with a surfactant is of the “Comparative Solid Stick Composition.” Spec. 7. As compared to the “Currently Marketed Soft Solid” (“Benchmark” in Table 3), the “Comparative Solid Stick Composition” produced 36 mg more sweat. Example 1 produced 22 mg more sweat “Currently Marketed Soft Solid” and Example 2 produced 28.5 less sweat compared to the “Currently Marketed Soft Solid.” Both Examples 1 and 2 performed better in the sweat test than the “Comparative Solid Stick Composition” in the comparison against the “Currently Marketed Soft Solid,” but that is not a significant comparison to establish non-obviousness of the claimed composition. While all three contained surfactant, the “Comparative Solid Stick Composition” was made by a batch process, but Walling is made by the dual stream process. It cannot be discerned whether the improvement observed in Examples 1 and 2 is a result of the claimed process of using two streams in which the surfactant and structurant are in the first hot stream or the presence of the structurant and surfactant being in the same stream. No comparison was made to Walling’s process. To be probative, the comparison must be to the closest prior art. *Bristol-Myers Squibb Co. v. Teva Pharms.*, 752 F.3d at 977; *Baxter*, 952 F.2d at 392.

The results reported in Table 3 are also not commensurate in scope with the claim. *Dill*, 604 F.2d at 1361; *Kao*, 639 F.3d at 1068. Examples 1 and 2 contain more than ten different components, and each is limited to a specific zirconium salt. Spec 31. Claim 1, however, is not limited to a

specific zirconium salt and does not require the specific ingredients contained in Examples 1 and 2. Consequently, it cannot be determined whether the results are due to the specific composition utilized in the sweat test reported in Table 3 or the claimed two stream process. Example 2, which performed better than the other compositions, contains Aluminum Zirconium Tetrachlorohydrate Gly, but claim 1 is not limited to this zirconium salt. The Specification states that the Tetrachlorohydrate salt is better than all the examples (Spec. 6:24–7:2), but there are other differences between Example 2 and the other tested compositions, such as the presence of surfactant, batch process versus dual stream process, and the other components present in Example 2.

SUMMARY

For the foregoing reasons, the obviousness rejection of claim 1, and dependent claims 2–10, is affirmed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–10	103	Walling, Banowski, Galante, Greczyn, Swaile, Aston	1–10	

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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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED