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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte MAURICIO CASTRO

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Appeal 2019-004137
Application 14/959,310
Technology Center 1600

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BEFORE RYAN H. FLAX, RACHEL H. TOWNSEND, and CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

HARDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–4 and 9–23. Final Act. 2. 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 "Mary Kay Inc." Appeal Br. 3.

STATEMENT OF THE CASE

The claims are directed to a gel-based sugar scrub. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A gel comprising:
>
> (a) a gel matrix comprising polyethylene glycol and surface treated silica, wherein the gel matrix is formed with the polyethylene glycol and surface treated silica; and
>
> (b) particulate sugar dispersed throughout the gel matrix, wherein the particulate sugar is sucrose, wherein the gel further comprises 20 to 30 wt. % glycerol, and wherein the gel has less than 5 wt. % oil.

Appeal Br. 8 (Claims Appendix).

Claims 1–4 and 9–23 are on appeal. Final Act. 2. The claims stand rejected as follows:

Claims 1–4, 9, 10, 13, 14, and 16–23 are rejected under 35 U.S.C. § 103 as being unpatentable over Hawkins[2] and Tanner.[3] *Id.* at 4.

Claims 11, 12, and 15 are rejected under 35 U.S.C. § 103 as being unpatentable over Hawkins, Tanner, Riddle,[4] and Gombart.[5] *Id.* at 13.

ANALYSIS

Because the same issues are dispositive of both rejections, we address the rejections together. We select claim 1 as representative. 37 C.F.R. § 41.37(c)(1)(iv).

According to the Examiner, Hawkins teaches that there are drawbacks to oil-based sugar scrub formulations, and therefore discloses compositions

[2] Hawkins, US 2009/0197785 A1, published Aug. 6, 2009 ("Hawkins").
[3] Tanner, US 2006/0246027 A1, published Nov. 2, 2006 ("Tanner").
[4] Riddle, US 2007/0280898 A1, published Dec. 6, 2007 ("Riddle").
[5] Gombart et al., US 9,526,685 B2, issued Dec. 27, 2016 ("Gombart").

having particulate, solid sugar suspended in a saturated aqueous solution of said sugar. Final Act. 4–5. The Examiner additionally found that Tanner discloses a personal care composition comprising hydrophobic modified silica, a carrier comprising about 70% or greater, by weight of the carrier, of at least one water-soluble polyol such as glycerol or polyethylene glycols, and a particulate material for promoting exfoliation. *Id.* at 5–6. The polyols have a solubility parameter of from about 11 to about 17. *Id.* at 7. The Examiner found that:

> It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to formulate a sugar scrub based on the teachings of Hawkins wherein granulated sugar is present in a non-oil-based, stable dispersion . . . selected from those described by Hawkins or other non-oil-based, stable dispersions effective for particulate active agents known in the analogous art. Since Tanner teaches a non-oil-based, stable dispersion useful for cosmetic formulations with particulate materials, in general, and particulate exfoliants, in specific, it would have been prima facie obvious to substitute the base formulation of Hawkins with that of Tanner, to yield a non-oil-based, stable sugar dispersion where the base comprised surface treated silica, specifically Aerosil, polyethylene glycol, specifically PEG-8, less than 5 wt% water and less than 5 wt% oil, thereby arriving at the instant invention.

Id. at 8. The Examiner further found that Tanner "suggests glycerol as a polyol alternative," and thus "a composition comprising PEG and glycerol at 20–30%, as per the instant claims, is a prima facie obvious modification, by routine experimentation, of the composition of Tanner." *Id.* at 10.

We adopt the Examiner's findings of fact and reasoning regarding the scope and content of the prior art (*id.* at 4–14; Ans. 4–16), and agree that the

claims would have been obvious over the identified prior art for the reasons the Examiner articulated. We address Appellant's arguments below.

Appellant argues that a person of ordinary skill in the art would have been dissuaded from employing sucrose as the particulate material in the composition of Tanner, based on an expectation that Tanner's base of water-soluble polyols would dissolve "related polyols" such as sucrose. Appeal Br. 4; Reply Br. 5. More specifically, Appellant argues that because Tanner teaches that both sucrose and polyethylene glycol have "an overall solubility parameter of from about 11 to about 17," "one of skill in the art would expect the carrier to dissolve the particulate sucrose," leading to an "undue amount of experimentation" to "create[] a composition that maintains sucrose in solid form." Appeal Br. 4–5; Reply Br. 4.

We are not persuaded by this argument. As an initial matter, Tanner teaches using a substantially anhydrous carrier, in which water-soluble particulates "remain[] substantially uniformly suspended throughout the exfoliating composition under reasonable transport, storage and use conditions." Tanner ¶¶ 7, 8. In other words, Tanner expressly teaches that water-soluble particulates will remain undissolved in the base compositions taught by Tanner. Sucrose is a water-soluble particulate and, thus, the expectation would be that it would remain undissolved in Tanner's anhydrous base.

As support for its argument that sucrose would dissolve in Tanner's base, Appellant relies solely on Tanner's teaching that sucrose and polyethylene glycol are "suitable polyols" that have similar "solubility parameters." *See, e.g.*, Appeal Br. 4–5; Reply Br. 4–5. However, as stated by the Examiner, "similar solubility parameters do not guarantee

miscibility." Ans. 14 (emphasis omitted). Tanner also identifies glycerol as a suitable polyol. Tanner ¶ 57. Citing Bubník,[6] the Examiner established that sucrose does not necessarily dissolve into glycerol, but rather has varying levels of solubility in different glycerol-water solutions. Bubník teaches that the solubility of sucrose in glycerol decreases as the amount of water in the glycerol-water solution decreases. *See* Bubník 121 (Table 5.12). As explained by the Examiner, given Tanner's teaching of using a substantially anhydrous base (*see, e.g.*, Tanner ¶ 7), a person of ordinary skill in the art would have looked to the 95% or 99.95% rows in Bubník Table 5.12 to assess sucrose solubility in a substantially anhydrous system comprising glycerol. Final Act. 12. These rows indicate that at 25 ºC, 95% glycerol and 99.95% glycerol respectively dissolve 12.6 g and 7.2 g sucrose per 100 ml glycerol. Bubník Table 5.12. Based on this data, we agree with the Examiner that:

> one of ordinary skill in the art would not expect substantially anhydrous systems containing glycerol to dissolve sucrose to such an extent that would preclude the presence of particulate sucrose provided that sucrose was present in amounts in excess of 12.6 g/ml. Amounts in excess of 12.6 g/ml are prima facie obvious given the teaching of Hawkins that particulate sucrose should present in a sugar scrub in an amount ranging from 3–50%.

Id. In view of the above, the Appellant has not demonstrated that similar solubility parameters alone would have created an expectation that sucrose would dissolve such that no particulate sucrose remained in the base composition taught in Tanner.

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[6] Z. Bubník and P. Kadlec, *Sucrose Solubility*, *in* SUCROSE PROPERTIES AND APPLICATIONS 101–25, 121 (M. Mathlouthi et al. eds., 1995) ("Bubník").

Appellant does not directly address Bubník, but rather argues that "it is improper to assume that the solid sucrose of Hawkins will not dissolve in all formulations of Tanner." Reply Br. 3–4. However, to demonstrate obviousness, the Examiner need not establish that *all* of the formulations disclosed in Tanner will maintain sucrose in solid form. As discussed above, the Examiner has provided a sound rationale for why it would have been obvious to use the granulated sucrose exfoliant taught in Hawkins in a base similar to that taught in, e.g., Tanner Sample IX, the base of which is comprised of the polyols PEG-8 and glycerol, surface-treated silica, and less than 5% by weight of oil, reading on claim 1. *See, e.g.*, Final Act. 8–10; Ans. 9–10. As further discussed above, the Examiner has provided a sound rationale for why a person of ordinary skill in the art would have expected at least a portion of the sucrose in this composition to remain particulate.

Appellant additionally argues that "[o]ne of skill in the art would avoid incorporating the solid particulate of Hawkins into the base composition of Tanner, because to do so would modify the particulate-carrier principle of operation of both prior art teachings." Appeal Br. 5. We are not persuaded by this argument, because it misconstrues the Examiner's rejection. As stated by the Examiner,

> the position of the Office is to substitute the solid organic particulate exfoliant of Tanner with the solid sucrose exfoliant of Hawkins, not to substitute the saturated aqueous sucrose composition of Hawkins for the particulate exfoliant of Tanner. . . . In so doing, said substitution would not modify the principle of operation of Tanner because one would not be introducing water in to what is taught to be a substantially anhydrous system.

Ans. 13; *see also* Final Act. 11. Appellant also asserts that "[i]ncluding particulate materials that are soluble in the carrier would result in a situation

where the particulate materials would dissolve in the carrier and cease to remain in solid form." Appeal Br. 6. This argument is not persuasive, because as discussed above, Appellant has not established that all of the sucrose would necessarily dissolve in Tanner's anhydrous carrier.

In the Reply Brief, Appellant for the first time argues that Hawkins "teaches away from the use of polymeric thickeners" such as PEG-8, and thus "one of skill in the art would not modify Hawkins to incorporate the polymeric PEG-8 of Tanner." Reply Br. 2–3. This argument is deemed waived. 37 C.F.R. § 41.41(b)(2) ("Any argument raised in the reply brief which was not raised in the appeal brief, or is not responsive to an argument raised in the examiner's answer, including any designated new ground of rejection, will not be considered by the Board for purposes of the [present] appeal, unless good cause is shown."). However, even if we were to consider this argument, we find that it is not persuasive, because it again misconstrues the Examiner's rejection. The rejection does not require the modification of Hawkins' base to add PEG-8, but rather posits the substitution of the solid organic particulate in Tanner's composition with the sucrose particulates of Hawkins. *See*, *e.g.*, Ans. 13; Final Act. 11.

CONCLUSION

We affirm the rejection of claims 1–4, 9, 10, 13, 14, and 16–23 under 35 U.S.C. § 103 as being unpatentable over Hawkins and Tanner.

We affirm the rejection of claims 11, 12, and 15 under 35 U.S.C. § 103 as being unpatentable over Hawkins, Tanner, Riddle, and Gombart.

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1–4, 9, 10, 13, 14, and 16–23	§ 103 over Hawkins and Tanner	1–4, 9, 10, 13, 14, and 16–23	
11, 12, 15	§ 103 over Hawkins, Tanner, Riddle, and Gombart	11, 12, 15	
Outcome		1−4, 9−23	

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