UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOMOKO SATO, FUMIAKI MATSUZAKI,
and TOSHIO YANAKI

Appeal 2006-3348
Application 10/111,447
Technology Center 1600

Decided: November 15, 2007

Before TONI R. SCHEINER, NANCY J. LINCK, and
RICHARD M. LEBOVITZ, *Administrative Patent Judges*.

LINCK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a 35 U.S.C. § 134 appeal in the above-referenced case.[1] We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

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[1] The application was filed April 25, 2002. The real party in interest is Shiseido Co., Ltd.

STATEMENT OF THE CASE

The field of the invention is oil-in-water (O/W) type emulsion cosmetics (Specification ("Spec.") 1), more particularly whipped O/W emulsion cosmetics.

The claimed subject matter is reflected in representative claim 1 (with the disputed language italicized):

> 1. A whipped O/W emulsion cosmetic which comprises an oil which is in an amount of about 1-30% by mass of said whipped O/W emulsion cosmetic;
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> *a gel-forming amount of a polymer in an aqueous phase of said whipped O/W emulsion cosmetic; wherein said polymer is at least one selected from the group consisting of agar, gelatin, sodium alginate, carrageenan, gellan gum, glucomannan, and curdlan*; wherein said gel-forming amount of said polymer is about 0.1 to 13% by mass of said aqueous phase; and wherein said gel-forming amount of said polymer forms a gel with no fluidity;
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> a long chain fatty acid soap which is a sodium or potassium salt of a long chain fatty acid having more than 10 carbon atoms; and
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> *stably preserved bubbles at or below 37°C which are in said whipped O/W emulsion cosmetic*; and
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> wherein said stably preserved bubbles are maintained in said whipped O/W emulsion cosmetic due to said gel-forming amount of said polymer; and
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> wherein said whipped O/W emulsion cosmetic with said stably preserved bubbles is stored in a container.

The Examiner relies upon the following references to support his rejections:

Musher	U.S. 2,436,818	Mar. 2, 1948
Nakama '846	U.S. 4,919,846	Apr. 24, 1990
Ito	U.S. 5,518,752	May 21, 1996

McEleney	U.S. 6,086,858	Jul. 11, 2000
Nakama '246	U.S. 6,323,246 B1	Nov. 27, 2001
Tsutsumi	JP 56-79613	June 30, 1981

The Examiner has rejected claims 1-3, 5, 7-8, and 11-28, all the pending claims, under 35 U.S.C. § 103(a):[2]

Claims 1, 3, 5, 7-8, 14, 15, 19-21, 23, 25, and 27-28 based on Nakama '246, McEleney, Tsutsumi, and Ito;

Claims 2, 24, and 26 based on Nakama '246, McEleney, Tsutsumi, Ito, and Musher; and

Claim 22 based on Nakama '246, McEleney, Tsutsumi, Ito, and Nakama '846.

OBVIOUSNESS UNDER § 103(a)

The § 103(a) Issue: Claims 1, 3, 5, 7-8, 14, 15, 19-21, 23, 25, and 27-28

The Examiner contends Nakama '246 discloses O/W emulsions for cosmetics and suggests including 1% gelatin (one of the claimed gel-forming polymers) as a viscosity regulator, and both Tsutsumi and Ito disclose whipping of an emulsion to produce bubbles (Answer 3-4). According to the Examiner: "One of ordinary skill in the art would have been motivated to prepare a whipped O/W emulsion cosmetic because of an

[2] In his Final Rejection, the Examiner entered a § 112 ¶ 1 rejection of some of the claims. In response, Appellants amended these claims. The claims in the Appendix reflect the amended claims. In his Answer, the Examiner agreed these claims were the correct ones and did not repeat the § 112 ¶ 1 ground. Thus, we presume the amendment was entered and the § 112 rejection was withdrawn.

expectation in preparing a stable emulsion cosmetic, as taught by Tsutsumi" (Answer[3] 5).

Appellants contend[4] the cited references "alone or in any combination" do not teach that "bubbles created from whipping of the O/W emulsion can be preserved in a container by the use of 0.1 to 13% by mass of the gel-forming polymer" (App. Br.[5] 28).

In view of these contentions, we frame the § 103(a) issue: Would the cited prior art have suggested to the skilled artisan including 0.1 to 13% gelatin in the O/W emulsions of Nakama '246 and then whipping the emulsion to obtain "stably preserved bubbles at or below 37˚C"?

Findings of Fact

1. The Specification does not define the claim phrase "stably preserved bubbles" (claim 1), a phrase added by amendment. The only reference to stability for any specific time is in the working examples: After one month at 0 ˚C and 37 ˚C, Appellants had 10 Japanese panelists assess the particle diameter of the foam and disappearance of foam "with eyes"

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[3] Citations to the "Answer" are to the "Examiner's Answer" (mailed May 4, 2006).

[4] Appellants attempt to "incorporate by reference all of their prior arguments pertaining to the traversal of the PTO rejections under 35 U.S.C. § 103(a)" over a number of the references relied upon by the Examiner in this appeal (App. Br. 26). Such an approach is not consistent with our rules (see 37 C.F.R. § 41.37 (c) (1) (vii). Accordingly, we address the arguments presented in Appellants' briefs.

[5] Citations to "App. Br." are to the "Appeal Brief Under 37 CFR §41.37" (received Feb. 21, 2006).

according to criteria such as "Change is not observed at all" and "Disappearance of foam is observed" (Spec. 15-16).

2. Of these assessments, all but three sets (Tables 1, 6, and 12) were conducted at 37˚C, with mixed results (*see* Spec. 15-39); and the three sets conducted at 0˚C showed no difference between those according to the claimed invention and the controls (Spec. 25, 39). Thus, we find the examples do not limit the phrase "stably preserved bubbles at or below 37˚C," requiring us to give this phrase its broadest reasonable interpretation, i.e., to mean stable for more than a transient period.

3. The prior art discloses cosmetic products "utilizing the soft feeling of bubbles obtained by filling in an exclusively used container and discharging from the container to form bubbles" and thus teaches the value of bubbles in cosmetics (Spec. 1, ¶ 3 ("Description of the Prior Art")).

4. Nakama '246 discloses O/W emulsions for cosmetics containing the claimed amount of oil, and, optionally when needed, a viscosity regulator, including gelatin (one of Appellants' gel-forming polymers) (*e.g.*, col. 7, ll. 48-54; col. 15, l. 60 to col. 16, l. 15; col. 7, ll. 48-54; Answer 3-4).

5. In Example 37, Nakama '246 includes 1% viscosity regulator (0.5% xanthan gum and 0.5% carboxyvinyl polymer) rather than gelatin and does not include the sodium or potassium salt of a long chain fatty acid (col. 25, l. 37 to col. 26, l. 13; *see also* Example 27, col. 19, l. 62 to col. 20, l. 34).

6. Nakama '246 teaches the equivalence of natural gums such as gelatin, traganth gum, etc., for use as a viscosity regulator; it also teaches the equivalence of gelatin and carboxyvinyl polymer (col. 7, ll. 49-55).

7. Xanthan gum is a natural gum (*see* Specification 13 ("natural water-soluble polymer[s] include . . . xanthan gum")).

8. Thus, one skilled in the art would have known to substitute gelatin for the xanthan gum and/or carboxyvinyl polymer in Nakama '246's working examples 27 and 37 (col. 19, l. 63-col. 20, l. 34; col. 25, l. 37-col. 26, l. 13), yielding a gelatin content between 0.5 and 1.0 wt. %.

9. The fact that gelatin is labeled a "viscosity regulator" in Nakama '246 and a gel-forming polymer in the pending application does not impact the properties of gelatin; it is both a viscosity regulator and a gel-forming polymer.[6]

10. Neither Nakama '246 nor McEleney expressly teaches a whipped or bubble-containing emulsion (Answer 4).

11. Tsutsumi discloses whipped cosmetic ingredients and teaches that "a stable cosmetic ingredient . . . can be obtained by means of a whipping treatment" (translation, at 3).

12. "[W]hipping of an O/W type emulsion creates bubbles that are held within the composition" (Answer 4 (citing Ito, col. 2, l. 63 to col. 3, l. 5)); thus bubbles would be inherent in Tsutsumi's whipped, emulsified cosmetics.

13. One skilled in the art would have been motivated to whip the cosmetic emulsions of Nakama '246, including those containing gelatin, in view of Tsutsumi's teachings regarding the advantages of doing so (see

[6] We note the use of gelatin to provide stability in whipping creams is well known in the art (*see, e.g.*, Susan G. Purdy, A Piece of Cake 367 (1989) (copy included with this opinion)).

Answer 5),[7] and to utilize McEleney's expressly described long chain fatty acid soaps as the long chain fatty acid soaps in Nakama '246 (FF 4-12).

14. One skilled in the art would have had a reasonable likelihood of success in stabilizing the emulsions of Nakama '246 by whipping them, as suggested by Tsutsumi, thereby obtaining "stably preserved bubbles" (FF 1-13).

15. In addition to oil and gelatin, Nakama '246 discloses alkali metal salts of fatty acids (fatty acid soaps) (col. 7, ll. 48-54) but does not expressly disclose the recited long chain fatty acid soaps which are the sodium or potassium salt of a long chain fatty acid having more than 10 carbons.

16. One skilled in the art would have known that the fatty acid soap recited in the claims is an alkali metal salt of a fatty acid, as sodium and potassium are alkali metals.

17. McEleney discloses a sunscreen lotion containing long chain fatty acid soaps which are the sodium or potassium salt of a long chain fatty acid having more than 10 carbons, including potassium and sodium stearate, as useful emulsifiers (col. 6, ll. 36-64; Answer 4).

18. One skilled in the art would have been motivated to use the specific long chain fatty acid soaps as the alkali metal fatty acid soap disclosed in Nakama '246 to emulsify the cosmetic and would have had a reasonable expectation of success in doing so (FF 15-17).

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[7] Appellants admit the advantages of whipped cosmetics were previously recognized (Spec. 1 ("Description of the Prior Art" ("in the cosmetic field, there are some products utilizing the soft feeling of bubbles")).

Discussion of the Rejection of Claim 1 Based on Nakama '246, McEleney, Tsutsumi, and Ito

Based on our findings and those of the Examiner, we conclude it would have been obvious to one of ordinary skill in the art to combine the cited prior art as done was by the Examiner (FF 1-18). Nakama '246 expressly teaches emulsified cosmetics containing 1 to 30% oil (based on the cosmetic composition), 0.1 to 13% viscosity regulator (based on the aqueous phase), and optionally an alkali metal salt of a fatty acid which can act as a surfactant (Example 37, col. 25, l. 60 to col. 16, l. 15; col. 7, ll. 43-48) (FF 4-9).

In Example 37, Nakama '246 includes 0.5% xanthan gum and 0.5% carboxyvinyl polymer as viscosity regulators rather than gelatin and does not include the sodium or potassium salt of a long chain fatty acid (FF 5). However, Nakama '246 teaches that gelatin is equivalent to xanthan gum and/or carboxyvinyl polymer as a viscosity regulator, and McEleney teaches using fatty acid soaps as emulsifiers, for example, potassium and sodium stearate (FF 6, 17). Thus, the skilled artisan would have been motivated by the disclosed advantages to combine the Nakama '246 teachings (substituting gelatin for the viscosity regulators in Example 37) with those of McEleney to arrive at the composition of claim 1, absent the claimed "stably preserved bubbles" (FF 4-9, 15-18).

Neither Nakama '246 nor McEleney discloses whipping their cosmetics (FF 10). But their teachings are supplemented by those of Tsutsumi and Ito (FF 11-12). These additional references would have provided motivation to whip the O/W cosmetic formulations of Nakama '246 with a reasonable expectation the formulations would contain "stably

preserved bubbles" (FF 2, 11-14). Tsutsumi, in particular, would have motivated the skilled artisan to whip the cosmetic formulations of Nakama '246 (Tsutsumi, at 3 (translation) ("a stable cosmetic ingredient . . . can be obtained by means of a whipping treatment")). And such whipping would inherently cause bubbles to form (FF 12), resulting in the O/W emulsion cosmetic of claim 1.

Appellants argue Nakama '246 "only mentions 'gelatin' in passing as one of the very many 'viscosity regulators'" and says nothing about "the usefulness of gelatin in preserving bubbles and what % of gelatin should be used to achieve the goal of preserving bubbles in an O/W emulsion" (App. Br. 28).

We find this argument unpersuasive. The fact that Nakama '246 labels gelatin as a "viscosity regulator" rather than a gel-forming polymer does not impact our analysis (FF 9). Once combined in appropriate proportions, i.e., those expressly disclosed and suggested by Nakama '246, and whipped as suggested by Tsutsumi, the result would be the same—stably preserved bubbles in a whipped O/W emulsion cosmetic (*see* FF 4-12).

Appellants further argue "the Examiner's extrapolation of the sum of xanthan gum and carboxyvinyl polymer is wrong" (App. Br. 29). Appellants assert "xanthan gum is not listed in Nakama '246 as a 'viscosity regulator'" and both xanthan gum and carboxyvinyl polymer have "viscosity-increasing effects but do[] not form a gel having no fluidity" (*id.*). Further to this latter point, they allege "both xanthan gum and carboxymethylcellulose reduce foam stability" (*id.*).

Again, we are unconvinced. Nakama '246 discloses "natural gums such as gelatin, traganth gum, etc." as useful viscosity regulators (col. 7, ll. 49-54). Xanthan gum is a natural gum and thus is included in Nakama '246's "natural gums" (FF 7). In the absence of supporting evidence, we see no reason why a substance having "viscosity-increasing effects" cannot also form a "gel having no fluidity." And Appellants have not supplied any such evidence, or pointed to anywhere in their Specification for support.

Third, Appellants argue "Tsutsumi is actually teaching away from making 'a gel with no fluidity' because it requires an oil in the cosmetic in the range of 74.94% to 88.89%" (App. Br. 30). According to Appellants, "when the amount of oil exceeds 30% by mass, whipping ability is deteriorated" (App. Br. 30). The issue is not whether Tsutsumi would have obtained a "deteriorated" level of "whipping ability" but rather whether Tsutsumi would have suggested the advantages of whipping a cosmetic. We find Tsutsumi does so, as does the prior art described by Appellants (FF 11 & *supra* note 7).

Appellants argue Ito is "not analogous art" in that Ito describes "bubbles in food" (App. Br. 31). Appellants miss the point. Ito is cited to show whipping yields bubbles (FF 12), a fact one skilled in the art would have known without such a teaching. Again, we do not accept Appellants' argument.

Finally, Appellants argue, absent hindsight reconstruction, there would have been no motivation to combine the references and no reasonable expectation of success (App. Br. 29-30; Reply Br.[8] 15-23).

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[8] Citations to "Reply Br." are to "Reply Brief Under 37 CFR § 41.41" (rec'd Jul. 5, 2006).

Rejecting any rigid teaching-suggestion-motivation test, the Supreme Court has recently spoken on these issues:

> For over a half century, the Court has held that a "patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men." *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152 (1950). . . . The 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 v. Teleflex Inc., 127 S. Ct. 1727, 1739 (2007).

While involving a cosmetic rather than a "structure," the same principles apply in this case. Here, the substitution of gelatin for xanthan gum and/or carboxyvinyl polymer in Example 37 of Nakama '246 and the addition of McEleney's fatty acid soap instead of the fatty acid soaps disclosed by Nakama '246 would have been obvious, absent some unexpected result. Instead, Appellants' results were "predictable," based on the prior art teachings, with no change in the function of the substituted components. Likewise, the skilled artisan would have been motivated to whip the cosmetic, again with an outcome predicted by Tsutsumi (FF 11). Thus, we reject Appellants' arguments regarding motivation and likelihood of success (FF 13-14, 18).

In view of the above, we conclude the cited prior art would have suggested to the skilled artisan including 1% gelatin and the sodium or potassium salt of a long chain fatty acid in the O/W emulsions of Nakama '246 and then whipping the emulsion to obtain "stably preserved bubbles at or below 37˚C" (claim 1), thereby meeting the limitations of claim 1.

The Second § 103 Issue: Claims 2, 24, and 26

For these three claims, Appellants have limited the gel-forming polymer to "one selected from the group consisting of sodium alginate, carrageenan, gellan gum, glucomannan, and curdlan." The Examiner additionally relies upon Musher for the teaching that "gelatin and sodium alginate are known in the cosmetic art as interchangeable as viscosity regulators" (Answer 7 (citing col. 7, ll. 17-24)).

Appellants argue gelatin and sodium alginate are chemically different (App. Br. 33-34). Appellants further argue Musher does not teach their interchangeability (*id*.) but do not explain why this is the case.

With respect to the rejection of claims 2, 24, and 26, we find:

19. Musher teaches cosmetic compositions that can contain "gums such as . . . gelatin, sodium alginate, pectin, Irish moss, etc." (col. 7, ll. 19-22).

20. Thus, Musher would have suggested the *functional* equivalence of the disclosed gums, gelatin and sodium alginate, in a cosmetic and, therefore, their interchangeability (*see* Answer 12).

21. One skilled in the art would have been motivated to combine the teachings of Nakama '246, McEleney, Tsutsumi, Ito, and Musher, and would have had a reasonable expectation of obtaining an O/W emulsion cosmetic such as that claimed by Appellants (FF 1-21).

We conclude the cited prior art would have suggested to the skilled artisan including 0.1 to 13% sodium alginate and a sodium or potassium salt of a long chain fatty acid in the O/W emulsions of Nakama '246 and then

whipping the emulsion to obtain "stably preserved bubbles at or below 37˚C", thereby meeting the limitations of claims 2, 24, and 26.

The Third § 103 Issue: Claim 22

In addition to the limitations of claim 1, claim 22 further comprises a cationic polymer "selected from the group consisting of polyoctanium, polydimethylmethylenepiperidinium chloride, polycoat, cationated hydroxycellulose, and methacryloyloxyethylcarboxybetaine methacrylic acid alkyl ester copolymer." The Examiner relies upon the combination of Nakama '246, McEleney, Tsutsumi, Ito, and Nakama '846 to support his rejection of this claim.

In response, Appellants rely upon their previous arguments traversing the obviousness rejections based on Nakama '246, McEleney, Tsutsumi, and Ito (Reply Br. 25). For this reasons we concluded the Examiner did not err with respect to the rejections based on these four references, we also conclude he did not err with respect to his rejection of claim 22 (*see supra*, at pp. 3-10).

CONCLUSION

We affirm the Examiner's 35 U.S.C. § 103(a) rejection of claims 1, 2, 22, 24, and 26.

Pursuant to § 41.37(c)(1)(vii)(2006), we also affirm the § 103(a) rejection of claims 3, 5, 7-8, 14, 15, 19-21, 23, 25, and 27-28 under § 103(a), as these claims were not argued separately.[9]

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)(2006).

AFFIRMED

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[9] With respect to claim 3, to the extent Appellants argued the 1% gelatin limitation, we have addressed this limitation (*see supra*, at pp. 5-6, FF 5-6, & p. 11).