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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARTIN HOFFMANN and KRISTIN OLSSON

Appeal 2019-000887
Application 15/249,977
Technology Center 1600

Before JEFFREY N. FREDMAN, DEBORAH KATZ, and JOHN G. NEW,
Administrative Patent Judges.

FREDMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal\(^1\)\(^2\) under 35 U.S.C. § 134(a) involving claims to improving color stability of artificially colored hair by washing with an aqueous cleansing composition. The Examiner rejected the claims as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

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\(^1\) Appellants identify the Real Party in Interest as KAO GERMANY GMBH (see App. Br. 2).

Statement of the Case

Background

“Cleansing compositions wash out dirt on the hair and at the same time dyestuffs deposited onto or into hair are also washed out, which leads to shorter colour durability after coloration services and is not economical in terms of frequent hair dressing need and also health of hair” (Spec. 1:10–13). Prior approaches to reducing color wash out include using “special surfactant combination which interacts with dyestuff molecules and also with hair in a lesser extent” (Spec. 1:18–19).

The “[p]resent inventors have surprisingly found that an aqueous cleansing composition comprising three anionic surfactants and a non-ionic surfactant and substantially free from amphoteric surfactants provides excellent foam and conditioning properties and also washes out less colour from hair so that long lasting colours are achieved” (Spec. 2:1–4).

The Claims

Claims 1–15 are on appeal (App. Br. 2). Independent claim 1 is representative and reads as follows:

1. A process for washing out less color from artificially colored hair, the process comprising:

   artificially coloring hair by applying a dye composition, comprising at least one hair dye, onto the hair;

   rinsing the dye composition off from the artificially colored hair;

   improving color stability of the artificially colored hair by washing the artificially colored hair, one or more times, with an aqueous cleansing composition; and
drying the artificially colored hair or leaving the artificially colored hair to dry,

wherein the aqueous cleansing composition comprises at least three anionic surfactants and at least one non-ionic surfactant mixed together in water,

wherein the aqueous cleansing composition is free of amphoteric surfactants,

wherein the total surfactant concentration is in the range of 4 to 50% by weight calculated to the total of the aqueous cleansing composition,

wherein a first anionic surfactant of the at least three anionic surfactants consists of one or more sodium laureth sulphates with 1.5 to 3 ethoxy units on average,

wherein a second anionic surfactant of the at least three anionic surfactants consists of at least one sarcosinate surfactant,

wherein a third anionic surfactant of the at least three anionic surfactants consists of at least one glutamate surfactant,

wherein the at least one non-ionic surfactant is an alkyl (poly)glucoside according to the general formula

\[ R_8-O-(R_9O)_n-Z_x, \]

wherein \( R_8 \) is an alkyl group with 8 to 18 carbon atoms, \( R_9 \) is an ethylene or propylene group, \( Z \) is a saccharide group with 5 to 6 carbon atoms, \( n \) is a number from 0 to 10 and \( x \) is a number between 1 and 5,

wherein the second anionic surfactant and the third anionic surfactant are present at a weight ratio of the second anionic surfactant to the third anionic surfactant in the range of 1:1 to 10:1, and
wherein the aqueous cleansing composition has a pH between 2 and 8.

The Issues

A. The Examiner rejected claims 1–5 and 12 under 35 U.S.C. § 103(a) as obvious over Hamilton, Sako, Llenado, and Grit (Final Act. 3).


A. 35 U.S.C. § 103(a) over Hamilton, Sako, Llenado, and Grit

The Examiner finds Hamilton teaches “methods for treating hair comprising the steps of applying a dye composition, rinsing the dye composition, [] washing the hair with an aqueous cleansing composition, and drying or leaving the hair to dry” (Ans. 3). The Examiner acknowledges Hamilton does “not teach that the cleansing composition comprises the claimed surfactants in the claimed ratios” (id. at 4). The Examiner finds that Sako, Llenado, and Grit teach cleansing compositions with the claimed surfactants (see id.). The Examiner finds one of ordinary skill in the art would have been motivated to seek out appropriate shampoo compositions that are compatible with hair dyes to use in Hamilton’s method (see id. at 5).

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7 Clariant, Mild Surfactants for Personal Care Applications (2009), available at: https://www.essentialingredients.com/pdf/clariantmildsurfactants.pdf
Appellants contend that the combined prior art fails to teach a step of “improving color stability” (Reply Br. 3). Appellants further contend the claimed method results in an “unexpected synergistic effect” (id. at 4).

The issues with respect to this rejection are:

(i) Does a preponderance of the evidence of record support the Examiner’s conclusion that the prior art render the claims obvious?

(ii) If so, have Appellants presented evidence of secondary considerations, that when weighed with the evidence of obviousness, is sufficient to support a conclusion of non-obviousness?

Findings of Fact (“FF”)

1. Hamilton teaches a method of treating hair including the steps of applying a color-altering composition from the hair, removing the color-altering composition, washing the hair with a shampoo composition, conditioning the hair with a conditioner composition, and applying a post-treatment composition onto the hair in order to inhibit color fading (Hamilton ¶¶ 5–12; claim 1).

2. Hamilton teaches the “shampoo, conditioner, and post-treatment compositions . . . may be used on a daily or weekly basis” (Hamilton ¶ 207).

3. Sako teaches a hair condition shampoo including a primary anionic surfactant, a polyvalent metal cation, and a cationic conditioning agent (1:61–67), that may further include secondary anionic surfactants and nonionic surfactants (Sako 11:5–9; 15:49–54).

4. Sako teaches aqueous hair conditioning shampoos that contain at least three anionic surfactants and no amphoteric surfactants (Sako 25:13–59, Examples II–V, VII–X).
5. Sako teaches preferred anionic surfactants include ammonium laureth sulfate or sodium laureth sulfate (13:6–20), sodium lauroyl sarcosinate, and N-acyl-L-glutamate (Sako 25:13–59, Example V).

6. Sako teaches the shampoo may include non-ionic surfactants, e.g., alkyl polyglucosides, examples of which are described in Llenado, which is incorporated by reference (Sako 15:55–56; 16:32–57).

7. Llenado teaches non-ionic alkyl polyglucosides according to the formula R₂O(CₙH₂ₙO)ₜ(Z)ₓ, wherein R₂ is a hydrophobic group, e.g., an alkyl group with 10 to 18 carbon atoms, and Z is derived from glucose (Llenado 3:13–25).

8. Sako teaches the composition may include “coloring agents, such as any of the FD&C or D&C dyes” (Sako 24:8–20).

9. Grit teaches a “cosmetic composition which shows optimum conditioning and repair properties for human hair comprising hair care and repair agents” (Grit ¶ 1).

10. Grit teaches conditioning and repair benefits are desirable “especially for chemically damaged hair, especially due to multiple processing with coloration, bleaching and/or waving.” (Grit ¶ 4).

11. Grit teaches formulations including three anionic surfactants, e.g., sodium lauryl ether sulfate, sodium lauroyl sarcosinate, and sodium lauroyl glutamate; and non-ionic surfactants, e.g., C₁₂–C₁₅-alkyl glycosides (Grit ¶ 91, Example 4).
Principles of Law

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”


Analysis

We adopt the Examiner’s findings of fact and reasoning regarding the scope and content of the prior art (Ans. 3–7; FFs 1–11) and agree the claims are rendered obvious by Hamilton, Sako, Llenado, and Grit. We address Appellants’ arguments below.

Appellants contend that “Hamilton teaches a process having three distinct, separate and completely different steps than the presently claim[ed] process” (Reply Br. 2). Appellants contend that “a skilled artisan would not have been motivated to eliminate the first washing step and second conditioning step from Hamilton’s process to achieve the presently claimed process as alleged by the Examiner” (id.).

We do not find this argument persuasive because the claims do not exclude the additional steps of Hamilton. Claim 1 recites the transition “comprising.” “The transition ‘comprising’ in a method claim indicates that the claim is open-ended and allows for additional steps.” *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003). Here, the claimed process includes not only the step of washing the artificially colored hair with an aqueous cleansing composition, but also any additional steps that may be added, including the conditioning and post-treatment steps taught by Hamilton. *See id.* Because the claims do not exclude the additional steps of Hamilton’s process, we do not find that the Examiner erred.
Appellants contend “Hamilton does not teach or suggest at least the positively recited step of improving color stability of the artificially colored hair by washing the artificially colored hair, one or more times, with an aqueous cleaning composition” (Reply Br. 3, emphasis in original).

We are not persuaded. The combination of Sato, Llenado, and Grit teaches an aqueous cleansing composition including the claimed anionic and nonionic surfactants (FFs 3–7, 11). A person of ordinary skill in the art would have had a reason to use the obvious aqueous composition as the washing shampoo in Hamilton’s method because the prior art teaches the composition is compatible with colored hair (FFs 8–10). Accordingly, we conclude that the Examiner has demonstrated a fact-based prima facie case of obviousness and the burden thus shifts to Appellants to demonstrate that the composition of Sato, Llenado, and Grit, when used in the method of Hamilton, would not necessarily have the claimed color stability improving properties.

Where . . . the claimed and prior art products are identical or substantially identical . . . the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. . . . [The] fairness [of the burden-shifting] is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products.

In re Best, 562 F.2d 1252, 1255 (CCPA 1977). Appellants have not provided evidence that rebuts the Examiner’s finding.

Appellants contend that “any alleged prima facie case of obviousness with respect to independent claim 1 is rebutted by the surprising and unexpected synergistic result(s) shown in Inventive Composition E” (App.
As shown in Table I, reproduced below, “Composition E” contains all four claimed surfactants, unlike Compositions A–D.

<table>
<thead>
<tr>
<th>% by weight</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium laureth sulfate</td>
<td>17</td>
<td>17</td>
<td>12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sodium lauryl sarcosinate</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Coco glucoside</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sodium lauryl glutamate</td>
<td>3</td>
<td>3</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Citric acid</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.0</td>
</tr>
<tr>
<td>Preservative, fragrance</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>q.s.</td>
</tr>
<tr>
<td>Water</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>q.s. to 100</td>
</tr>
</tbody>
</table>

Table I lists aqueous cleansing compositions A–E, having different combinations of surfactants and a total surfactant amount of 20% by weight.

Appellants contend “[t]he results of working Example 1 clearly show that Inventive Composition E washed less color out from the artificially colored hair underlined by the lowest ΔE value” (Reply Br. 4, citing Table II). Table II is reproduced below:

<table>
<thead>
<tr>
<th>Composition</th>
<th>ΔE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition A</td>
<td>10.2</td>
</tr>
<tr>
<td>Composition B</td>
<td>8.6</td>
</tr>
<tr>
<td>Composition C</td>
<td>9.2</td>
</tr>
<tr>
<td>Composition D</td>
<td>8.6</td>
</tr>
<tr>
<td>Composition E</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Table II lists the results of the color wash out test, wherein the higher ΔE indicates a larger color difference between tresses after 10 washes with compositions A–E.

Appellants contend “that color wash out is surprisingly and unexpectedly lowest in Inventive Composition E is clear proof that an unexpected synergistic effect occurs when the presently claimed four surfactants are incorporated into an aqueous cleansing composition” (id.).
We do not find this evidence persuasive. At best there appears to be a 23% reduction in color wash out (ΔE value) between Composition A and Composition E. Although the evidence indicates that Composition E may be superior in the color wash out test, there is no evidence that these results demonstrate “a new and unexpected result which is different in kind and not merely in degree from the results of the prior art.” In re Huang, 100 F.3d 135, 139 (Fed. Cir. 1996) (“even though applicant’s modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art”). As explained above, the prior art teaches conditioning shampoos that are compatible with colored hair. Accordingly, we conclude that it would have been within the capabilities of one skilled in the art to modify the known compositions to obtain a shampoo with reduced color wash out.

In addition, claim 1 encompasses a large number of types of surfactants (see Spec. 5–12) but only one specific set of four surfactants was tested (see Spec. 21). Unexpected results must be “commensurate in scope with the degree of protection sought by the claimed subject matter.” In re Harris, 409 F.3d 1339, 1344 (Fed. Cir. 2005). Here, the range of thousands of different surfactants in thousands of different concentrations claimed is not commensurate with the testing of one specific set of surfactants at a few specific concentrations.

Conclusion of Law

A preponderance of the evidence of record support the Examiner’s conclusion that the prior art renders the claims obvious.
B. 35 U.S.C. § 103(a) over Hamilton, Sako, Llenado, Grit, and Clariant

Appellants do not separately argue these obviousness rejections, instead relying upon their arguments to overcome the combination of Hamilton, Sako, Llenado, and Grit (see App. Br. 11–16). Having affirmed the obviousness of claim 1 for the reasons given above, we also find that the further combination renders the rejected claims obvious for the reasons given by the Examiner.

SUMMARY

In summary, we affirm the rejection of claim 1 as obvious over Hamilton, Sako, Llenado, and Grit. Claims 2–5 and 12 fall with claim 1.

We affirm the rejection of claims 6–11 and 13–15 under 35 U.S.C. § 103(a) as obvious over Hamilton, Sako, Llenado, Grit, and Clariant.

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