

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PETER A. LANDA, HONGJIE CAO,
GARY T. MARTINO, IRINA M. MOROSOV,
and TATIANA DROVETSKAYA

Appeal 2008-0353
Application 10/939,204
Technology Center 1700

Decided: March 20, 2008

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicants appeal to the Board from the decision of the Primary Examiner finally rejecting claims 1 through 21 in the Office Action mailed March 13, 2006, and refusing to allow these claims as subsequently amended in the Amendment filed May 12, 2006 entered in the Office Action mailed May 26, 2006. 35 U.S.C. §§ 6 and 134(a) (2002); 37 C.F.R.

§ 41.31(a) (2006).

We affirm the decision of the Primary Examiner.

Claims 1 and 21 illustrate Appellants' invention of a personal care composition, and are representative of the claims on appeal:

1. A personal care composition comprising:
at least one hydroxyalkylurea, and
at least one moisturizing agent,
wherein at least one moisturizing agent is urea and/or lactic acid and/or lactic acid salts and/or ammonium salts, and
wherein the at least one hydroxyalkylurea and the at least one moisturizing agent are present in a synergistically moisturizing effective ratio.
21. A hair moisturizing composition comprising at least one hydroxyalkylurea.

The Examiner relies on the evidence in these references (Ans. 2):

Vermeer	US 5,880,076	Mar. 9, 1999
Möller ¹	DE 27 03 185 A1	Aug. 10, 1978

Appellants request review of the grounds of rejection of claims 1 through 21 under 35 U.S.C. § 103(a) advanced on appeal: unpatentable over Vermeer; and unpatentable over Vermeer in view of Möller. Br. 5; Ans. 3 and 4.

Appellants argue the claims in each ground of rejection as a group. Br. 8-12. Thus, we decide this appeal based on independent claims 1 and 21. 37 C.F.R. § 41.37(c)(1)(vii) (2006).

¹ We refer to the translation of Möller prepared for Appellants by Scientific Translation Services and submitted in the Information Disclosure Statement filed April 11, 2005.

The issues in this appeal are whether the Examiner has carried the burden of establishing a prima facie case of obviousness in each of the grounds of rejection advanced on appeal.

We initially interpret independent claims 1 and 21 by giving the terms thereof the broadest reasonable interpretation in their ordinary usage in context as they would be understood by one of ordinary skill in the art, in light of the written description in the Specification unless another meaning is intended by Appellants as established therein, and without reading into the claims any disclosed limitation or particular embodiment. *See, e.g., In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004); *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000); *In re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989).

The claims specify “[a] personal care composition” and “[a] hair moisturizing composition,” respectively, with each composition “comprising at least one hydroxyalkylurea.” Thus, the respective claimed “composition” must contain at least one such compound and at least one other ingredient, which in the case of claim 1 must be “at least one moisturizing agent” as specified, and in claim 21 can be any other ingredient, to the extent that the compositions must be capable of functioning as any manner of “personal care composition” and of “hair moisturizing composition,” respectively. *See, e.g., In re Tuominen*, 671 F.2d 1359, 1360 (CCPA 1982); *In re Bulloch*, 604 F.2d 1362, 1365 (CCPA 1979); *cf. In re Stencel*, 828 F.2d 751, 754-55 (Fed. Cir. 1987). In addition, the transitional term “comprising” opens the claims to compositions containing additional ingredients. *See, e.g., Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64 F.3d at 1556-58 (“Consequently, as

properly interpreted, Exxon's claims are to a composition that contains the specified ingredients at any time from the moment at which the ingredients are mixed together.”).

We determine the term “hydroxyalkylurea” disclosed “as used herein” in the Specification, is not limited by that disclosure of hydroxyalkyl substituted urea compounds “derived from urea and are of the general formula.” Spec. 4:22-25. The “general formula” sets forth the substitution on the urea nitrogens as “hydrogen, a C₁₋₄ alkyl or a C₂₋₄ hydroxyalkyl group that can contain 1 to 5 hydroxyl or hydroxyalkyl groups providing that at least one” of the urea nitrogens is substituted by “a hydroxyalkyl or oligohydroxyalkyl group.” *Id.* Ureas having a (HO)₅-C₆ hydroxy alkyl group on a nitrogen are known to be derived from urea by reaction with glycamine, a (HO)₅-C₆ hydroxy alkyl substituted primary amine.² However, there is no limitation on the structure permitted by “a C₂₋₄ hydroxyalkyl group that can contain 1 to 5 . . . hydroxyalkyl groups” wherein “hydroxyalkyl groups” is undefined, and the further term “oligohydroxyalkyl group” is also undefined, thus encompassing any structure reasonably defined as a “hydroxyalkyl group” and an “oligohydroxyalkyl group.” There is no basis in the claim language or in the Specification to limit the term “hydroxyalkylurea” to the preferred hydroxyalkylurea embodiments. Spec., e.g., 12:28-36. *See, e.g., Zletz*, 893 F.2d at 321-22. Therefore, on this record, we interpret the term “hydroxyalkylurea” to include any urea compound containing any manner of

² Monograph 4457. Glucamine, *The Merck Index* 756 (Twelfth Ed., Whitehouse Station, NJ, Merck & Co., Inc., 1996)

hydroxyalkyl substitute on a urea nitrogen which is capable of functioning as a moisturizing agent to any extent.

The “at least one moisturizing agent” of claim 1 can be any amount of “at least one moisturizing agent” from the grouping urea, lactic acid, lactic acid salts, and any manner of ammonium salts, wherein one or more compounds of this group and hydroxyalkylurea are present in a moisturizing effective ratio that is synergistic. We determine this language of claim 1 specifies a moisturizing effective ratio that is based on the combination of the hydroxyalkylurea and said moisturizing agent per se and not on the effect of each of these ingredients in the presence of any additional components in the composition as a whole.

We do so on the basis the synergistic effect of a hydroxyalkylurea and a moisturizing agent of the specified group is disclosed for the combination of hydroxyethylurea and ammonium lactate in Example 1 at a ratio of 5.0:0.05 and 1:1. Spec. 9:25-10:5. In Examples 4 and 5,³ hydroxyethylurea and ammonium lactate are present “together at 49% and 1%, respectively,” and the additional moisturizing agent, glycerin, was present at 50%, without disclosure of the synergistic effect of the hydroxyethylurea and ammonium lactate ratio “blend” on the three member composition as a whole. Spec. 11:1-24. In Example 6, representative of Examples 7 through 15,⁴ a

³ In Examples 2 and 3, hydroxyethylurea is used with a moisturizing agent not encompassed by the “at least one moisturizing agent” grouping in claim 1.

⁴ The compositions illustrated in Examples 16 through 18 do not contain a blend of hydroxyethylurea and a moisturizing agent not encompassed by the “at least one moisturizing agent” grouping in claim 1.

hydroxyethylurea and ammonium lactate ratio blend of 3.0:0.06 is used without disclosure of the synergistic effect thereof on the illustrative compositions which contain numerous additional ingredients. Other guidance provided in the Specification does not establish otherwise. Indeed, the “moisturizing effective amount [of the hydroxyalkyl urea and the moisturizing agent] . . . can vary depending upon a variety of factors such as the type of moisturizing agent, the amount of hydroxyalkylurea, and the type of personal care composition in which it is to be included.” Spec. 6:19-21. The “synergistically moisturizing effective ratio” of hydroxyalkyl urea to the moisturizing agent(s) can be “between about 0.5:15.0 and about 15.0:0.05,” and “between about 1:5 and about 5:1” as specified in dependent claims 2 and 3, respectively. Spec. 6:26-7:3.

We find Vermeer would have acknowledged it was known in the prior art to use hydroxyalkylurea compounds prepared by reaction of glycamine and alkyl isocyanate as humectants in cosmetic formulations, wherein the thus described compounds fall within claims 1 and 21 because the hydroxyalkyl substituent has 5 hydroxyl or hydroxyalkyl groups on a C₆ carbon chain. Vermeer col. 3, ll. 23-50. Vermeer would have disclosed to one of ordinary skill in this art personal care compositions, including hair care and skin care compositions, which include “new” hydroxyalkylurea compounds prepared by reacting glycamine with urea as well as “known” hydroxyalkylurea compounds, all of the compounds falling within claims 1 and 21. *Id.*, e.g., col. 1, ll. 6-12 and 53-64; col. 5, ll. 28-34 and 40-43; col. 5, l. 58 to col. 6, l. 35 and formula *b*; col. 6, ll. 39-45 and 57-61; and col. 14, l. 60 to col. 15, l. 10. Indeed, the glycaurea compounds of formula *b* include

hydroxyalkylureas wherein formula member Z is oxygen, formula member G is hydrogen, subscript n can be 0 to 4, such that the hydroxyalkylurea contains 1 to 5 hydroxyl groups on a C₂₋₆ chain, and formula members R₃ and R₄ can be hydrogen or a C₁₋₄ alkyl group. *Id.*, e.g., col. 5, l. 67 to col. 6, l. 1; col. 6, ll. 8 and 11-16; and col. 16, ll. 5-22.

We find Vermeer discloses the personal care products, including hair care products, can include, among other ingredients (Vermeer col. 20, l. 34 to col. 22, l. 5, and col. 27, l. 65 to col. 39, l. 57): humectants, such as lactic acid in the amount of 0-10% by weight of the composition (*id.* col. 31, ll. 4-19); chelating or sequestering agents including sodium potassium and ammonium salts of acids including lactic acid in the amount of 0-6% by weight of the composition (*id.* col. 32, l. 65 to col. 33, l. 24); hydrotropes including sodium, potassium and ammonium salts of urea in the amount of 0-6% by weight of the composition (*id.* col. 33, ll. 26-35); pH-control agents including lactic acid in an amount providing the desired pH (*id.* col. 33, ll. 18-30); hydroxy acids including lactic acid in the amount of 0-10% by weight of the composition (*id.* col. 37, ll. 1-24); and “healing [sic, healing] agents” including urea in the amount of 0-6% by weight of the composition (*id.* col. 37, ll. 59-67). Vermeer discloses the hydroxyalkylurea compounds are useful as, among other things, wetting agents, moisturizing agents (occlusive), and humectants (nonocclusive), illustrating the use of the compounds in these respects in personal care compositions. *Id.*, col. 51, ll. 19-35; *see also* col. 34, l. 57 to col. 35, l. 18. Vermeer discloses the personal care compositions of Examples 31-36, including hair care shampoo in Example 36, wherein the glycaurea can be present in the amount of 1-45%

by weight of the composition and other moisturizers, such as glycerol, vegetable oil, mineral oil, and sorbitol, can be present in the amount of 0.1-15 % by weight of the composition. *Id.* cols. 67-68.

We find Möller would have disclosed to one of ordinary skill in this art personal care compositions that are cosmetic agents, including skin care compositions, “containing hydroxyalkyl-substituted ureas as the skin moisturizer,” wherein the hydroxyalkylureas are described with the same general formula, including hydroxyethylurea, and can be prepared by the same reaction of a hydroxyalkylamine and urea as disclosed by Appellants. Möller, e.g., 1-2 and 4-5; *see above* p. 4. The hydroxyalkylureas are used in the amount of 1-20 wt.% of the composition. *Id.* 2. The personal care compositions, including moisturizing emulsions, lotions, and aftershaves, “may contain components usually present in such preparations,” and are illustrated in the examples wherein the compositions contain other moisturizers, such as vegetable oil, propylene glycol, paraffin oil, and glycerol, in the amount of 1-28 wt.% of the composition. *Id.*, e.g., 4 and 7-11.

We determine the teachings of Vermeer and the combined teachings of Möller and Vermeer, the scope of which references we determined above, provide convincing evidence supporting the Examiner’s case that the claimed invention encompassed by claims 1 and 21, as we interpreted these claims above, would have been prima facie obviousness to one of ordinary skill in the personal care compositions arts.

We agree with the Examiner’s position (Ans. 3) because Vermeer acknowledges and discloses the use of claimed hydroxyalkylureas as

humectants, that is moisturizing agents, in personal care compositions, including hair care compositions, that can further contain one or more of urea, lactic acid, and their sodium, potassium, and ammonium salts for different purposes, which compositions fall within claim 1. *See, e.g., Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (“That the ‘813 patent discloses a multitude of effective combinations does not render any particular formulation less obvious. This is especially true because the claimed composition is used for the identical purpose.”). Indeed, as the Examiner contends (Ans. 3), in following the teachings of Vermeer with respect to the ranges of ingredients taught therein, this person would have prepared compositions containing these ingredients in workable or optimum proportions such that, prima facie, the ratio of the amount of hydroxyalkylurea and the amount of one or more of urea, lactic acid, and their sodium, potassium, and ammonium salts would fall within the range specified in claims 2 and 3. *See, e.g., In re Boesch*, 617 F.2d 272, 275-76 (CCPA 1980) (the prior art would have suggested the experimentation necessary to achieve the claimed compositions as discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art); *In re Aller*, 220 F.2d 454, 456-58 (CCPA 1955). (it is not inventive to discover by routine experimentation optimum or workable ranges for general conditions disclosed in the prior art). Thus, this person would have arrived at the ratios specified in claims 2 and 3 even though this person would not have recognized that such ratios represent a synergistically moisturizing effect as specified in claim 1. *See, e.g., W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1548 (Fed. Cir.

1983) (“[I]t is . . . irrelevant that those using the invention may not have appreciated the results[,] . . . [otherwise] it would be possible to obtain a patent for an old and unchanged process.” (citations omitted)).

We determine Vermeer would have disclosed the compositions of claim 21 to one of ordinary skill in the art on the same basis.

We further agree with the Examiner (Ans. 4) that one of ordinary skill in the art would have prima facie included one or more of urea, lactic acid, and their sodium, potassium and ammonium salts in the personal care compositions of Möller in view of Vermeer’s teachings that these ingredients are known in the art to be useful for different purposes in compositions for the same purpose containing the same or similar hydroxyalkylurea compounds. See e.g., *In re Corkill*, 771 F.2d 1496, 1497-1500 (Fed. Cir. 1985); *In re Kerkhoven*, 626 F.2d 846, 850 (CCPA 1980), and cases cited therein; *In re Castner*, 518 F.2d 1234, 1238-39 (CCPA 1975). Thus, this person would have been led to the same and similar compositions containing these ingredients in amounts falling within claims 1-3 by the combined teachings of the references as was the case with Vermeer alone.

With respect to claim 21, we recognize that Möller does not specifically teach hair care compositions, including hair moisturizing compositions as specified in this claim. However, prima facie, it reasonably appears from Vermeer that one of ordinary skill in this art would have recognized that moisturizing compositions, such as Möller’s lotions and moisturizing emulsions for skin application, can be applied to hair and thus, the specified use of compositions of claim 21 for hair care does not

patentably distinguish over the prior art. In any event, it is well settled that Appellants' discovery of a new property of a product or elucidation of the mechanism by which that product functions does not render the old product again patentable simply because those practicing the product may not have appreciated the property or the mechanism. *See, e.g., In re Spada*, 911 F.2d 705, 707 (Fed. Cir. 1990); *In re Woodruff*, 919 F.2d 1575, 1577 (Fed. Cir. 1990); *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 782-83 (Fed. Cir. 1985); *Tuominen*, 671 F.2d at 1361 ("The only distinction to which Tuominen can aver is a difference in use, which cannot render the claimed composition novel." (citations omitted)).

Accordingly, one of ordinary skill in this art routinely following the teachings of Vermeer and the combined teachings of Möller and Vermeer would have reasonably arrived at the claimed compositions encompassed by claims 1 and 21 without recourse to Appellants' Specification.

Upon reconsideration of the record as a whole in light of Appellants' contentions, we are of the opinion that Appellants have not successfully rebutted the prima facie case with respect to either ground of rejection. Contrary to Appellants' contentions (Br. 8), Vermeer teaches the hydroxyalkylureas disclosed therein are humectants and one of ordinary skill in this art would expect the compounds to exhibit this property at least to some extent in the compositions taught in the reference. Vermeer further teaches this person to select hydroxyalkylureas that fall within the claimed hydroxyalkylureas. *See, e.g., In re Susi*, 440 F.2d 442, 445 (CCPA 1971) ("As appellant points out, Lauerer's disclosure is huge, but it undeniably includes at least some of the compounds recited in appellant's generic claims

and is of a class of chemicals to be used for the same purpose as appellant's additives." The absence of a specific embodiment of a claimed hydroxyalkylurea does not teach away therefrom. *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976) ("The fact that neither of the references expressly discloses asymmetrical dialkyl moieties is not controlling; the question under 35 USC 103 is not merely what the references expressly teach, but what they would have suggested to one of ordinary skill in the art at the time the claimed invention was made."). Indeed, the elements constituting a "teaching away" from the claimed invention are missing from Vermeer. *See, e.g., In re Kahn*, 441 F.3d 977, 985-89 (Fed. Cir. 2006); ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." (quoting *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994))); *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (prior art "disclosure does not criticize, discredit, or otherwise discourage the solution claimed").

We further disagree with Appellants (Br. 8-9) that one of ordinary skill in this art must appreciate the claimed synergistically moisturizing effective ratio of a hydroxyalkylurea and one or more of the specified "moisturizing agents" specified in claim 1 in order to arrive at such the ratios of these ingredients falling, for example, within the ranges of ratios encompassed by claims 2 and 3. As demonstrated by the Examiner, one of ordinary skill in the art would reasonably arrive at the claimed ratio by following the teachings of Vermeer even though Appellants' reason for

selecting the ratio is not taught therein. *See, e.g., In re Kronig*, 539 F.2d 1300, 1304 (CCPA 1976) (“[I]t is sufficient here that [the reference] clearly suggests doing what appellants have done.”); *see also In re Kemps*, 97 F.3d 1427, 1429-30 (Fed. Cir, 1996), citing *In re Dillon*, 919 F.2d 688, 693 (Fed. Cir. 1990) (*en banc*).

Furthermore, the contention that a showing based on a synergistically moisturizing ratio of hydroxyethylurea and ammonium lactate per se specified in claim 1 as reported in Specification Fig. 2 patentably distinguishes over Vermeer (Br. 9), ignores the presence of other ingredients in the personal care compositions of the reference and encompassed by the claims, and indeed, is not an element of claim 21. Thus, Appellants’ contentions extrapolating the evidence in the Specification to the status of evidence of a personal care comparison containing additional components with personal care compositions of Vermeer and further to the scope of claims 1 and 21 (Br. 8-9), is unsupported by the record, as the Examiner points out. Ans. 7-8. *See, e.g., In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (“[I]t is well settled that unexpected results must be established by factual evidence.”); *In re Burckel*, 592 F.2d 1175, 1179-80 (CCPA 1979) (the claimed subject matter must be compared with the closest prior art in a manner which addresses the thrust of the rejection); *In re Hoch*, 428 F.2d 1341, 1343-44 (CCPA 1970) (evidence must provide an actual comparison of the properties of the claimed invention with the disclosure of the reference); *In re Lindner*,

457 F.2d 506, 508 (CCPA 1972) (“This court has said . . . that mere lawyers’ arguments unsupported by factual evidence are insufficient to establish unexpected results.”).

With respect to Möller, we agree with Appellants (Br. 11) as to what the reference does not teach. However, Appellants do not argue that the combined teachings of Möller and Vermeer would not have suggested personal care compositions falling within the claimed compositions of claims 1 and 21 to one of ordinary skill in this art (Br. 11), which, of course, is the thrust of this ground of rejection. Our considerations above of Appellants’ contentions with respect to the claimed synergistically moisturizing effect and the evidence based thereon in the Specification (Br. 11) apply equally to the combined teachings of Möller and Vermeer.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in Vermeer alone and as combined with Möller with Appellants’ countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 1 through 21 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The Primary Examiner’s decision 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) (2007).

Appeal 2008-0353
Application 10/939,204

AFFIRMED

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