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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DAVID W. CANNELL and MIKE WONG

Appeal 2011-010015
Application 11/301,184
Technology Center 1600

Before DEMETRA J. MILLS, FRANCISCO C. PRATS, and MELANIE L. McCOLLUM, *Administrative Patent Judges*.

PRATS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal under 35 U.S.C. § 134 involves claims to a hair-treating cosmetic composition. The Examiner entered rejections for obviousness.

We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Exposure to low or high humidity conditions tends to cause hair to lose its shape, curl definition, and/or become frizzy due to the loss of water from the fibers (Spec. [0001]). While hair benefit agents such as styling polymers have been incorporated into shampoos and conditioners to seal moisture into the hair fibers, "these hair benefit agents are either rinsed off

and/or neutralized after their application onto the hair fibers. It is therefore an object of the present invention to provide a composition and process for inhibiting water loss from hair fibers upon exposure to high or low humidity" (*id.* at [0001]-[0002]).

Claims 1-9 and 13-16 stand rejected and appealed (App. Br. 2). Claim 1, the only independent claim, illustrates the appealed subject matter and reads as follows:

> 1. A cosmetic composition capable of inhibiting water loss from hair fibers comprising:
> (a) at least one lecithin;
> (b) at least one amphoteric surfactant;
> (c) at least one nonionic surfactant;
> (d) at least one film forming polymer;
> (e) at least one cationic polymer; and
> (f) at least one small molecule chosen from arginine, asparagine, aspartic acid, glutamine, glutamic acid, histidine, lysine, serine, threonine, their salts and derivatives, urea, its salts and derivatives, and guanidine, its salts and derivatives.

The following rejections are before us for review:

(1) Claims 1-4, 8, 9, and 13-15, under 35 U.S.C. § 103(a) as obvious over Cho[1] and Mausner[2] (Ans. 3-5);[3] and

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[1] U.S. Patent No. 6,620,410 B1 (issued September 16, 2003).
[2] U.S. Patent No. 4,140,759 (issued February 20, 1979).
[3] On page 3 of the Answer the Examiner did not list claims 8 and 9 among the claims rejected over Cho and Mausner. Both Appellants and the Examiner agree, however, that those claims were in fact rejected (*see* App. Br. 2; *see also* Ans. 2; *see also* Final Rejection 1 (entered May 7, 2010)). As the Examiner made findings, undisputed by Appellants, that Cho's shampoo composition included a film forming polymer at a concentration within the range recited in claim 8, and also included a cationic polymer at a concentration within the range recited in claim 9 (*see* Ans. 3), we consider

(2) Claims 5-7 and 16, under 35 U.S.C. § 103(a) as obvious over Cho, Mausner, and Cannell[4] (Ans. 5-7).

OBVIOUSNESS – CHO AND MAUSNER

The Examiner found that Cho described a shampoo that contained all of the ingredients recited in Appellants' claim 1, except for a lecithin as required by component (a), and a small molecule as required by component (f) (Ans. 3-4). To address that deficiency, the Examiner cited Mausner as describing a shampoo that contained, in addition to conventional ingredients such as surfactants, a protein detergent that included component (a)'s lecithin, as well as a number of the amino acids recited under component (f) (*id.* at 4).

Based on the references' teachings, the Examiner concluded that an ordinary artisan would have considered it obvious to incorporate Mausner's protein detergent into Cho's shampoo composition, "because 1) Cho teaches adding protein hair conditioning components; and 2) Mausner teaches the amino acid-enriched protein detergent complex provides unique mildness and hair conditioning properties" (*id.* at 5). The Examiner further reasoned:

> Since the Cho formulas already use[] proteins in the shampoo formula and Mausner teaches using conventional shampoos as the vehicle to deliver the amino acid-protein detergent complex, the skilled artisan would have had a reasonable expectation of successfully producing a stable shampoo formula of Cho comprising the active ingredient of Mausner which provides UV protection as well as improved mildness and hair conditioning properties to hair.

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the Examiner's omission of claims 8 and 9 from the list of claims subject to the Cho/Mausner rejection to be an inadvertent typographical error.

[4] U.S. Patent No. 6,558,697 B2 (issued May 6, 2003).

(*Id.*)

As stated in *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992):

> [T]he examiner bears the initial burden . . . of presenting a *prima facie* case of unpatentability. . . .
>
> After evidence or argument is submitted by the applicant in response, patentability is determined on the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument.

As Appellants have not argued the patentability of the claims subject to this ground of rejection separately, the claims stand or fall together. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants' arguments do not persuade us that a preponderance of the evidence does not support the Examiner's conclusion that claim 1 would have been prima facie obvious to an ordinary artisan.

Cho describes hair care compositions, which "provide protection against sun exposure (e.g., exposure to ultraviolet radiation) and repeated chemical treatment" (Cho, col. 1, ll. 31-32), and which may be in the form of a shampoo (*id.* at col. 1, ll. 40-41). The Examiner found, and Appellants do not dispute, that Cho's shampoo compositions differ from the composition of claim 1 only in that Cho's compositions did not contain lecithin (ingredient (a)), nor did they contain at least one of the small molecules listed as ingredient (f).

As the Examiner pointed out, however, Mausner discloses a "shampoo composition based on a biologically derived protein detergent which is uniquely mild and possesses hair conditioning properties" (Mausner, col. 1, ll. 39-42). Mausner explains that the improved shampoo is prepared by combining a composition that contains surfactants and other

ingredients conventionally used in shampoos, with a "biologically derived protein detergent known as a lipo protein natural detergent complex which is a complex mixture of lecithins, phospholipids, lipo-protein, lipo-oligopeptides, and amino acids" (*id*. at col. 1, 48-52).

Mausner discloses that its critical protein detergent additive, termed "CLP-3," may be present in shampoo compositions at a range from about 5 to 30% by weight of the total composition, with other surfactants being present in amounts from about 10 to 50% by weight of the total composition (*id.* at col. 4, ll. 1-6). In addition to the lecithin listed as ingredient (a) of the composition of Appellants' claim 1, as the Examiner found, Mausner's CLP-3 contains a number of the small molecules listed as ingredient (f) of claim 1 (*see id.* at Figure 5). As the Examiner also found, Mausner also discloses that "CLP-3 has extraordinary antibacterial properties" (*id.* at col. 4, ll. 53-54).

Thus, given Mausner's disclosure of the advantageous hair conditioning and antibacterial properties conferred by CLP-3 to a shampoo composed of conventional ingredients, Appellants' arguments do not persuade us that the prior art cited by the Examiner would have failed to provide an ordinary artisan with a reason to include CLP-3 in Cho's shampoo.

We are also not persuaded, as Appellants suggest, that picking and choosing from among the various ingredients in CLP-3 would have been required to arrive at the composition recited in claim 1. Rather, because Appellants' claim 1 requires only one of the compounds listed under ingredient (f) to be present the claimed composition, simply including CLP-3 in Cho's shampoo for the advantages suggested by Mausner would

have resulted in a composition encompassed by claim 1, since CLP-3 includes a number of the amino acids recited in ingredient (f), in addition to the lecithin recited as ingredient (a).

Moreover, even if it were true that the prior art suggested combining the claimed ingredients for a different reason than Appellants' purpose of inhibiting water loss from hair, that fact does not demonstrate that the claims would have been unobvious to an ordinary artisan. *See KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 419 (2007) ("In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.").

Thus, Appellants' arguments do not persuade us that a preponderance of the evidence fails to support the Examiner's prima facie case of obviousness as to claim 1. We are also not persuaded that Appellants have advanced evidence of unexpected results sufficient to overcome the Examiner's prima facie case.

As our reviewing court has also noted, "[m]ere improvement in properties does not always suffice to show unexpected results. . . . [W]hen an applicant demonstrates *substantially* improved results . . . and *states* that the results were *unexpected*, this should suffice to establish unexpected results *in the absence of* evidence to the contrary." *In re Soni*, 54 F.3d 746, 751 (Fed. Cir. 1995).

We note the disclosure in the Specification that treating hair tresses with a shampoo including ingredients encompassed by claim 1 gave a "<u>statistically significantly greater</u> percentage of curl retention" under both low and high humidity conditions as compared to a control shampoo (*see*

Spec. [0033]-[0039]). We also note that hair tresses treated with a shampoo including ingredients encompassed by claim 1 are described as having "statistically significantly lower frizz" than hair treated with the control shampoo (*see id.* [0040]-[0043]).

Appellants do not, however, direct us to any statement in the Specification asserting that these results were unexpected. While Appellant argues that the results were "surprising, unexpected and 'unpredictable'" (App. Br. 8), argument by counsel is not an adequate substitute for actual evidence of unexpected results. *See In re Geisler*, 116 F.3d 1465, 1471 (Fed. Cir. 1997).

Further, as the Federal Circuit has also pointed out, "when unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art." *In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991).

Here, Cho's shampoo undisputedly contains both an amphoteric surfactant (cocamidopropyl betaine) and a cationic polymer (polyquaternium) (*see* Cho, col. 10, ll. 16-48 (Example 1)), whereas those ingredients do not appear in the control shampoo used in Appellants' comparison (*see* Spec. [0033]). Similarly, Mausner's shampoo contains glutamic acid (*see* Mausner, Fig. 5), whereas the control shampoo used in Appellants' comparison does not (*see* Spec. [0033]).

Thus, we are not persuaded that the results presented in the Specification reflect an adequate comparison between a shampoo encompassed by claim 1 and either Cho or Mausner, which on this record describe the closest prior art compositions to Appellants' claims. Moreover, glutamic acid is the only small molecule encompassed by claim 1's

ingredient (f) present in the shampoo described as having improved properties (*see* Spec. [0033]). However, as claim 1 does not require glutamic acid to be present in the claimed composition, claim 1 is not commensurate in scope with the evidence advanced by Appellants as demonstrating an unexpected result.

In sum, for the reasons discussed above, we are not persuaded that the Examiner failed to make out a prima facie case of obviousness as to claim 1. As we are also not persuaded that Appellants have advanced sufficient evidence of secondary considerations of non-obviousness to outweigh the evidence of prima facie obviousness, we affirm the Examiner's rejection of claim 1 over Cho and Mausner.

As they were not argue separately, claims 2-4, 8, 9, and 13-15 fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

OBVIOUSNESS – CHO, MAUSNER, AND CANNELL

The Examiner also rejected claims 5-7 and 16 as obvious over Cho, Mausner, and Cannell (Ans. 5-7).

As to claims 5-7, the Examiner found that, although "Mausner suggests less than 10 % by weight of the combination of lecithin and the amino acids are used in a shampoo formula, the reference does not specifically teach the weight limitations of the instant claims" (*id.* at 5). The Examiner found, however, that Cannell taught that the lecithin:amphoteric surfactant:nonionic surfactant ratio recited in claims 5-7 was suitable in shampoo formulations (*id.* at 5-6), and reasoned that an ordinary artisan would therefore have considered it obvious to

> modify the teachings of Cho/Mausner by adding the lipoprotein-amino acid mixture of Mausner or similar thereto, wherein the weight amount of lecithin is about less than or

> equal to 5 %, as motivated by Cannell, because the latter teaches using such amount of lecithin in a shampoo provides beneficial hair conditioning properties including softness, strength, added shine, and easy detangling of hair.

(*Id.* at 6.)

Appellants' arguments do not persuade us that the Examiner's conclusion of obviousness is erroneous.

Claim 5 recites "[t]he composition of claim 1 wherein the ratio by weight of (a) : (b) : (c) is at least about 1:0.8:2" (App. Br. 15).

As the Specification explains, "[t]he ratio is considered to be 'above' 1/0.8/2 when the amount of either of the surfactants increases" (Spec. [0013]). Thus, claim 5 encompasses compositions in which the amphoteric surfactant (component (b)) is present in an amount greater than 0.8 times the amount of lecithin present, and in which the nonionic surfactant (component (c)) is present in amount at least twice that of the lecithin. Claim 5 therefore also encompasses compositions in which the amphoteric and nonionic surfactants are present at relative concentrations many times higher than the lecithin.

As the Examiner pointed out, Cannell discloses an aqueous vehicle that provides "hair styling compositions with little or no volatile organic content which still effectively solubilize styling ingredients and hold the hair while still allowing the hair to be shiny, flexible, and washable" (Cannell, col. 2, ll. 60-63), the vehicle being useful in styling compositions such as shampoos (*id.* at col. 4, ll. 12-14). As the Examiner also pointed out, Cannell discloses that its compositions should contain phospholipid (which may be lecithin), amphoteric surfactant, and nonionic surfactant at a

preferred ratio of above 1:1.2:2 (*see id.* at col. 6, ll. 33-52), a ratio encompassed by Appellants' claim 5.

Thus, we agree with the Examiner that an ordinary artisan, already advised that Mausner's CLP-3 (of which lecithin is only a portion) is suitably present in shampoo compositions at a significantly lower concentration than the surfactants (*see* Mausner, col. 4, ll. 1-6), would have been prompted by Cannell to ensure that, when including Mausner's CLP-3 in Cho's shampoo, the resulting composition included lecithin, amphoteric, and nonionic surfactants at the ratio taught by Cannell as being desirable in shampoo compositions. As Appellants' arguments do not, therefore, persuade us that the Examiner failed to make out a prima facie case of obviousness as to claim 5, we affirm the Examiner's rejection of that claim, and claims 6 and 7 fall with claim 5. *See* 37 C.F.R. § 41.37(c)(1)(vii).

We also find Appellants' arguments unpersuasive as to claim 16

Claim 16 recites "[t]he composition of claim 1 wherein the at least one small molecule is present in an amount of from about 0.01% by weight to about 5% by weight, based on the weight of the composition" (App. Br. 16).

The Examiner stated:

> With respect to claim 16, since the Mausner shampoo contains 10 % by weight of the lipoprotein-amino acid complex in which protein and lipoprotein content is about 0.365 % and lecithin and phospholipids may be at most 5 % by weight based on the weight of the final composition, the artisan of ordinary skill would have obviously found the suitable weight amount of the amino acids for a shampoo to be about less than 5 % by weight. Discovering the optimal weight range for amino acids suitable for the hair conditioning shampoo by routine

> experimentations would have been well within the skill of the art.

(Ans. 7.)

As the Federal Circuit has pointed out, "[w]here 'the difference between the claimed invention and the prior art is some range or other variable within the claims . . ., the [applicants] must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results.'" *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004) (quoting *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990)); *see also Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 1349 (Fed. Cir. 1984) (claimed device that differed from the prior art with respect to dimensional limitations but performed and operated in the same manner as the prior art device held obvious).

Here, Appellants point to no clear or specific evidence suggesting that the concentration of component (f) recited in claim 16 provides an unexpected result. Moreover, the fact that an ordinary artisan's optimization of the amount of Mausner's CLP-3 in a shampoo composition might not have been for Appellants' express purpose of retaining moisture in the hair does not demonstrate that the claim would have been unobvious to an ordinary artisan. *See KSR*, 550 U.S. at 419 ("In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls."). Thus, as Appellants' arguments do not persuade us that the Examiner erred in concluding that claim 16 would have been obvious to an ordinary artisan, we affirm the Examiner's rejection of that claim as well.

SUMMARY

We affirm the Examiner's obviousness rejection of claims 1-4, 8, 9, and 13-15 over Cho and Mausner.

We also affirm the Examiner's obviousness rejection of claims 5-7 and 16 over Cho, Mausner, and Cannell.

TIME PERIOD

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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