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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KERSTIN HOOP, HEIKE LERG,
ANJA SABINE MUELLER, BENTE NISSEN,
MELANIE STEINFORTH, and MARTIN SUGAR

Appeal 2014-003876
Application 11/039,377
Technology Center 1600

Before JEFFREY N. FREDMAN, RICHARD J. SMITH, and
JOHN E. SCHNEIDER, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal[1] under 35 U.S.C. § 134 involving a composition. The Examiner rejected the claims as failing to comply with the written description requirement and as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Statement of the Case

Background

"The present invention relates to cosmetic and dermatological light protection preparations, in particular it relates to cosmetic and

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[1] Appellants identify the Real Party in Interest as Beiersdorf AG (*see* Br. 3).

dermatological formulations with increased UV-A protection performance" (Spec. 1:9–11).

The Claims

Claims 46–65 are on appeal. Claim 46 is representative and reads as follows:

> 46. A composition in the form of a water-in-oil emulsion, wherein the composition comprises:
> (a) at least 1 % by weight of PEG-30 dipolyhydroxystearate,
> (b) at least one ester of cinnamic acid,
> (c) at least one dibenzoylmethane derivative, and
> (d) at least 1.5 % by weight of titanium dioxide particles,
> and wherein the composition further comprises at least 35 % by weight of an oil phase, each based on a total weight of the composition.

The Issues[2]

A. The Examiner rejected claim 46 under 35 U.S.C. § 112, first paragraph (Final Act. 3).

B. The Examiner rejected claims 46–65 under 35 U.S.C. § 103(a) as obvious over Heidenfelder[3] (Final Act. 4–6).

A. 35 U.S.C. § 112, first paragraph

The Examiner finds "[c]laim 46 recites 'at least 1 % PEG-30', said percentage range is not described in either the specification or the claims as originally filed." (Final Act. 3).

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[2] The Examiner withdrew rejections of claims 49, 51, 57, 58, 62, 64, and 65 under 35 U.S.C. § 112, first paragraph (*see* Ans. 5).
[3] Heidenfelder et al., US 2003/0152598 A1, published Aug. 14, 2003 ("Heidenfelder").

> Appellants contend that:
>
> original claim 1 does not recite <u>any</u> percentage range for PEG-30 dipolyhydroxystearate, thereby indicating that the lower value of the percentage range recited in claim 17 (1 % by weight) is a preferred lower value for the concentration of PEG-30 dipolyhydroxystearate (as also reflected by the fact that all of the eleven W /0 emulsions exemplified in the instant application contain at least 1 % by weight of PEG-30 dipolyhydroxystearate), and that the upper value of the percentage range recited in claim 17 (5 % by weight) is a preferred upper value of the concentration of PEG-30 dipolyhydroxystearate.

(Br. 7).

The issue with respect to this rejection is: Does the evidence of record support the Examiner's conclusion that the limitation "at least 1 % by weight of PEG-30 dipolyhydroxystearate" in claim 46 lacks descriptive support in the Specification?

Findings of Fact

1. Original claim 17 of the Specification is reproduced below:

> 17. A cosmetic or dermatogical composition comprising:
>
> 1 to 5% by weight PEG-30 dipolyhydroxystearate based on the total weight of the preparation; and
>
> a UV filter substance consisting essentially of
> at least one ester of cinnamic acid;
> at least one dibenzoylmethane derivative; and
> at least 1.5% by weight of titanium dioxide particles based on the total weight of the preparation, said titanium dioxide particles having a coating thereon.

(Spec. 34:5–13).

2. The Specification provides examples using 1 to 5 percent PEG-30 dipolyhydroxystearate (*see* Spec. 26:15, 29:4).

Principles of Law

> Claim 1 recites a solids content range of "at least 35%," which reads literally on embodiments employing solids contents outside the 25-60% range described in the Swiss application . . . we are of the opinion that the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims. By pointing to the fact that claim 1 reads on embodiments outside the scope of the description, the PTO has satisfied its burden. Appellants thus have the burden of showing that the upper limit of solids content described, i. e., 60%, is inherent in "at least 35%," as that limitation appears in claim 1. Appellants have adduced no evidence to carry this burden[.]

In re Wertheim, 541 F.2d 257, 263–264 (CCPA 1976).

Analysis

As in *Wertheim*, the Examiner finds that the original disclosure of a 1 to 5% range for amounts of PEG-30 dipolyhydroxystearate in original claim 17 does not provide descriptive support for the range in claim 46 to "at least 1%" PEG-30 dipolyhydroxystearate because "Appellant has no support for any percentage outside of the disclosed 1-5% range especially an open-ended range such as 'at least 1%'" (Ans. 5; *see* FF 1–2).

Wertheim places the burden on Appellants to show that the upper limit of 5% is inherent in the "at least 1%" limitation. *Wertheim*, 541 F.2d at 264. Just as in *Wertheim*, Appellants have provided no evidence to show that the upper limit of 5% is inherent in the "at least 1%" limitation of claim 1, or otherwise rebutted the Examiner's position.

Conclusion of Law

The evidence of record support the Examiner's conclusion that the limitation "at least 1 % by weight of PEG-30 dipolyhydroxystearate" in claim 46 lacks descriptive support in the Specification.

B. 35 U.S.C. § 103(a) over Heidenfelder

The Examiner finds Heidenfelder does "not explicitly disclose an example wherein the claimed components at the claimed percentages are combined into a single composition. However, Heidenfelder...[does] teach that all of the claimed components within the claimed percentage ranges may be combined in a single formulation" (Final Act. 5).

The Examiner finds it obvious "to select each component and combine them as instantly claimed because Heidenfelder et al. suggests that the instant components can be combined or mixed together" (Final Act. 6).

The issue with respect to this rejection is: Does the evidence of record support the Examiner's conclusion that Heidenfelder renders claims 46, 50, 57, and 64 obvious?

Findings of Fact

3. Heidenfelder teaches the "person skilled in the art is naturally familiar with a large number of options of formulating stable W/O preparations for cosmetic or dermatological use, for example in the form of creams and ointments" (Heidenfelder ¶ 14).

4. Heidenfelder teaches "[i]f desired, W/O emulsions corresponding to the present invention further comprise one or more emulsifiers" where the emulsifiers include "PEG-30 dipolyhydroxystearate" (Heidenfelder ¶¶ 98–99).

5. Heidenfelder teaches the "total amount of emulsifiers used according to the invention in the cosmetic or dermatological preparations according to the invention is advantageously chosen from the range from 0.1-10.0% by weight, preferably 0.5-5.0% by weight" (Heidenfelder ¶ 108).

6. Heidenfelder teaches that it is "advantageous for the purposes of the present invention to create cosmetic and dermatological preparations whose main purpose is not protection against sunlight, but which nevertheless have a content of UV protection substances. Thus, for example, UV-A and/or UV-B filter substances are usually incorporated into day creams" (Heidenfelder ¶ 116).

7. Heidenfelder teaches "[p]articularly advantageous UV filter substances which are liquid at room temperature for the purposes of the present invention are . . . esters of cinnamic acid, preferably 2-ethylhexyl 4-methoxycinnamate and isopentyl 4-methoxycinnamate" (Heidenfelder ¶ 173).

8. Heidenfelder teaches that "[a]dvantageous dibenzoylmethane derivatives for the purposes of the present invention are, in particular, 4-(tert-butyl)-4'-methoxydibenzoylmethane (CAS No. 70356-09-1), which is sold by BASF under the name Uvinul® BMBM" (Heidenfelder ¶ 181).

9. Heidenfelder teaches "[c]osmetic and dermatological preparations according to the invention also advantageously, but not obligatorily, comprise inorganic pigments based on metal oxides and/or other metal compounds which are insoluble or virtually insoluble in water, in particular the oxides of titanium (TiO_2)" (Heidenfelder ¶ 192).

10. Heidenfelder teaches the "total amount of one or more X-ray amorphous oxide pigments optionally used in the finished cosmetic or dermatological preparations is . . . particularly preferably from 1 to 5% by weight" (Heidenfelder ¶ 197).

11. Heidenfelder teaches the "total amount of one or more UV filter substances liquid at room temperature optionally used in the finished cosmetic or dermatological preparations is advantageously chosen from the range 0.1 % by weight to 30% by weight, preferably from 0.5 to 20% by weight, in each case based on the total weight of the preparations" (Heidenfelder ¶ 180).

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." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

"A prima facie case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art." *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003).

Analysis

We adopt the Examiner's findings of fact and reasoning regarding the scope and content of the prior art (Final Act. 4–6; FF 3–11) and agree that the claims are rendered obvious by Heidenfelder. We address Appellants' arguments below.

Claim 46

Appellants contend that

> HEIDENFELDER discloses an <u>unusually</u> high number of <u>optional</u> components of various types which can be present in

> the W/O emulsions disclosed therein, giving rise to thousands, if not millions, of possible combinations of components. Further, the components recited in the instant claims are mentioned in HEIDENFELDER in laundry lists of considerable lengths.

(Br. 8–9). Appellants contend "the laundry lists provided by HEIDENFELDER give rise to, for example, more than 50,000 different combinations of one emulsifier, two organic UV filter substances (or classes of UV filter substances) and one inorganic pigment. Clearly, HEIDENFELDER provides no apparent reason for providing and testing each of these combinations" (Br. 10).

We do not find this argument persuasive because our obviousness result is consistent with *Wrigley*, where the Federal Circuit found a "strong case of obviousness based on the prior art references of record. [The claim] recites a combination of elements that were all known in the prior art, and all that was required to obtain that combination was to substitute one well-known . . . agent for another." *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1364 (Fed. Cir. 2012). The instant case is factually better for obviousness than *Wrigley* because a single reference, Heidenfelder, suggests all of the claimed elements (FF 3–11). In *Wrigley* there was one reference that taught a number of different cooling agent combinations as well as additional prior art references teaching that the specific combination of cooling agents was also known. *Id.* at 1361, 1364.

We note that Appellants do not identify or establish any unexpected results or secondary considerations that would support a finding that the claimed combination was unpredictable. *See In re Arkley*, 455 F.2d 586,

587 (CCPA 1972) ("Such picking and choosing may be entirely proper in the making of a 103, obviousness rejection, where the applicant must be afforded an opportunity to rebut with objective evidence any inference of obviousness.")

Appellants cite the Specification as teaching a composition "characterized by very good light protection effectiveness, an exceptionally high broadband protection performance and by excellent skin compatibility coupled with excellent skin care data" (Br. 12, citing Spec. 5:24–26). Appellants contend that

> It is not seen that HEIDENFELDER teaches or suggests that the favorable results set forth above can be achieved by including in the compositions disclosed therein not just any UV filter substances in addition the required amino-substituted hydroxybenzophenones of formula I but a combination of three specific (classes of) UV filter substances

(Br. 13).

We are not persuaded because Appellants provide no evidence, as opposed to argument, of unexpected results or other secondary consideration. *See In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995) ("It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements . . . [do] not suffice.")

In addition, Appellants do not identify any comparison between the Specification and the closest prior art of Heidenfelder, or otherwise point to evidence that demonstrates any improvements experimentally. *See In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991) ("[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art."). Our

review of the Examples in the Specification does not find a comparison with any prior art compounds for any property whatsoever (*see* Spec. 26:11 to 31:6).

Appellants contend that "it is only with hindsight that one of ordinary skill in the art would arrive at the conclusion that the compositions of HEIDENFELDER will benefit in any respect from the presence of a combination of additional UV filter substances and in particular, the combination recited in the instant claims" (Br. 14; underlining omitted).

We are not persuaded. While we are fully aware that hindsight bias may plague determinations of obviousness, *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966), we are also mindful that the Supreme Court has clearly stated that the "combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416. In the instant case, each of the elements in the claim were taught as optional components by Heidenfelder (FF 3–10), and Appellants provide no evidence establishing unpredictability in combining these known components into a cosmetic composition.

Claims 50, 57, and 64

Appellants contend that "HEIDENFELDER neither teaches nor suggests that the presence of a combination of components (b) to (d) as recited in the instant independent claims would be of benefit in the compositions disclosed therein, <u>let alone</u> in a total concentration of at least 8 % by weight" (Br. 15).

We find this argument unpersuasive because the Examiner notes that "Example 3 contains claimed component (a) PEG-30 dipolyhydroxystearate,

component (b) ethylhexylmethoxycinnamate, and component (d) micronized titanium dioxide. Further, the recited percentages either meet or are within 10% of the claimed percentage limitations, including titanium dioxide present at the highest weigh fraction of components (b), (c), and (d)" (Ans. 6–7).

Moreover, the ranges in Heidenfelder overlap those of claims 50, 57, and 64 (*see* FF 10–11), and Appellants provide no evidence establishing that the specific amounts chosen were unobvious. *See In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003) ("In cases involving overlapping ranges, we and our predecessor court have consistently held that even a slight overlap in range establishes a prima facie case of obviousness.") Moreover, Heidenfelder teaches the use of different amounts (FF 1011) and "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 457 (CCPA 1955).

Conclusions of Law

The evidence of record supports the Examiner's conclusion that Heidenfelder renders claims 46, 50, 57, and 64 obvious.

SUMMARY

In summary, we affirm the rejection of claim 46 under 35 U.S.C. § 112, first paragraph.

We affirm the rejection of claims 46, 50, 57, and 64 under 35 U.S.C. § 103(a) as obvious over Heidenfelder. Claims 47–49, 51–56, 58–63 and 65 fall with claims 46, 50, 57, and 64.

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