UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEFAN BRUENING, HELGA GONDEK,
and ACHIM ANSMANN

Appeal 2008-0303
Application 10/181,641
Technology Center 1600

Decided: December 21, 2007

Before TONI R. SCHEINER, DONALD E. ADAMS, and
LORA M. GREEN, *Administrative Patent Judges*.

ADAMS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal under 35 U.S.C. § 134 involves claims 25-44, the only claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

INTRODUCTION

The claims are directed to a personal care deodorant composition. Claims 25 and 34 are illustrative:

25. In a personal care deodorant composition comprising at least one active ingredient selected from the group consisting of antiperspirants, esterase inhibitors, bactericidal agents, bacteriostatic agents and perspiration-absorbing compounds, the improvement which, comprises: including in the composition

(a) from 10% to 80% by weight of a solid content of the composition of a dialkyl carbonate of the formula:

$$R^1O(CH_2CH_2O)_n.C(=O)(OCH_2CH_2)_m\text{-}OR^2 \qquad \text{(I)}$$

wherein R^1 is a linear alkyl and/or alkenyl group containing from about 6 to 22 carbon atoms, a 2-ethylhexyl, an isotridecyl, an isostearyl group or a group derived from a polyol containing 2 to 15 carbon atoms and at least two hydroxyl groups; R^2 has the same meaning as R^1 or is an alkyl group containing from about 1 to 5 carbon atoms; and n and m, independently of one another, represent a number from 0 to 100.

34. In a personal care deodorant composition comprising

(a) from about 1 to 50% by weight, based on a solids content of the composition, of an antiperspirant;

(b) from about 0.01 to 20% by weight, based on the solids content of the composition, of an esterase inhibitor; and

(c) from about 0.01 to 5% by weight, based on a solids content of the composition, of a bactericidal agent and/or bacteriostatic agent;

the improvement which comprisies: including in the composition from 1% to 80% by weight, based on a solids content, of a dialkyl carbonate wherein the remainder of the composition, to 100%, comprises water, auxiliaries and additives.

The Examiner relies on the following prior art references to show unpatentability:

Ansmann	WO 97/47282	Dec. 18, 1997
Wachter	US 6,045,785	Apr. 4, 2000
Kropf	US 6,316,030 B1	Nov. 13, 2001
Loehl	US 6,482,418 B1	Nov. 19, 2002

The rejections as presented by the Examiner are as follows:

1. Claims 25, 28-32, 35, and 38-41 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Loehl[1].
2. Claims 25-33 stand rejected under 35 U.S.C § 103(a) as unpatentable over Kropf.
3. Claims 34, 36, 37, and 42-44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Loehl and Wachter.

We affirm the obviousness rejections and reverse the anticipation rejection.

[1] According to the Examiner Loehl is the United States equivalent to Ansmann (Second Supp. Answer, mailed July 23, 2007, 4).

DISCUSSION

Anticipation:

Claims 25, 28-32, 35, and 38-41 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Loehl.

The Examiner finds that Loehl teaches cosmetic formulations comprising dialkyl carbonates within the scope of Appellants' formula I (Answer 5[2]). Specifically, Loehl teaches a composition comprising (a) dialkyl carbonates corresponding to formula (I) that is within the scope of Appellants' claimed invention and (b) emulsifiers (Loehl, col. 1, ll. 42-59). Loehl teaches that "[t]he formulations normally contain the dialkyl carbonates and the emulsifiers in quantities of 0.1 to 20% by weight" (Loehl, col. 5, ll. 23-25). Loehl teaches that the weight ratio of the dialkyl carbonates to the emulsifiers is generally "from 30:1 to 1:20" (Loehl, col. 5, ll. 26-28). Accordingly, Loehl teaches a concentration range of dialkyl carbonates that overlaps Appellants' claimed range.

In addition, the Examiner finds that Loehl's formulations can contain, *inter alia*, active agents such as chitosan, silicates, talcum[,] etc." (Answer 5). According to Appellants' Specification talcum is a perspiration-absorbing substance (Specification 9: 11-15) and chitosan is a bactericidal or bacteriostatic agent (Specification 7: 1-3). The Examiner also asserts that Loehl's Table 3 provides an example of a composition "comprising dioctyl carbonate, and active agents such as capric/caprylic triglycerides, and propylene glycol which are known to have antibacterial propert[ies]" (Answer 11). The Examiner, however, fails to identify any evidence to

[2] All reference to the Answer refers to the July 23, 2007 Second Supplemental Examiner's Answer.

support the assertion that capric/caprylic triglycerides and propylene glycol are known to exhibit antibacterial properties, particularly at the concentration exemplified by Loehl. *Cf.* Supp. Br.[3] 7 ("Appellants are unfamiliar with the antibacterial properties of capric/caprylic triglycerides and propylene glycol and respectfully request that the Examiner provide a reference which discloses the antibacterial properties of these agents in the amounts present in the Loehl et al. compositions").

"Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). "Every element of the claimed invention must be literally present, arranged as in the claim." *Richardson v. Suzuki Motor Co., Ltd.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Loehl does not meet this standard.

Loehl teaches a composition comprising dialkyl carbonates of formula I, in a concentration that overlaps Appellants' claimed concentration. Loehl does not, however, teach a composition comprising dialkyl carbonates of formula I and at least one active ingredient selected from the group consisting of antiperspirants, esterase inhibitors, bactericidal agents, bacteriostatic agents and perspiration-absorbing compounds. At best, Loehl provides a number of different agents that may be combined with the dialkyl carbonates of formula I. However, to arrive at a composition within the scope of Appellants' claimed invention would require one to pick through a large number of different reagents and select only those that fall within the scope of Appellants' claimed invention.

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[3] All reference to Appellants' Supplemental Brief (Supp. Br.) refers to the Supplemental Brief received June 22, 2007.

Further, as Appellants' point out, while Loehl includes agents that may be included in their claimed composition, Loehl describes other functions for these reagents and fails to specify a concentration for these agents in the composition (Br.[4] 8-9). For example, while Loehl teaches talcum and chitosan as a UV filter (Loehl, col. 7, ll. 32.35) and chitosan as film former (Loehl, col. 7, l. 12) respectively, Appellants disclose the use of talcum and chitosan as a perspiration-absorbing substance and bactericidal or bacteriostatic agent respectively. Accordingly, even if, a person of ordinary skill in the art would select one of the agents from Loehl's listing that would fall within the scope of Appellants' claimed invention and include it in Loehl's dialkyl carbonate composition, the Examiner has not established that the agents would be at a concentration sufficient to function as required by Appellants' claimed invention, e.g., as a perspiration-absorbing substance or an antibacterial.

For the foregoing reasons we find that the Examiner failed to meet his burden of establishing a prima face case of anticipation. Accordingly, we reverse the rejection of claims 25, 28-32, 35, and 38-41 under 35 U.S.C. § 102(b) as being anticipated by Loehl.

Obviousness:

Claims 25-33 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kropf. Appellants group claims 26-33 separately from claim 25. Accordingly, we limit our discussion to claims representative claims 25 and 27. 37 C.F.R. § 41.37(c)(1)(vii). Claims 26 and 28-33 will stand or fall together with claim 27.

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[4] All reference to the Brief (Br.) is to the Brief received December 20, 2006.

Kropf teaches "the use of nanoscale sterols and/or sterol esters . . . for the production of cosmetic and/or pharmaceutical preparations" (Kropf, col. 1, ll. 53-56). According to Kropf, the cosmetic or pharmaceutical preparations obtained using the nanoscale sterols and sterol esters of Kropf's invention may contain a variety of additional ingredients, including oils, biogenic agents, and deodorizers (Kropf, col. 3, ll. 33-43; Answer 6). According to Kropf, suitable deodorizers include esterase inhibitors (Kropf, col. 7, l. 36; Answer 6-7). Kropf teaches that "[e]sterase inhibitors inhibit enzyme activity and thus reduce odor formation" (Kropf, col. 7, ll. 40-41). Further Kropf teaches that bisabolol is a suitable biogenic agent (Kropf, col. 7, ll. 15-18).

The Examiner also finds that Kropf teaches that the compositions may contain "oils such as linear and branched C6-22 fatty alcohol carbonates, Guerbet carbonates etc. of the instant dialkyl carbonates of Formula (I)" (Answer 6). The Examiner also finds that Kropt teaches "[t]hese carbonates can also be used in the production of the nanoparticles (*id.*). Thus, Kropf teaches a deodorant composition comprising (1) nanoscale sterols and/or sterol esters, (2) dialkyl carbonates within the scope of Appellants' formula (I) and, *inter alia* (3) an active ingredient such as esterase inhibitors or biogenic agents (e.g., bisabolol). In this regard, the Examiner finds that Kropf exemplifies a composition comprising dioctyl carbonate within the scope of Appellants' formula (I) and the "antibacterial agent, bisabolol" (Answer 14; Kropf, col. 12, Table 2).

The Examiner recognizes, however, that Kropf does not expressly teach a composition comprising from about 10 to 80% by weight of dialkyl carbonate. To make up for this deficiency in Kropf, the Examiner finds that

"[i]t would have been obvious to a person of ordinary skill in the art at the time of [Appellants'] invention to determine or optimize parameters such as effective amounts of the dialkyl carbonate employed in the composition of Kropf" (Answer 7). We agree. "[I]t is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997). Accordingly, we find no error in the Examiner's prima facie case of obviousness.

Claim 25:

Claim 25 is written in Jepson format and is drawn to a personal care deodorant composition comprising at least one active ingredient selected from the group consisting of antiperspirants, esterase inhibitors, bactericidal agents, bacteriostatic agents and perspiration-absorbing compounds. Thus, Appellants admit that a composition comprising esterase inhibitors such as that taught by Kropf was known in the prior art at the time the invention was made. *In re Fout,* 675 F.2d 297, 301, 213 USPQ 532, 534 (CCPA 1982) (holding preamble of *Jepson*-type claim to be admitted prior art where applicant's specification credited another as the inventor of the subject matter of the preamble). On this record, Appellants admit that "[t]he use of antipersipirants, esterase inhibitors . . . bactericidal agents . . . and/or perspiration-absorbing substances for the production of deodorizing and/or perspiration-inhibiting compositions is known from the prior art" (Specification 2: 16-19).

According to claim 25, Appellants' improvement to the prior art compositions is the addition of from 10% to 80% by weight of a solid content of the composition of a dialkyl carbonate of formula (I). However,

while the prior art does not specifically recite the claimed concentration of dialkyl carbonate in the composition, we agree with the Examiner that the optimization of the effective concentration of this component in the prior art composition would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made.

Appellants assert that while Kropf teaches that alkyl carbonates, deodorizers and the like are possible additives that can be included in cosmetic and dermatological formulations, there is no suggestion in Kropf to combine diaklyl carbonates with deodorizing agents to arrive at their claimed invention (Br. 15). We are not persuaded. As discussed above, the Examiner finds, and Appellants do not dispute, that Kropf teaches a composition comprising dioctyl carbonate within the scope of Appellants' formula (I) and the "antibacterial agent, bisabolol" (Answer 14). Accordingly, Kropf exemplifies a composition within the scope of Appellants' claimed invention (*see* Kropf, col. 12, Table 2).

Appellants also assert that Kropf "discloses compositions containing up to 8% by weight of dioctyl carbonate . . . [which] is far outside of the range of 10% to 80% by weight claimed in the present application" (Supp. Br. 6). We are not persuaded by Appellants' argument. We do not find a concentration of 8% by weight of dioctyl carbonate to be far outside the concentration of 10% by weight. Further, to arrive at the range of up to 8% by weight of dioctyl carbonate, Appellants limit Kropf to its exemplified embodiment. While Kropf exemplifies the use of dioctyl carbonate in the range of 3-8% by weight of the composition, Kropf sets no upper limit on the amount of dioctyl carbonate that may be present in the composition. Instead, Kropf leaves the effective concentration of this ingredient in the

composition to a person of ordinary skill in the art to determine by routine optimization. In this regard, we note that the

> law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. *See, e.g., Gardner v. TEC Sys., Inc.,* 725 F.2d 1338, 220 USPQ 777 (Fed. Cir.), *cert. denied,* 469 U.S. 830 [225 USPQ 232] (1984); *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980); *In re Ornitz,* 351 F.2d 1013, 147 USPQ 283 (CCPA 1965); *In re Aller,* 220 F.2d 454, 105 USPQ 233 (CCPA 1955). These cases have consistently held that in such a situation, the applicant must show that the particular range is *critical,* generally by showing that the claimed range achieves unexpected results relative to the prior art range.

In re Woodruff, 919 F.2d 1575, 1578 (Fed. Cir. 1990). On this record, Appellants have not directed our attention to any evidence suggesting that their claimed range is critical. In this regard, we find that Appellants disclose that "preparations according to the invention may contain the dialkyl carbonates in quantities of 1 to 80, preferably 5 to 50 and more particularly 10 to 30% by weight, based on the solids content" (Specification 5: 10-13).

Appellants assert that one would have to remove the nanoscale sterol and nano sterol ester particles from Kropf's composition in order to arrive at Appellants' claimed invention (Br. 16). Appellants' claimed invention uses that transitional phrase "comprising"; as set forth in *Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1327 (Fed. Cir. 1999), the "transitional term 'comprising' … is inclusive or open-ended and does not exclude additional, unrecited elements or method steps." [Alteration original, citations omitted]. Accordingly, we are not persuaded by

Appellants' assertion that the nanoscale sterol and nano sterol ester particles must be removed from Kropf's composition in order to arrive at Appellants' claimed invention.

On reflection, we find no error in the Examiner's prima facie case of obviousness. Accordingly, the burden of coming forward with evidence or argument was properly shifted to the Appellants. *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993). For the foregoing reasons, Appellants failed to carry their burden. Therefore, we affirm the rejection of claim 25 under 35 U.S.C § 103(a) as unpatentable over Kropf.

Claim 27:

Claim 27 depends from and further limits claim 25 to require that the active ingredient comprises an esterase inhibitor. As discussed above, Kropf teaches a composition comprising (1) nanoscale sterols and/or sterol esters, (2) dialkyl carbonates within the scope of Appellants' formula (I) and (3) an active ingredient such as, *inter alia*, esterase inhibitors or biogenic agents (e.g., bisabolol).

Appellants' only argument is that claim 27 is "not taught or suggested by Kropf et al. since Kropf et al. is completely silent concerning a deodorant composition containing from 10 to 80% by weight of a dialkyl carbonate of formula (I) and an antiperspirant or deodorant active ingredient" (Br. 17).

For the same reasons as set forth with regard to claim 25, we are not persuaded. Accordingly, we affirm the rejection of claim 27 under 35 U.S.C § 103(a) as unpatentable over Kropf. Claims 26 and 28-33 fall together with claim 27.

Claims 34, 36, 37, and 42-44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Loehl and Wachter. While Appellants provide separate arguments for claims 42-44, they are nothing more than a reiteration of the arguments made for claim 34 (*see* Br. 20-21). Accordingly, we select claim 34 are representative, claims 36, 37, and 42-44 will stand or fall with claim 34.

The Examiner finds that Wachter teaches a composition comprising:

a. 0.01 to 50% by weight of a sterol sulfate;

b. 1 to 50% by weight of antiperspirant;

c. 0.01 to 20% by weight of an esterase inhibitor; and

d. 0.01 to 5% by weight of a bactericidal or bacteriostatic agent

(Answer 8). In addition, the Examiner finds that Wachter teaches that the composition may "also contain perspiration-absorbing compounds, [such as] talcum . . . [and teaches that the dodorizing compositions contain[ ] esterase inhibitor, antiperspirant, and bacteriostatic agents" (Answer 8-9).

The Examiner recognizes, however, that Wachter does not teach a composition comprising the dialkyl carbonates of formula (I), or the use of 0.1 to 30% concentration of a perspiration absorber (Answer 9).

The Examiner relies on Loehl as set forth above. In addition, the Examiner finds that Loehl teaches "that the sensorial properties of O/W crèmes such as fewer oily or wax like residues, fewer whitening effects, good feel to the skin are improved by incorporating dialkyl carbonates in the cosmetic formulation" (Answer 8).

Based on this evidence, the Examiner finds that it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to "add diaklyl carbonates taught by Lochl [sic] to the

composition of Watcher et al. to obtain a deodorizing composition" for the expected benefit of producing compositions with "fewer oily or wax like residues, fewer whitening effects, [and providing a] good feel to the skin" (Answer 9).

In addition, the Examiner finds that "[i]t would have been obvious to a person of ordinary skill in the art at the time of [Appellants'] invention to determine or optimize parameters such as effective amounts of the perspiration absorber employed in the composition of Wachter, to obtain a deodorizing composition" (*id.*). We agree. "[I]t is not inventive to discover the optimum or workable ranges by routine experimentation." *Geisler*, at 1470.

Appellants assert that Wachter "is deficient in neither teaching nor suggesting that the compositions contain an oil component of any type" (Br. 20). In addition, Appellants assert that there is no teaching or suggestion in the art "to remove the sterol sulfate from the Wachter et al. composition and substitute therefore an oil component such as the dialkyl carbonate of Loehl" (*id.*). We take each argument in turn.

The Examiner finds that Wachter teaches the "active substances are normally incorporated in cosmetic formulation bases such as gels, emulsions, oils etc" (Answer 16). We agree (*see* Wachter, col. 3, ll. 47-52). Accordingly, we are not persuaded by Appellants' assertion that Wachter does not teach a composition comprising an oil component. Further, we are not persuaded by Appellants' assertion that there is no motivation to replace Wachter's sterol sulfate with Loehl's dialkyl carbonate. This argument does not relate to the rejection of record, which is based on the *addition* of

Loehl's dialkyl carbonate to Wachter's composition for the benefits set forth above. Wachter's composition comprises sterol sulfate (Wachter, Abstract).

On reflection, we find no error in the Examiner's prima facie case of obviousness. "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.*, 127 S. Ct. 1727, 1739 (2007). Here, the references cited by the Examiner disclose all the elements of the claimed composition. Accordingly, the burden of coming forward with evidence or argument was properly shifted to the Appellants. *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993). For the foregoing reasons, Appellants failed to carry their burden. Therefore, we affirm the rejection of claim 34 under 35 U.S.C. § 103(a) as unpatentable over the combination of Loehl and Wachter. Claims 36, 37, and 42-44 fall together with claim 34.

CONCLUSION

In summary, we affirm the obviousness rejections and reverse the anticipation rejection.

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-IN-PART

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