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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* CELINE FARCET

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Appeal 2017-006257  
Application 11/347,251<sup>1</sup>  
Technology Center 1600

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Before FRANCISCO C. PRATS, TIMOTHY G. MAJORS, and  
KRISTI L. R. SAWERT, *Administrative Patent Judges*.

SAWERT, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the rejection of claims 1–10, 20–23, 26–43, 45, and 46. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> Appellant identifies L’Oréal of Paris, France, as the real party in interest. Br. 2.

STATEMENT OF THE CASE

Claims 1–10, 20–23, 26–43, 45, and 46 are on appeal. Claims 1–10, 20, 22, 23, 26–43, 45, and 46 stand rejected as unpatentable under 35 U.S.C. § 103(a) for obviousness over Blin<sup>2</sup> in view of De La Poterie.<sup>3</sup> Final Act. 3. Claim 21 stands rejected as unpatentable under 35 U.S.C. § 103(a) for obviousness over Blin in view of De La Poterie, and further in view of Fukuoka.<sup>4</sup> *Id.* at 7–8.

Claim 1 is representative of the subject matter on appeal. *See* 37 C.F.R. § 41.37(c)(1)(iv). Claim 1 recites:

1. A cosmetic composition comprising, in a cosmetically acceptable medium, at least one dispersion of polymer particles in a liquid carbon-based medium, wherein said polymer is a block copolymer comprising at least one first block that is soluble in said liquid carbon-based medium and at least one second block that is insoluble in said liquid carbon-based medium in an amount of from 75% to 90% by weight, relative to the total weight of the copolymer,

wherein the first block that is soluble in said liquid carbon-based medium is present in an amount of 10% to 25%, relative to the total weight of the copolymer, and comprises:

- from 50% to 100% by weight of at least one monomer that is soluble in said liquid carbon-based medium, wherein the at least one soluble monomer is chosen from at least one of the following monomers:

(a) the methacrylates of formula  $\text{CH}_2=\text{C}(\text{CH}_3)\text{--COOR}_1$

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<sup>2</sup> Xavier Blin et al., US 2006/0093568 A1 (May 4, 2006) (“Blin”).

<sup>3</sup> Valerie De La Poterie et al., US 2002/0051759 A1 (May 2, 2002) (“De La Poterie”).

<sup>4</sup> Masateru Fukuoka et al., US 6,608,143 B1 (Aug. 19, 2003) (“Fukuoka”).

wherein  $R_1$  is chosen from linear and branched C8–C22 alkyl groups; cyclic alkyl groups comprising from 8 to 30 carbon atoms; and tert-butyl groups;

(b) the acrylates of formula  $CH_2=CH-COOR_2$

wherein  $R_2$  is chosen from linear and branched C8–C22 alkyl groups; cyclic alkyl groups comprising from 8 to 30 carbon atoms; and isobutyl groups;

(c) the (meth)acrylamides of formulae  $CH_2=C(CH_3)-CONR_3R_4$  and  $CH_2=CH-CONR_3R_4$ , wherein  $R_3$  is chosen from a hydrogen atom and linear and branched C<sub>1</sub>–C<sub>12</sub> alkyl groups and  $R_4$  is chosen from linear and branched C<sub>8</sub> to C<sub>12</sub> alkyl groups;

(d) the vinyl esters of formula  $R_5-CO-O-CH=CH_2$  wherein  $R_5$  is chosen from linear and branched C<sub>8</sub> to C<sub>22</sub> alkyl groups;

(e) the ethers of vinyl alcohol and of an alcohol of formula  $R_6O-CH=CH_2$  wherein  $R_6$  is chosen from linear and branched alkyl groups comprising from 8 to 22 carbon atoms; and

(f) carbon-based macromonomers with a polymerizable end group, chosen from:

(i) linear and branched C<sub>6</sub>–C<sub>22</sub> alkyl (meth)acrylate homopolymers and copolymers, comprising a polymerizable end group chosen from vinyl and (meth)acrylate groups; and

(ii) polyolefins with a (meth)acrylate end group; and wherein the second block that is insoluble in said liquid carbon-based medium in an amount of to 90% and comprises:

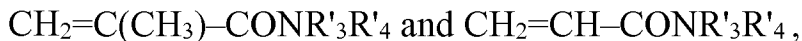
- from 75 % to 90% by weight of at least one monomer that is insoluble in said liquid carbon-based medium chosen from the following monomers, and the salts and mixtures thereof:

(a) the (meth)acrylates of formulae:  $\text{CH}_2=\text{C}(\text{CH}_3)-\text{COOR}'_1$  and  $\text{CH}_2=\text{CH}-\text{COOR}'_1$  wherein  $\text{R}'_1$  is chosen from:

(i) linear and branched alkyl groups comprising from 1 to 6 carbon atoms, optionally comprising in its chain at least one hetero atom chosen from O, N and S; and optionally comprising at least one substituent chosen from  $-\text{OH}$ , halogen atoms and  $-\text{NR}'\text{R}''$  groups wherein  $\text{R}'$  and  $\text{R}''$ , which may be identical or different, are each chosen from linear and branched C1-C4 alkyls; optionally substituted with at least one polyoxyalkylene group comprising from 5 to 30 oxyalkylene units; wherein tert-butyl methacrylate and isobutyl acrylate are excluded from this definition; and

(ii) cyclic alkyl groups comprising from 3 to 6 carbon atoms, optionally comprising in its chain at least one heteroatom chosen from O, N and S; optionally comprising at least one substituent chosen from OH and halogen atoms;

(b) the (meth)acrylamides of formulae:



wherein:

$\text{R}'_3$  and  $\text{R}'_4$ , which may be identical or different, are each chosen from hydrogen atoms and linear and branched alkyl groups comprising from 1 to 6 carbon atoms, optionally comprising at least one substituent chosen from  $-\text{OH}$ , halogen atoms and  $-\text{NR}'\text{R}''$  groups wherein  $\text{R}'$  and  $\text{R}''$ , which may be identical or different, are each chosen from linear and branched C1-C4 alkyls; or, alternatively,

$\text{R}'_3$  is chosen from a hydrogen atom and  $\text{R}'_4$  is chosen from a 1,1-dimethyl-3-oxobutyl group;

(c) ethylenically unsaturated monomers comprising at least one functional group chosen from carboxylic, phosphoric and sulfonic groups, and salts thereof;

(d) the vinyl esters of formula:  $R'6-COO-CH=CH_2$   
wherein R'6 is chosen from linear and branched alkyl groups comprising from 1 to 6 atoms, cyclic alkyl groups comprising from 3 to 6 carbon atoms, and aromatic groups;

(e) ethylenically unsaturated monomers comprising at least one tertiary amine functional group; and

(f) styrene and derivatives thereof;

wherein the polymer particles are not surface-stabilized.

## DISCUSSION

### *Background*

The claimed invention is directed to cosmetic compositions containing dispersions of polymer particles. Spec. ¶ 2. The Specification states that it was known in the art to use polymer particle dispersions in cosmetics, but that such dispersions required large amounts of stabilizing polymers “in order to obtain a relatively stable dispersion of said particles.” *Id.* ¶¶ 3–4. “Thus,” the Specification continues, “the inventor has discovered, surprisingly, novel polymer particle dispersions which may afford good cosmetic properties . . . , and moreover, which do not comprise any stabilizer . . . .” *Id.* ¶ 8. The cosmetic composition comprises at least one block copolymer in a liquid carbon-based medium. *Id.* ¶ 9. The block copolymer, in turn, is made up of at least two blocks: a “first” block that is soluble in the medium, and a “second” block that is insoluble in the medium. *Id.* The Specification explains that “the physicochemical properties of the dispersion” can be modified by “appropriately selecting the monomers and the organic medium of which it is composed.” *Id.* ¶ 10. The resulting

dispersion “has great affinity for the oily media usually used in cosmetics” and lacks “any tacky nature.” *Id.*

The Examiner rejected representative claim 1 for obviousness over Blin in view of De La Poterie. Final Act. 3–6. The Examiner relied on Blin to teach the elements of claim 1, including a cosmetic composition comprising an organic (i.e., carbon-based) liquid medium and a block copolymer. *Id.* at 4 (citing Blin ¶¶ 1, 52, 53, 75–78, 88, 119, 446). The Examiner acknowledged that Blin does “not exemplify an embodiment of the claimed copolymers” and does “not teach the exact amount of first and second block polymers as instantly claimed.” *Id.* at 6.

As to the amounts of first and second block polymers, the Examiner reasoned:

[I]t would have been obvious to optimize or adjust the amount ranges of first and second block polymers with the claimed ranges without undue experimentation because Blin et al. teaches 10/90 to 90/10 ratio of first and second block polymers and the first and second block polymers exist in an amount of 20–90% and 5–75%, respectively, which overlap the claimed range of 10–25% and 75–90%, respectively. . . . Unless the criticality of the ranges is given, the claimed ranges would be optimized from the teachings of Blin et al.

*Id.* at 6–7 (citing *In re Wertheim*, 541 F.2d 257 (CCPA 1976)). And, as to the claimed copolymers, the Examiner relied on De La Poterie. Specifically, the Examiner found that De La Poterie “teaches a cosmetic composition containing at least one hydrophobic film-forming polymer and at least one thermal transition agent, in a physiologically acceptable medium” where the “hydrophobic film-forming polymer is present in the form of surface-stabilized particles dispersed in a liquid fatty phase.” *Id.* at 5 (citing De La Poterie, Abstract, ¶ 8, claims 1 & 18). The Examiner reasoned:

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to modify a cosmetic composition of Blin et al. with the hydrophobic particles dispersed in the liquid fatty phase as taught by De La Poterie et al. and produce the instant invention.

One of ordinary artisan would have been motivated to do so because the film forming polymer particle dispersion would have provided adhesion and ease coating on the keratinous material support according to the final use and easy removal after use as well.

*Id.* at 7.

The Examiner also rejected claim 21 for obviousness over Blin in view of De La Poterie, and further in view of Fukuoka. Final Act. 7–10. Claim 21 limits claim 1 by reciting specific polyolefins with a (meth)acrylate end group as the “at least one first block that is soluble in said liquid carbon-based medium.” *See* Br. 20 (claim 21). The Examiner found that Fukuoka teaches “using a macromonomer of a polyolefin (e.g., repeating ethylene-butylene or repeating propylene) with an unsaturated double bond functional group (e.g., vinyl, (meth)acryloyl, or allyl) at its terminus.” Final Act. 9 (citing Fukuoka, 5:19–30). The Examiner also found that Fukuoka teaches that olefinic macromonomers impart desirable characteristics such as adhesive properties, heat- and weather-resistance, low-temperature tackiness, well-balanced removability, and non-staining properties. *Id.* (citing Fukuoka, 6:36–44, 16:59–17:14). The Examiner reasoned:

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to include the polyolefin macromonomer of Fukuoka et al. in the polymeric dispersion of Blin et al. and produce the instant invention. The skilled artisan would have been motivated to include the



polyolefin macromonomer because Fukuoka et al. specifically teaches forming (meth)acrylate-backboned polymers that include such macromonomers to impart adhesion to the overall polymer based upon this teaching . . . .

*Id.*

*Analysis*

On appeal, the Board “reviews the obviousness rejection for error based upon the issues identified by appellant, and in light of the arguments and evidence produced thereon.” *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential). Upon review of the record, we find no reversible error in the Examiner’s findings and conclusions, and thus affirm the Examiner’s rejection of claims 1–10, 20–23, 26–43, 45, and 46.

*Claim 1*

Appellant first argues that “Blin does not teach the block polymer and as such the entire supposition of the rejection is improper.” Br. 9. Specifically, Appellant argues that “Blin already teaches that the block copolymers are to be used in solution not in a dispersion and so modifying Blin with De La Poterie is an error.” *Id.* Thus, Appellant’s argument appears to be that the Examiner erred because Blin’s block copolymers are prepared in solution, rather than in a dispersion. *See id.* (citing Blin ¶¶ 230–37).

As an initial matter, we agree with the Examiner that Blin teaches a block copolymer comprising a first soluble block and a second insoluble block. *See* Ans. 3. Specifically, Blin teaches a cosmetic composition comprising “at least 2 distinct blocks.” Blin ¶¶ 20, 42. Blin further teaches that, in one embodiment, the first block and the second block “are incompatible in the organic liquid medium.” *Id.* ¶ 51. As the Examiner

explained, this means that the mixture formed from the first block and the second block is not miscible in the organic liquid. *Id.* ¶ 52; Ans. 3. Moreover, Blin exemplifies a first block (having a Tg of greater than or equal to 40°C) as preferably made of methyl acrylate, which—as the Examiner explained and Appellant does not dispute—is insoluble in the organic (carbon-based) liquid medium. Blin ¶ 88; Ans. 3 (citing Spec. ¶¶ 55–56). Blin also exemplifies a second block (having a Tg of between 20 and 40°C) as preferably made of 2-ethylhexyl acrylate, which is soluble in the organic liquid medium. Blin ¶ 119; Ans. 3 (citing Spec. ¶¶ 47–48). Again, Appellant does not dispute the Examiner’s finding in this regard. We therefore disagree with Appellant that “Blin does not teach the block polymer.” Br. 9.

Appellant argues that “Blin already teaches that the block copolymers are to be used in solution not in a dispersion.” *Id.* (citing Blin ¶¶ 191, 199, 207). In the Examples, Blin describes the preparation of certain polymers in “a solution containing 50% polymer active substance in isododecane.” *See* Blin ¶¶ 186–193 (Example 1), ¶¶ 194–201 (Example 2), ¶¶ 202–209 (Example 3). Appellant does not, however, persuasively rebut the Examiner’s determination that in the chemical arts, a “dispersion” encompasses a “solution.” Ans. 4. As the Examiner explained, a dispersion is a mixture of substances in the form of a suspension, colloid, or solution. *Id.*; *see also* Final Act. 8.

Appellant’s citations to Wikipedia do not rebut the Examiner’s reasoned analysis. *See* Br. 9 (citing <https://en.wikipedia.org/wiki/Solution> and [https://en.wikipedia.org/wiki/Dispersion\\_\(chemistry\)](https://en.wikipedia.org/wiki/Dispersion_(chemistry))). For example, the Internet page at <https://en.wikipedia.org/wiki/Solution>

states that a solution contains particles of a solute.<sup>5</sup> And the Internet page at [https://en.wikipedia.org/wiki/Dispersion\\_\(chemistry\)](https://en.wikipedia.org/wiki/Dispersion_(chemistry)) expressly states that there are three main types of dispersions: coarse dispersion (or suspension), colloid, and solution.<sup>6</sup> Thus, Appellant's allegation that there is a patentable distinction between Blin's "solution" and the instantly-claimed "dispersion" is not persuasive.

But even assuming that Blin's block copolymers are initially produced in a solution (and that a solution is different from a dispersion), Blin nevertheless teaches a final cosmetic composition comprising a dispersion of polymer particles, as claimed. Specifically, Blin teaches that "[t]he composition according to the invention may be in the form in particular of a . . . dispersion." Blin ¶ 446. Appellant points us to nothing in the Specification evidencing that the claimed cosmetic composition containing a "dispersion" may not first be made in the form of a "solution." *See generally* Br. The Specification, in fact, contemplates the opposite: that the first and second blocks of the block copolymer are initially synthesized in solution. *See* Spec. ¶ 76 ("If the first block, referred to as the soluble block, is synthesized in bulk, the 'insoluble' block may then be synthesized in bulk or in *solution*." (emphasis added)); *id.* ¶ 78 ("If all the blocks are synthesized in *solution*, in a common solvent, the subsequent addition of a carbon-based solvent . . . will lead to the disclosed dispersion in the carbon-based media." (emphasis added)). Thus, we are unpersuaded of reversible error in the

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<sup>5</sup> <https://en.wikipedia.org/wiki/Solution> (last visited Feb. 8, 2018).

<sup>6</sup> [https://en.wikipedia.org/wiki/Dispersion\\_\(chemistry\)](https://en.wikipedia.org/wiki/Dispersion_(chemistry)) (last visited Feb. 8, 2018).

Examiner's finding that Blin's final cosmetic composition is in the form of a dispersion. Final Act. 4.

Finally, even assuming that Blin's block copolymers are not in the form of a dispersion, we are unpersuaded of reversible error in the Examiner's determination that an ordinarily skilled artisan would have had a reason to combine De La Poterie with Blin to produce a cosmetic composition comprising a dispersion of polymer particles. Final Act. 7. Specifically, a preponderance of the evidence supports the Examiner's finding that an ordinarily skilled artisan would have been motivated to modify Blin's cosmetic composition with the hydrophobic particles dispersed in the liquid fatty phase as taught by De La Poterie. *Id.*; *see also* De La Poterie, claim 18. Blin teaches that cosmetic compositions should have "good texture" and "good staying powder on the lips," Blin ¶ 19, and De La Poterie teaches that the use of a film-forming polymer promotes adherence to keratinous materials, De La Poterie ¶ 34. Thus, we agree with the Examiner that "there is reasonably sufficient motivation to combine these two references." Ans. 6.

Appellant argues that the addition of De La Poterie "ignore[s] the teachings of Blin that teach the exact opposite." Br. 12. Appellant argues that the "proposed modification or combination of the prior art would change the principle of operation of the prior art" and therefore is improper. *Id.* But Appellant's argument is conclusory and unsupported by evidence. For example, as explained above, both Blin and the Specification describe initially producing the block polymers in solution. Blin ¶¶ 186–193 (Example 1), ¶¶ 194–201 (Example 2), ¶¶ 202–209 (Example 3); Spec. ¶¶ 76, 78. And both Blin and the Specification describe the final cosmetic

composition as in the form of a dispersion. Blin ¶ 446; Spec. ¶ 108. Appellant provides no persuasive explanation as to how the combination of De La Poterie changes the principle of operation of Blin. Thus, we find Appellant's argument unpersuasive.

*Claims 2–10, 20, 22, 23, 26–43, 45, and 46*

As to dependent claims 2–10, 20, 22, 23, 26–43, 45, and 46, Appellant only states that “[t]his error thus permeates the rejection of each of” these claims. Because this statement does not amount to a separate argument, claims 2–10, 20, 22, 23, 26–43, 45, and 46 fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

*Claim 21*

For claim 21, Appellant appears to argue that the Examiner relied on an improper “lead compound” analysis for combining the teachings of Fukuoka with Blin and De La Poterie. Br. 13–14. We disagree that the Examiner relied on a “lead compound” analysis. The Federal Circuit has explained that “[o]bviousness based on structural similarity . . . can be proved by identification of some motivation that would have led one of ordinary skill in the art to select and then modify a known compound (i.e. a lead compound) in a particular way to achieve the claimed compound.” *Eisai Co. v. Dr. Reddy's Labs., Ltd.*, 533 F.3d 1353, 1357 (Fed. Cir. 2008); *see also Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1304 (Fed. Cir. 2011) (stating that the obviousness inquiry requires “the identification of some reason that would have prompted a researcher to modify the prior art compounds in a particular manner to arrive at the claimed compounds”). For example, close structural similarity between chemical compounds, such as homologs, may provide the requisite

reason or motivation. *In re Dillon*, 919 F.2d 688, 693 (Fed. Cir. 1990) (en banc). The motivation to modify the lead compound must be grounded in the ordinarily skilled artisan's expectation that, given the close structural similarity, the claimed compounds will have the same properties as the prior-art compounds. *Id.*<sup>7</sup>

Here, the Examiner clearly did not rely on a “lead compound” analysis in rejecting claim 21. Claim 21 recites specific polyolefins with a (meth)acrylate end group as the “at least one first block that is soluble in said liquid carbon-based medium.” *See* Br. 20 (claim 21). The Examiner found that Fukuoka teaches “using a macromonomer of a polyolefin (e.g., repeating ethylene-butylene or repeating propylene) with an unsaturated double bond functional group (e.g., vinyl, (meth)acryloyl, or allyl) at its terminus.” Final Act. 9 (citing Fukuoka 5:19–30). The Examiner also found that Fukuoka specifically discloses the polyolefin macromonomer Kraton liquid polymer L-1253, which is a poly(ethylene/butylene) methacrylate macromonomer, that falls within the scope of claim 21. Ans. 8; Fukuoka 5:35–38.

Appellant does not address Fukuoka's teachings or dispute that Kraton liquid polymer L-1253 falls within the scope of claim 21. Thus, we

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<sup>7</sup> In any event, an obviousness analysis is an “expansive and flexible” inquiry. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007). The inquiry may sometimes proceed by identifying a lead compound or reference composition, but not always. *See Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011) (“A prima facie case of obviousness in the chemical arts is *often* based on a known compound, called a ‘lead compound,’ which serves as a starting point for a person of ordinary skill developing the claimed invention.” (emphasis added)).

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are not persuaded that the Examiner made a reversible error in rejecting claim 21.

#### SUMMARY

We affirm the rejections of claims 1–10, 20–23, 26–43, 45, and 46 under 35 U.S.C. § 103.

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED