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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* SHEBA BERGMAN and  
SANDRINE CHODOROWSKI-KIMMES<sup>1</sup>

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Appeal 2019-007011  
Application 14/904,199  
Technology Center 1600

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Before ERIC B. GRIMES, ULRIKE W. JENKS, and  
RACHEL H. TOWNSEND, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* GRIMES.

Opinion Dissenting filed by *Administrative Patent Judge* TOWNSEND.

GRIMES, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) involving claims to a cosmetic composition, which have been rejected as obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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<sup>1</sup> Appellant identifies the real party in interest as L’Oreal. Appeal Br. 2. We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42.

## STATEMENT OF THE CASE

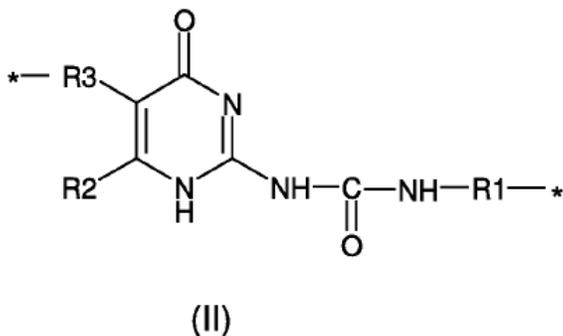
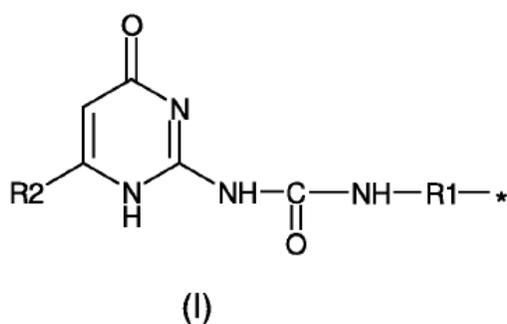
The Specification discloses compositions comprising a water-insoluble UV-screening agent (A) and a compound (B), in a cosmetically acceptable medium. Spec. 1:5–8.

The said compounds (B) make it possible efficiently to dissolve the organic screening agent (A), to obtain uniform distribution of the UV-screening agent (A) on keratin materials, improved water resistance of the UV-screening agent (A), a non-tacky feel of the compound (A)/compound (B) mixture after drying, with improved gloss relative to compound (B) alone, [and] a “long-lasting” effect of a deposit formed on the said keratin materials.

*Id.* at 1:16–21.

Claims 1–13 are on appeal. Claim 1, reproduced below, is illustrative:

1. A composition comprising, in a cosmetically acceptable medium,
  - a) at least one water-insoluble solid organic UV-screening agent (A) having a solubility in water of less than 0.1% at 25°C and at an atmospheric pressure of 760 mmHg and having a solubility of at least 1% in isopropyl N-lauroyl sarcosinate, at 25°C and at an atmospheric pressure of 760 mmHg
  - and
  - b) at least one compound (B) that is obtained by reaction between:
    - an oil bearing at least one nucleophilic and/or electrophilic reactive function, and
    - a junction group capable of establishing hydrogen bonds with one or more partner junction groups, each junction group pairing involving at least 3 hydrogen bonds, the said junction group bearing at least one reactive function capable of reacting with the reactive function borne by the oil, the said junction group also comprising at least one unit of formula (I) or (II):



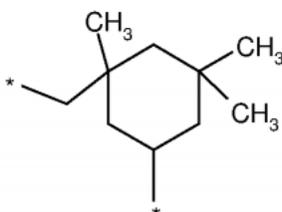
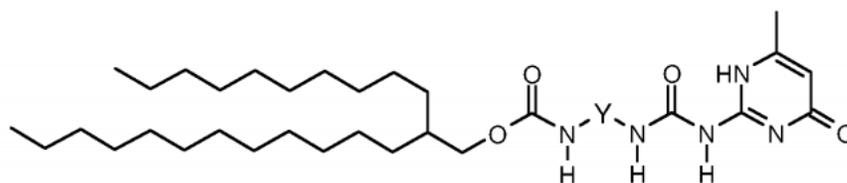
in which:

- R1 and R3, which may be identical or different, represent a divalent carbon-based radical chosen from (i) a linear or branched C<sub>1</sub>-C<sub>32</sub> alkyl group, (ii) a C<sub>4</sub>-C<sub>16</sub> cycloalkyl group and (iii) a C<sub>4</sub>-C<sub>16</sub> aryl group; optionally comprising 1 to 8 heteroatoms chosen from O, N, S, F, Si and P; and/or optionally substituted with an ester or amide function or with a C<sub>1</sub>-C<sub>12</sub> alkyl radical; or a mixture of these groups;

- R2 represents a hydrogen atom or a linear, branched or cyclic, saturated or unsaturated, optionally aromatic, C<sub>1</sub>-C<sub>32</sub> carbon-based, which optionally comprises one or more heteroatoms chosen from O, N, S, F, Si and P; and

c) at least one volatile or non-volatile hydrocarbon-based oil and/or at least one volatile or non-volatile silicon-based oil.

The Examiner required Appellant to elect a single species of compound (A) and a single species of compound (B) for examination. Req. for Restriction/Election, mailed Sept. 6, 2017. In response, Appellant elected butylmethoxydibenzoylmethane (Parsol 1789®) as the UV-screening agent (A) and, as the compound (B), 2-decyltetradecanol functionalized with ureidopyrimidone having the formula:



wherein Y is

Response to Restriction Requirement, filed December 4, 2017, page 18.

Thus, the issue presented for appeal is whether the claimed composition, comprising the elected species of compound (A) and the elected species of compound (B), would have been obvious based on the cited references. We address that specific issue here, and take no position respecting Appellant's claimed compositions comprising the remaining, non-elected species. *See Ex parte Ohsaka*, 2 USPQ2nd 1460, 1461 (BPAI 1987).

#### OPINION

Claims 1–13 stand rejected under 35 U.S.C. § 103 as obvious based on Chodorowski-Kimmes<sup>2</sup> and Candau.<sup>3</sup> Final Action<sup>4</sup> 4. The Examiner finds that Chodorowski-Kimmes “teaches compositions containing supramolecular compounds,” including the elected species of compound (B), and teaches that they have a “transfer resistant effect.” *Id.* The Examiner finds that

<sup>2</sup> US 2010/0028277 A1, published February 4, 2010.

<sup>3</sup> US 2006/0008430 A1, published January 12, 2006.

<sup>4</sup> Office Action mailed October 17, 2018.

Chodorowski-Kimmes also teaches the inclusion of volatile or non-volatile hydrocarbon-based or silicone oils. *Id.*

The Examiner finds that Chodorowski-Kimmes “does not teach the claimed ingredient a), which is UV screening agent, which is butylmethoxy dibenzoyl methane.” *Id.* However, the Examiner finds that Candau “teaches [the] claimed species drawn to water-insoluble UV screening agent, which is butylmethoxy dibenzoyl methane.” *Id.* The Examiner concludes that it would have been obvious “to add to the composition of [Chodorowski-Kimmes] having the supramolecular compound [i.e., compound (B)] UV screening agent, which is butylmethoxy dibenzoyl methane with the reasonable expectation of success that the compositions not only exhibit transfer resistant effect but also exhibit protection against UV radiation.” *Id.*

We agree with the Examiner that the cited references support a prima facie case of obviousness. Chodorowski-Kimmes discloses compositions comprising a cosmetically acceptable medium and a compound obtained by reaction of an oil and a reaction group, both of which meet certain structural requirements. Chodorowski-Kimmes ¶¶ 7–9. Chodorowski-Kimmes states that its “functionalized oils . . . are in the form of a solid; this makes it possible especially to form a non-tacky material, which does not transfer onto the fingers when applied to a keratin substrate.” *Id.* ¶ 12. One of the functionalized oils disclosed by Chodorowski-Kimmes is the elected species of compound (B) of instant claim 1. *See id.* ¶ 153.

Chodorowski-Kimmes states that its “cosmetic compositions . . . have good applicability and good covering power; good adhesion to the support, whether it is to the nails, the eyelashes, the skin or the lips; adequate

flexibility and strength of the film, and also an excellent level of long-lasting gloss.” *Id.* ¶ 17. Chodorowski-Kimmes states that its compositions “may advantageously comprise a liquid fatty phase, . . . which may comprise at least one compound chosen from volatile or non-volatile carbon-based, hydrocarbon-based, fluoro and/or silicone oils.” *Id.* ¶ 165. Chodorowski-Kimmes also discloses that its compositions can comprise sunscreens and “may thus be in the form of a product for caring and/or making up bodily or facial skin, the lips, the eyelashes, the eyebrows or the nails; an antison or self-tanning product.” *Id.* ¶¶ 209, 214.

Candau discloses “photoprotective compositions, in particular cosmetic compositions for topical application.” Candau ¶ 5. Candau states that “a particularly advantageous family of UV-A screening agents currently consists of dibenzoylmethane derivatives, and in particular 4-tert-butyl-4'-methoxydibenzoylmethane, which are liposoluble and in fact have a high intrinsic absorbing power.” *Id.* ¶ 10. Candau states that dibenzoylmethane derivatives are “well known per se as screening agents.” *Id.* Candau also states that “4-tert-butyl-4'-methoxydibenzoylmethane is, moreover, currently marketed under the trademark ‘Parsol 1789.’” *Id.*

Based on these teachings, the composition of claim 1 would have been prima facie obvious to a person of ordinary skill in the art. Specifically, it would have been obvious to include an oil and a UV screening agent (i.e., sunscreen) along with the elected compound (B) in Chodorowski-Kimmes’ composition, because Chodorowski-Kimmes expressly suggests including these components. In addition, it would have been obvious to use butyl-methoxydibenzoylmethane (Parsol 1789®) as the UV-screening agent

because Candau teaches that dibenzoylmethane derivatives are well known UV screening agents and butylmethoxydibenzoylmethane is commercially available. A composition meeting all of the limitations of claim 1 thus would have been prima facie obvious based on the teachings of Chodorowski-Kimmes and Candau.

With regard to the prima facie case, Appellant argues that “Chodorowski-Kimmes discloses the compounds (B) that are used in the present invention . . . but [discloses] nothing about their ability to solubilize materials that are difficult to solubilize.” Appeal Br. 11. Appellant argues that “Candau is concerned with improving the photochemical stability (or photostability) of certain dibenzoylmethane sunscreens.” *Id.* Thus, Appellant argues, “neither Chodorowski-Kimmes nor Candau is concerned with problems addressed by the present invention” and a skilled artisan “would not be led or motivated by the cited art to combine such and expect to any reasonable degree that these problems would be addressed.” *Id.* at 12–13.

This argument is unpersuasive, because “[i]n determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007). “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420. Here, the suggestion by Chodorowski-Kimmes to include a sunscreen in its composition, and the teaching by Candau that butylmethoxydibenzoylmethane is a known, commercially available UV screening agent, together provide sufficient reason for combining the elements of claim 1 in the manner claimed.

Appellant also argues “the present application already includes comparative examples that illustrate the unexpected results obtained from the present invention.” Appeal Br. 13. Appellant points to “the solubility tests on pages 51–53 of the Specification,” which are said to “show that compounds B1 [the elected species of compound (B)] and B2 . . . make it possible to dissolve screening agents (A) Nos. 1<sup>5</sup> to 6 and 8,” whereas “on account of its insolubility, the films containing the UV-screening agent No. 7 (outside the invention) could not be prepared.” *Id.*

More specifically,

compounds (B) made it possible to dissolve the screening agents (A) in accordance with the invention in the 50/50 weight/weight compound (B)/isododecane mixture and, secondly, that compounds (B) formed with the screening agents (A) a homogeneous film with enhanced gloss relative to the film obtained without the UV-screening agent.

*Id.*

The Specification describes a “[s]olubility test of the screening agents (A) in mixtures of compounds (B) and of isododecane.” Spec. 51:10–11. Compound (B1) corresponds to the elected species of compound (B) recited in the claims. *See id.* at 46:15–21. The Specification discloses that the maximum solubility of butylmethoxydibenzoylmethane in isododecane alone (compound B<sub>0</sub>) is 1% w/w, whereas its maximum solubility in a 50/50 mixture of isododecane and compound (B1) is 15% w/w. *Id.* at 52.

The inclusion of compound (B1) along with isododecane thus increased the solubility of butylmethoxydibenzoylmethane in isododecane by fifteen-fold. The Specification states that “[t]he aim of . . . find[ing] efficient

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<sup>5</sup> UV screening agent No. 1 is butylmethoxydibenzoylmethane. Spec. 49:1–4.

solvents for water-insoluble solid organic UV-screening agents” that have desirable properties “surprisingly . . . can be achieved by combining particular water-insoluble solid organic UV-screening agents defined below with particular compounds that are capable of establishing hydrogen bonds with particular partner junction groups.” *Id.* at 3:14–27.

Neither Chodorowski-Kimmes nor Candau discuss the solubility of butylmethoxydibenzoylmethane in isododecane, with or without compound (B). Chodorowski-Kimmes provides working examples that combine isododecane with 36% or 50% of elected compound (B). *See* Chodorowski-Kimmes ¶¶ 247–257 (referring to the compound of its Example 10). But neither of these examples includes butylmethoxydibenzoylmethane.

For its part, Candau discloses that dibenzoylmethane derivatives like butylmethoxydibenzoylmethane “are oil-soluble solid screening agents” and that effective solvents include “alcohol benzoates . . . , in particular C<sub>12</sub>/C<sub>1–5</sub> alkyl benzoates, for instance the commercial products Finsolv TN or Witconol APM.” Candau ¶ 12. Candau also discloses that “an aryl phenylethyl ester compound . . . makes it possible to effectively solubilize the dibenzoylmethane derivative: butyl methoxydibenzoylmethane.” *Id.* ¶ 14. However, Candau does not disclose the solubility of butylmethoxy-dibenzoylmethane in isododecane or a combination of isododecane and compound (B) of the claims.

Thus, neither of the cited references provide evidence to suggest that a person of ordinary skill in the art would have expected that including 50% of the elected species of compound (B) would increase the solubility of butylmethoxydibenzoylmethane in isododecane by fifteen-fold. The cited

references therefore do not provide any basis for doubting the Specification's statement that this result was surprising. *See In re Soni*, 54 F.3d 746, 751 (Fed. Cir. 1995) (“Mere improvement in properties does not always suffice to show unexpected results. In our view, however, when 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.”).

The Examiner reasons that the elected species of UV-screening agent (A) is the same as that used in Candau's working examples and therefore it will have the solubility recited in claim 1 “since a compound and its properties are inseparable.” Ans. 6.

The Examiner's reasoning, however, does not show that a skilled artisan would have expected the results shown in the Specification; i.e., that including 50% of the elected species of compound (B) increases the solubility of butylmethoxydibenzoylmethane in isododecane by fifteen-fold. Because the Examiner has not provided evidence or sound technical reasoning to show that the results shown in the Specification would have been expected, we conclude that Appellant has provided sufficient evidence of nonobviousness to outweigh the evidence of obviousness provided by the cited references. The rejection of claims 1–13 under 35 U.S.C. § 103 based on Chodorowski-Kimmes and Candau is reversed.

DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1-13	103	Chodorowski-Kimmes, Candau		1-13

REVERSED

TOWNSEND, *Administrative Patent Judge, dissenting.*

I respectfully dissent from my colleagues' decision to reverse the Examiner's rejection of claims 1–13 under 35 U.S.C. § 103 as obvious over Chodorowski-Kimmes and Candau. I do not find the evidence supports a conclusion of non-obviousness as to the elected species because the demonstration is not commensurate in scope with the claims. Appellant's evidence demonstrates only that the claimed sunscreen agent had a greater solubility in a 50/50 % by weight of a mixture of B1 and isododecane as compared to isododecane alone. The claim does not require any particular amounts of B1 to isododecane and there is insufficient data to determine that the greater solubility demonstrated at a 50-50 mixture would be expected at other ratios of B1 to isododecane.