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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SEVERIN LUC RAMSES HARVEY,
MARK JOHANNES LELIEVELD, and JASPER ZUIDERVAART¹

Appeal 2017-011805
Application 13/510,126
Technology Center 1600

Before TAWEN CHANG, JOHN E. SCHNEIDER, and RYAN H. FLAX,
Administrative Patent Judges.

SCHNEIDER, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal² under 35 U.S.C. § 134 of the Examiner’s final rejection of claims to a polyethylene glycol containing shaving composition which have been rejected as obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Appellants identify the Real Party in Interest as “Koninklijke Philips N.V.” Appeal Br. 2.

² We have considered and herein refer to the Specification of May 16, 2012 (“Spec.”); Final Office Action of December 2, 2016 (“Final Act.”); Appeal Brief of April 27, 2017 (“Appeal Br.”); Examiner’s Answer of July 24, 2017 (“Ans.”); and Reply Brief of September 25, 2017 (“Reply Br.”).

STATEMENT OF THE CASE

The Specification states:

Friction during shaving may be irritating and is not desired. Hence, it is a first aspect of the invention to reduce friction during shaving. Reducing friction during shaving may improve shaving performance, which is desired by consumers. Traditional blade shavers may employ lubra strips to provide additional gliding properties. Friction between the cartridge and the skin may be further reduced by using a liquid additive. However, unfortunately the volume requirements to achieve noticeable friction reduction are too high.

Spec. 2. The Specification describes a composition that “may reduce the amount of additive needed to achieve noticeable friction reduction but may at the same time also reduce friction while shaving or during other activities. Hence, the invention provides in an aspect a composition that can be used while shaving.” *Id.*

Claims 1–3, 5, 16, 19, 21, and 22 are on appeal.³ Claim 1 is representative and reads as follows:

1. A composition comprising;
a liquid including one or more low molecular weight polyethylene glycols (LMW-PEGs); and
a solid suspended in the liquid and including one or more high molecular weight polyethylene glycols (HMW-PEGs) for dissolution upon contact with water during use and decreasing friction,
wherein the one or more LMW-PEGs have a molecular weight in a range of 200 to 500 dalton,
wherein the one or more HMW-PEGs have a molecular weight in a range of 36,000 to 45,000 dalton, and
wherein the one or more LMW-PEGs and the one or more HMW-PEGs are present in amount of excess of 50% by

³ Claims 6–15, 17, and 18 are pending in the application, but have been withdrawn from consideration. Final Act. 2.

weight in the composition for providing the composition having a reduced volume and reduced friction as the solid is dissolved upon contact with water during use.

Claims 1–3, 5, 16, 19, 21, and 22 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Harrison⁴ in view of Littau.⁵

DISCUSSION

Issue

The issue presented in this appeal is whether a preponderance of the evidence supports the Examiner’s conclusion that the subject matter of the claims would have been obvious over the combination of Harrison and Littau.

The Examiner finds that Harrison teaches a topical cosmetic composition 50 to 90% of a polyethylene glycol (“PEG”) composition. Final Act. 4. The portion of Harrison cited by the Examiner teaches a composition having two PEG components. Final Action 4 (citing Harrison paras 16, 25). Harrison discloses that the two PEG components can have molecular weights of about 100 or 150 to about 1000, or about 3000, or about 5000, or higher. Harrison paras 16, 25. As determined by the Examiner, Harrison also teaches that these two PEG components can be provided in a ratio of 0.1 to 10 and that the difference in molecular weight between the two can be 1000 or more. Final Action 4 (citing Harrison paras 13, 25). The Examiner finds that Harrison teaches that the difference in molecular weight between the PEG components can be over 1,000. *Id.*

⁴ Harrison, US 2008/0057017 A1, published March 6, 2008 (“Harrison”).

⁵ Littau et al., US 2005/0215443 A1, published September 29, 2005 (“Littau”).

The Examiner finds that Littau similarly teaches a topical skin composition comprising two PEG components with differing molecular weights with one PEG component having a molecular weight of about 35,000. Final Act. 5.

The Examiner concludes:

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to produce the formulations of Harrison with a PEG skin conditioning component with a MW of 36,000 as taught by Littau et al. in order to produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because both references are drawn to topical skin care compositions comprising PEG and skin conditioning components. Therefore it would have been obvious to utilize the 36,000 MW PEG skin conditioner of Littau et al., in the formulations of Harrison in order to use a known skin conditioning component with a known molecular weight. Further, as Harrison already teaches a PEG component having a MW over 5[,]000, it would be advantageous to use one component that will provide dual benefits.

From the teachings of the reference, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Final Act. 5–6.

Findings of Fact

We adopt the Examiner's findings as our own, including with regard to the scope and content of, and motivation to modify or combine, the prior art. Final Act. 4–6. The following findings are included to highlight certain evidence:

FF1. Harrison discloses preshave compositions comprising “at least about 50% by weight of a polyalkylene glycol component, preferably including at least two portions of different molecular weights, and an additional component in an amount effective to benefit the area of the body to be shaved.” Harrison Abstract. Harrison teaches that the additional component may include, for example, “one or more medications, such as anti-fungal agents and the like, one or more fragrances, one or more colorants and the like particularly suited for application to the benefiting of one or more body areas to be shaved.” Harrison ¶ 6; *see also id.* ¶ 47 (compositions of invention may include skin conditioners).

FF2. Harrison teaches that the viscosities of the composition can range from 50 cps to about 100 cps or more. Harrison ¶ 11.

FF3. Harrison teaches

In one very useful embodiment, the polyalkylene glycol component, preferably a polyethylene glycol component, comprises a first polyalkylene glycol component portion having a first molecular weight and a second polyalkylene glycol component portion having a second molecular weight which is reduced relative to the first molecular weight.

Harrison ¶ 12.

FF4. Harrison teaches

In one very useful embodiment, the polyalkylene glycol component is present in different portions having different molecular weights. For example, in one embodiment the preshave compositions of the present invention comprise a first polyalkylene glycol component portion having a first molecular weight and a second polyalkylene glycol component portion having a second molecular weight reduced relative to the first molecular weight. It has been found that controlling the molecular weight of the polyalkylene glycol component and maintaining a relatively high concentration of the polyalkylene

glycol component are effective in providing the present lubricant compositions with a substantially advantageous combination of benefits.

Harrison ¶ 24.

FF5. Harrison teaches

Polyalkylene glycol components, for example polyethylene glycol components, and component portions, may have molecular weights varying over relatively wide ranges, for example in a range of about 100 or about 150 to about 1000 to about 3000 or about 5000 or more. In one very useful embodiment, the first polyalkylene, for example, polyethylene, glycol component portion preferably has a molecular weight in the range of about 350 to about 450. The second polyalkylene, for example, polyethylene, glycol component portion preferably has a molecular weight of less than about 270, and more preferably in a range of about 150 to about 250. When two polyalkylene glycol component portions are used together the molecular weight difference between the two portions is preferably at least about 100 or about 150 to about 300 or about 500 or about 1000 or more.

Harrison ¶ 25.

FF6. Harrison teaches that its compositions are “substantially anhydrous” and are “effective to generate heat or warming when placed in contact with water.” Harrison ¶ 8; *see also* Harrison ¶¶ 22, 54 and 62.

Harrison teaches that its compositions may be in the form of a liquid.

Harrison ¶ 48.)

FF7. Littau discloses a “multiphase aqueous cleansing composition for cleansing human skin and hair.” Littau Abstract.

FF8. Littau teaches that the cleansing composition comprises a polyalkylene glycol component, such as PEG, having a minimal molecular weight. Littau ¶ 38.

FF9. Littau also teaches that the composition may comprise a skin conditioner such as a PEG with a molecular weight of greater than 11,000 and that a particularly preferred PEG Polyglykol 35,000, which has a molecular weight of about 35,000. Littau ¶ 47.

FF10. Polyglykol 35,000 is solid. MSDS⁶ 1.

Principles of Law

[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant.

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.

In re Oetiker, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references. . . . [The reference] must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole.”

In re Merck & Co., Inc., 800 F.2d 1091, 1097 (Fed. Cir. 1986).

In cases involving overlapping ranges, [the Federal Circuit] and [its] predecessor court have consistently held that even a slight overlap in range establishes a *prima facie* case of obviousness. . . . We have also held that a *prima facie* case of obviousness exists when the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties.

⁶ AAKO B.V., MATERIAL SAFETY DATA SHEET, Polyglykol 35000 S, 1–3 (Feb. 25, 2008) (“MSDS”).

In re Peterson, 315 F.3d 1325, 1329 (Fed. Cir. 2003).

Where . . . the claimed and prior art products are identical or substantially identical . . . the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. . . . [The] fairness [of the burden-shifting] is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products.

In re Best, 562 F.2d 1252, 1255 (CCPA 1977).

Analysis

We find the Examiner has established a prima facie case that the claims would have been obvious to one of ordinary skill in the art at the time the invention was made over Harrison combined with Littau. *See supra* Issue and Findings of Fact Sections. Appellants have not produced evidence showing, or persuasively argued, that the Examiner's determinations on obviousness are incorrect. Only those arguments made by Appellants in the Briefs have been considered in this Decision. Arguments not presented in the Briefs are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015). We have identified claim 1 as representative and Appellants argue the claims as a group; therefore, all claims fall with claim 1. We address Appellants' arguments below.

Appellants argue that the combination of references does not teach or suggest a composition comprising a HMW-PEG suspended in a liquid which dissolves on contact with water and decreases friction. Appeal Br. 9. Appellants contend that, while Harrison teaches that the HMW PEG component may have a molecular weight of over 5,000, the Specification specifically teaches a molecular weight for the HMW PEG of from 350 to

450. Appeal Br. 9–10. Appellants also argue that Harrison does not teach the presence of a solid suspended in a liquid. Appeal Br. 10.

Appellants contend that while Littau teaches the use of a HMW PEG with a molecular weight of 35,000, the HMW PEG is dissolved in an aqueous formulation and is not present as a solid. Appeal Br. 10, Reply Br. 4. Appellants contend that the use of a PEG with a molecular weight of 35,000 would not lead one skilled in the art to use a PEG with a molecular weight of from 36,000 to 45,000. Appeal Br. 10.

Appellants argue that nothing in either Harrison or Littau would lead one skilled in the art to use a HMW PEG to produce a composition that reduces friction and volume during shaving. Appeal Br. 11–12.

We have considered Appellants' arguments and find them unpersuasive. Polyglykol 35000 is a solid in its pure state. FF10. While Littau suggests that it is not solid in the composition of Littau, Littau's composition is aqueous, hence it would be expected that Polyglykol 35000 would not be present as a solid because Polyglykol 35000 is water soluble. Ans. 3, MSDS 2. The compositions of Harrison, however, may be liquid and are substantially anhydrous. FF6. There is no water present in the compositions of Harrison to dissolve the Polyglykol 35000. We agree with the Examiner that one skilled in the art would expect addition of Polyglykol 35000 to the low molecular weight ("LMW") PEG of Harrison to result in solids suspended in a liquid. Ans. 3.

While we agree with Appellants that neither reference specifically teaches the range of molecular weights recited in claim 1, we agree with the Examiner that the recited range would have been obvious. Harrison teaches that the HMW PEG component can have a molecular weight of greater than

5,000 and that the difference between the HMW-PEG and LMW-PEG components can exceed 1,000. FF5. Littau teaches that a PEG with a molecular weight of greater than 11,000 may act as a skin conditioner and further teaches a preferred PEG having a molecular weight of about 35,000 (Polyglykol 35,000), which is very close to the lower end of the claimed molecular weight range of 36,000 to 45,000. FF9. While the molecular weight of Polyglykol 35,000 is not within the claimed range, Littau does teach PEG skin conditioners having molecular weights (i.e., greater than 11,000) that encompasses the claimed range of 36,000 to 45,000; furthermore, a prima facie case of obviousness may also exist where, as in the case of Littau's preferred PEG Polyglykol 35,000, "the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties." *Peterson*, 315 F.3d at 1329.

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. 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, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990) (citations omitted, emphasis in original). Here, Appellants have not persuasively argued that the claimed HMW-PEG components' specific molecular weight is critical, or that it achieves some unexpected result relative to the closest prior art, i.e., a 35,000 PEG. *See generally* Appeal Br. We conclude it would have been obvious based on Littau's teachings.

With respect to the properties of lubricity and volume reduction, we do not find Appellants' argument persuasive. Harrison teaches the use of a HMW PEG in a *lubricant* composition. FF4. In addition, the composition advanced by the Examiner and that of claim 1 are nearly identical and one would expect them to have the same properties, absent evidence to the contrary.

“[W]here the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.”

In re Best, 562 F.2d 1252, 1254–55, (CCPA 1977) (quoting *In re Swinehart*, 439 F.2d 210, 212–13 (CCPA 1971)). Appellants have not offered any credible evidence that the proposed composition would not have the same properties as the claimed composition.

Conclusion of Law

We conclude that a preponderance of the evidence supports the Examiner's determination that the subject matter of claim 1 would have been obvious over Harrison combined with Littau.

Claims 2, 3, 5, 16, 19, 21, and 22 have not been argued separately and, therefore, fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

SUMMARY

We affirm the rejection under 35 U.S.C. § 103(a) of claims 1–3, 5, 16, 19, 21, and 22.

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TIME PERIOD FOR RESPONSE

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