



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 15/655,038 filed 07/20/2017 by Qing STELLA, attorney docket 14467, confirmation 1654. Also includes examiner VU, JAKE MINH, art unit 1618, notification date 09/10/2020, and delivery mode ELECTRONIC.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

- centraldocket.im@pg.com
mayer.jk@pg.com
pair_pg@firsttofile.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte QING STELLA, BETH ANN SCHUBERT,
and MICHAEL STEPHEN MAILE

Appeal 2020-000830
Application 15/655,038
Technology Center 1600

Before JEFFREY N. FREDMAN, TAWEN CHANG, and
MICHAEL A. VALEK, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal^{1,2} under 35 U.S.C. § 134 involving claims to a hair care composition comprising a metathesized unsaturated polyol ester. The Examiner rejected the claims as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We affirm and enter a new ground of rejection.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the Real Party in Interest as The Procter & Gamble Company (*see* Appeal Br. 1).

² We have considered the Specification of July 20, 2017 (“Spec.”); Final Office Action of Jan. 18, 2019 (“Final Action”); Appeal Brief of June 14, 2019 (“Appeal Br.”); and Examiner’s Answer of Sept. 3, 2019 (“Ans.”).

Statement of the Case

Background

“In order to provide hair conditioning benefits in a cleansing shampoo base, a wide variety of conditioning actives have been proposed. However, including active levels of conditioning agents in shampoos may result in rheology and stability issues, creating consumer trade-offs in cleaning, lather profiles, and weigh-down effects” (Spec. 1:17–20). The Specification teaches “a desire to find a conditioning active that is both derived from a natural source and leads to a stable product comprising a micellar surfactant system” (*id.* 1:27–28).

The Claims

Claims 1, 3, 5, 8,³ 11, 14, and 20 are on appeal. Claim 1 is sole independent claim, is representative and reads as follows:

1. A hair care composition comprising:
 - a) a metathesized unsaturated polyol ester, said metathesized unsaturated polyol ester having the following properties:
 - (i) a free hydrocarbon content, based on total weight of metathesized unsaturated polyol ester, of from about 0% to about 5%; and
 - (ii) a weight average molecular weight of from about 5,000 Daltons to about 50,000 Daltons;
 - b) from about 5% to about 50% of one or more anionic surfactants, by weight of said hair care composition; and
 - c) at least about 20% of an aqueous carrier, by weight of said hair care composition;wherein the metathesized unsaturated polyol ester has an iodine value of from about 30 to about 200.

³ We note that claim 8 depends from cancelled claim 7 and does not further limit claim 1. Should this case undergo further prosecution, the Examiner should address these issues.

The Rejections

- A. The Examiner provisionally rejected claims 1, 3, 5, 8, 11, 14, and 20 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over copending Application No. 15/655,075 (Final Act. 3).
- B. The Examiner rejected claims 1, 3, 5, 8, 11, 14, and 20 under 35 U.S.C. § 102(a)(1) as anticipated by Carter⁴ (Final Act. 4–5).

A. Obviousness-type Double Patenting

Appellant does not dispute the rejection of the claims under obviousness-type double patenting rejections on the merits (*see* Br. 1–3). We therefore summarily affirm the provisional obviousness-type double patenting rejection over copending Application No. 15/655,075. *See* Manual of Patent Examining Procedure § 1205.02 (“If a ground of rejection stated by the examiner is not addressed in the appellant’s brief, that ground of rejection will be summarily sustained by the Board.”)

B. 35 U.S.C. § 102(a)(1) over Carter

The Examiner finds

CARTER teaches a hair care (see title) composition comprising of: a metathesized unsaturated polyol ester (see title), such as metathesized canola oil, palm oil, and soybean oil (see pg. 4, line 23 - pg. 5, line 4; and Appellant's claim 20) and SEFOSE® (see pg. 5, line 10-12; and Appellant's [0069]) with an iodine value of about 120 (see pg. 5, line 27); 5-50% anionic surfactant (see abstract); at less about 20% of an aqueous carrier (see abstract).

⁴ Carter et al., WO 2013/158380 A2, issued Oct. 24, 2013.

(Ans. 6). The Examiner finds “when canola oil is metathesized, then CARTER’s metathesized canola oil would have similar chemical/physical properties as claimed by Appellant” (*id.*).

The issue with respect to this rejection is: Does a preponderance of the evidence of record support the Examiner’s conclusion that Carter inherently anticipates the claims?

Findings of Fact

1. Table 11 of the Specification is reproduced below:

Table 11

	Metathesized oils	Mw	IV	Free hydrocarbons, %
Comparative	Hydrogenated soy polyglycerides (and) C ₁₅₋₂₃ alkane ¹	3,900	4.4	6-11
Inventive	Metathesized canola oil ²	3,900	85	0.5
	Metathesized canola oil ³	21,000	Not measured	0.5
	Metathesized canola oil ⁴	10,000	Not measured	0.2
	Metathesized Palm oil ⁵	4,000	43	1.6

¹ Elevance Smooth SC-110, available from Elevance Renewable Sciences, Woodridge, IL.

² Example 1B in Table 4.

³ Example 1C in Table 4.

⁴ Example 1D in Table 4.

⁵ Example 5.

Table 11 provides exemplary metathesized oils including soy, canola, and palm and provides their molecular weights, iodine values, and free hydrocarbon percents (*see* Spec. 64).

Principles of Law

The Examiner bears the initial burden of establishing a prima facie case of anticipation. *In re King*, 801 F.2d 1324, 1326–27 (Fed. Cir. 1986).

Anticipation under 35 U.S.C. § 102 requires that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999).

Analysis

Appellant contends “the Office Action fails to point to disclosure that teaches each and every element of the claims, either expressly or inherently” (Appeal Br. 3).

The Examiner responds that “the rejection is based on CARTER's teaching of metathesized canola oil” and “[metathesized] canola oil would have similar/same chemical/physical properties as claimed by Appellant, such as ‘. . . molecular weight of about 5,000-50,000 Dalton . . . ’” (Ans. 7).

We find that Appellant has the better position because the evidence in Table 11 of the Specification does not support the Examiner’s inherency position that metathesized canola oils necessarily have molecular weights falling within the claimed range of 5,000 to 50,000 Daltons. Table 11 shows three examples of metathesized canola oil, two of which have molecular weights within the claimed range and one of which has a molecular weight of 3,900 Daltons, below the claimed range.

“Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.” *MEHL/Biophile Int’l. Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999). As applied to the instant facts, while metathesized canola oil may have a molecular weight within the claimed range, the evidence of Table 11 shows that metathesized canola oil can have a molecular weight of 3,900 Daltons, outside the claimed range. Therefore,

the Examiner's inherency argument fails because metathesized canola oil does not necessarily have a molecular weight falling within the claimed range. "To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference[']." *Robertson*, 169 F.3d at 745 (emphasis added).

Conclusion of Law

A preponderance of the evidence of record does not support the Examiner's conclusion that Carter inherently anticipates the claims.

C. New Ground of Rejection

Under the provisions of 37 C.F.R. § 41.50(b), we enter the following new ground of rejection.

We reject claims 1, 3, 5, 8, 11, 14, and 20 under 35 U.S.C. § 103(a) as obvious over Carter and Lynch⁵.

Findings of Fact

2. Carter teaches, regarding element (a) of claim 1, "a hair care composition comprising . . . oligomers derived from metathesis of unsaturated polyol esters" (Carter 2).

3. The Specification teaches, regarding element (a)(i) of claim 1, that the "term 'free hydrocarbon' refers to any one or combination of unsaturated or saturated straight, branched, or cyclic hydrocarbons in the C₂ to C₂₄ range" (Spec. 3:19–20).

4. Carter teaches, regarding element (a)(i) of claim 1, that "examples of unsaturated polyol esters include diesters such as those derived

⁵ Lynch et al., US 2015/0313803 A1, published Nov. 5, 2015.

from ethylene glycol or propylene glycol, esters such as those derived from pentaerythritol or dipentaerythritol, or sugar esters . . . such sucrose polyesters have a chain length of about C₁₂ to C₂₀” (Carter 5:10–28).

5. Carter teaches the “unsaturated polyol ester is an unsaturated ester of glycerol. Sources of unsaturated polyol esters of glycerol include . . . canola oil” (Carter 4:23–5:3).

6. Carter does not teach molecular weight averages for the metathesized unsaturated polyol ester but does teach “the metathesized unsaturated polyol esters have a particle size of from about 0.05 to about 35 microns, alternatively from about 0.1 to about 10 microns, and alternatively from about 0.1 to about 2 microns” (Carter 7:17–19).

7. Carter teaches, regarding element (b) of claim 1, including “(b) from about 5% to about 50% of one or more anionic surfactants, by weight of said hair care composition” (Carter 2).

8. Carter teaches, regarding element (c) of claim 1, including “(c) at least about 20% of an aqueous carrier, by weight of said hair care composition” (Carter 2).

9. Carter teaches, regarding the wherein clause, that “polyesters may have a saturation or iodine value (‘IV’) of about 3 to about 140” (Carter 5:25–26).

10. Lynch teaches consumer products such as shampoos (Lynch ¶ 2) and teaches “to obtain rheological properties, such as shear viscosity, elongational viscosity, and elasticity of the processing mixture desirable for fiber formation” and “to optimize the ratio of the high and low weight-average molecular weight polyethylene oxide to obtain desirable rheological properties” (Lynch ¶ 36).

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).

Analysis

Carter teaches a hair care composition comprising a metathesized unsaturated polyol ester (FF 2) composed of hydrocarbons in the range cited by the Specification as including free hydrocarbons (FF 3–4).

Carter also teaches an overlapping range of anionic surfactants and aqueous carrier (FF 7–8). Carter teaches an overlapping range for iodine values (FF 9). *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.”)

As to the requirement for hydrocarbon content between 0% and 5%, the evidence supports the Examiner’s position that the metathesized canola oils disclosed by Carter (FF 5) inherently have a “free hydrocarbon” content within the claimed range based on Table 11 of the Specification, which shows that all metathesized canola oils fall within the claimed range (FF 1).

We note that inherency may be relied upon in obviousness determinations. *See In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (“Where, as here, 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. . . Whether the rejection is based on “inherency” under 35 U.S.C. § 102, on “prima facie obviousness” under 35 U.S.C. § 103, jointly

or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products.").

While Carter does teach ranges of particle sizes for metathesized unsaturated polyol esters (FF 6), Carter does not expressly teach optimizing the molecular weight of the resulting polymers.

Lynch teaches, in the same hair care field of endeavor, that the ordinary artisan would optimize polymer molecular weights in order to obtain desirable rheological properties (FF 10).

We therefore find it would have been prima facie obvious to the person of ordinary skill at the time the invention was made to combine the optimization teaching of Lynch with Carter's metathesized canola oil hair care composition in order to optimize the rheology of the hair care composition. "[W]here 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, 456 (CCPA 1955).

Regarding claims 3 and 14, we note that the evidence of Table 11 shows canola oil inherently falls within the claimed range (FF 1).

Regarding claim 5, we rely on the optimization rationale discussed above.

Regarding claim 8, we note that Carter's disclosed iodine value overlaps the claimed 30 to 120 range (FF 9).

Regarding claims 11 and 20, Carter teaches the use of metathesized canola oil (FF 5).

We have considered Appellant's argument relying upon the Stella⁶ Declaration that:

The Carter reference has chemistries with similar properties as those of the Comparative Example in the Specification (See Table 11 of the Specification). The Hydrogenated soy polyglycerides (and) C15-23 alkane of the comparative example (IV value is 4.4, MW is 3900 and free hydrocarbons are 6-11 %) does not have the same properties as claimed in the inventive examples (IV value is greater than 30 and free hydrocarbons are less than 5%).

(Appeal Br. 2-3).

We find the argument unpersuasive for several reasons. First, while the soy compositions tested in Table 11 of the Specification may differ in free hydrocarbon amount from the requirements of claim 1, we and the Examiner rely upon metathesized canola oil, not soy, as expressly disclosed in Carter (FF 5). Second, while we agree with Appellant that Carter does not anticipate the molecular weight range recited in claim 1, our new ground of rejection for obviousness over Carter and Lynch above explains why an ordinarily skilled artisan would have understood molecular weight to be an optimizable variable (FF 5, 10) and therefore subject to routine optimization. Appellant provides no evidence of unexpected results or other secondary considerations to demonstrate that the claimed range is unobvious. Third, Carter discloses the use of overlapping iodine value ranges (FF 9), and Table 11 shows that such ranges necessarily and inherently include the values for metathesized canola oil (FF 1). We therefore find the claims obvious over Carter and Lynch for the reasons given above.

⁶ Declaration of Qing Stella, dated March 12, 2019.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed	New Ground
1, 3, 5, 8, 11, 14, 20	Obviousness-type double patenting	US application 15/655,075	1, 3, 5, 8, 11, 14, 20		
1, 3, 5, 8, 11, 14, 20	102	Carter		1, 3, 5, 8, 11, 14, 20	
1, 3, 5, 8, 11, 14, 20	103	Carter, Lynch			1, 3, 5, 8, 11, 14, 20
Overall Outcome			1, 3, 5, 8, 11, 14, 20		1, 3, 5, 8, 11, 14, 20

We entered a new ground pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.” Section 41.50(b) also provides:

When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the examiner, overcomes the new ground of rejection designated in the decision. Should the examiner reject the

Appeal 2020-000830
Application 15/655,038

claims, appellant may again appeal to the Board pursuant to this subpart.

(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

AFFIRMED; 37 C.F.R. § 41.50(b)