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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/425,713	02/06/2017	Jorge Max SUNKEL	14712	3215

27752 7590 02/28/2020

THE PROCTER & GAMBLE COMPANY
GLOBAL IP SERVICES
CENTRAL BUILDING, C9
ONE PROCTER AND GAMBLE PLAZA
CINCINNATI, OH 45202

EXAMINER	
ROSENTHAL, ANDREW S	

ART UNIT	PAPER NUMBER
1613	

NOTIFICATION DATE	DELIVERY MODE
02/28/2020	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 JORGE MAX SUNKEL

Appeal 2019-000212
Application 15/425,713
Technology Center 1600

Before ULRIKE W. JENKS, TIMOTHY G. MAJORS, and MICHAEL A. VALEK, *Administrative Patent Judges*.

JENKS, *Administrative Patent Judge.*

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from Examiner's decision to reject claims 1–16 as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

STATEMENT OF THE CASE

According to the Specification, personal care compositions often contain emulsions. "In a conventional two-phase emulsion system, a discontinuous phase (sometimes referred to as the internal phase or dispersed phase) is dispersed throughout a continuous phase as a multitude

---

[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as The Procter & Gamble Company, Cincinnati, Ohio. Appeal Br. 1.

of droplets. In cosmetics, the two most common types of emulsions are oil-in-water (O/W) emulsions and water-in-oil (W/O) emulsions." Spec. 1:21–25. "[S]kin care compositions in the form of a W/O HIPE can provide the desirable light feel of a O/W emulsion and the perception of good moisturizing associated with a W/O emulsion." *Id.* at 2:30–32. The addition of "relatively large superabsorbent polymer particles into the aqueous phase of a W/O HIPE can provide an improved sensory experience to a user." *Id.* at 5:9–11. According to the Specification, high internal phase emulsions (HIPEs) "include a dispersed phase present at an amount greater than the continuous phase. For example, the volume fraction of the dispersed phase of a HIPE may be greater than 0.74." *Id.* at 2:28–30.

Claims 1–16 are on appeal, and can be found in the Claims Appendix of the Appeal Brief. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A personal care composition in the form of a water-in-oil, high internal phase emulsion, comprising:
>
> a. more than about 74%, by volume, of an internal aqueous phase;
>
> b. about 0.01% to about 3%, by weight, of a superabsorbent polymer (SAP) in the aqueous phase; and
>
> c. less than about 26%, by volume, of a continuous oil phase.

Appeal Br. 11 (Claims Appendix). Claim 16, the only other independent claim, additionally recites the droplet size of the aqueous phase and the particle size of the swollen SAP.

REFERENCE(S)

The prior art relied upon by Examiner is:

Name	Reference	Date
Catalfamo et al. ("Catalfamo")	US 6,369,121 B1	Apr. 9, 2002
Finley et al. ("Finley")	US 2015/0023895 A1	Jan. 22, 2015
Labatut	US 2015/0342864 A1	Dec. 3, 2015

REJECTION(S)

The following grounds of rejection are before us for review:

I. Claims 1–16 under 35 U.S.C. § 103 as unpatentable over Finley and Catalfamo.

II. Claims 1 and 7–15 under 35 U.S.C. § 103 as unpatentable over Labatut.

I. Obviousness over Finley and Catalfamo

Does the preponderance of evidence of record support Examiner's conclusion that the claims are obvious?

Findings of Fact

FF1. Finley teaches that "[e]mulsion may be generally classified as having a continuous aqueous phase (e.g., oil-in-water and water-in-oil-in-water) or a continuous oil phase (e.g., water-in-oil and oil-in-water-in-oil)." Finley ¶ 30. Finley teaches that water or water miscible solvent can be present in the emulsion from about 1–95%. *Id.* Finley teaches that oil based carriers can be present in the emulsion from about 1−95%. *Id.* ¶ 31.

FF2. Finley teaches that "[t]he superabsorbent polymer used in the composition of the invention is preferably provided in the form of particles which, once hydrated, swell with the formation of soft beads

having a number-average diameter of 10 μm to 1000 μm." Finley ¶ 43. Finley provides a list of suitable SAP polymers (*see id.* ¶¶ 44–46) including Makimousse 12 and Makimousse 25 (*id.* ¶ 46). The SAP polymer is present in the composition from about 0.01–10%. *Id.* ¶ 47. Finley teaches that the SAP is dissolved in the water phase prior to forming an emulsion. *See id.* claim 9.

FF3. Finley teaches the incorporation of 0.1 % to about 20% of a non-emulsifying crosslinked organopolysiloxane elastomer. Finley ¶ 49.

FF4. Finley teaches the incorporation of nonionic, anionic, or cationic emulsifiers in the range of 0.01–2%. Finley ¶ 90.

FF5. Catalfamo teaches methods for producing HIPEs. Catalfamo 10:31–36. Catalfamo teaches that in the production of HIPEs it is important that "the distribution of the individual phases during the mixing process must be kept uniform, not only for purposes of having a uniform viscosity, but also to insure that the distribution of components being mixed is uniform." *Id.* at 10:45–49. "[U]niform cell sizes can be used to uniformly contact relatively large surfaces with a relatively small amount of an active carried in the continuous, external phase." *Id.* at 10:7–10.

FF6. Catalfamo teaches the "water-to-oil phase in the HIPE is at least about 2:1, and is typically in the range of from about 2:1 to about 250:1, more typically from about 4:1 to about 250:1." Catalfamo 3:10–12.

Principle 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

Examiner finds that Finley teaches skin care compositions containing water, SAP, and oil in overlapping ranges relative to the claimed ranges. Ans. 5–9; FF1–FF4. Examiner acknowledges that "Finley does not exemplify a water-in-oil emulsion" but notes that Finley's claims "clearly describe a w/o emulsion as being a suitable formation of [Finley's] invention." Ans. 6. Examiner also acknowledges that "Finley does not teach the droplets of the internal aqueous phase as being between 10-250 microns." *Id.* Examiner relies on Catalfamo for teaching a method of making HIPE containing similar components as those disclosed in Finley. *Id.*; FF5–FF6. Examiner relies on Catalfamo

> for its teaching that in forming HIPE, the shear rate can be adjusted to achieve a desired droplet size. As such, droplet size is a variable property of the emulsion that can be modified by routine experimentation. Catalfamo further identifies that increasing the shear rate decreases the mean droplet size from about 121 microns to about 10 microns . . . . By decreasing the droplet size and thus making it more uniform, Catalfamo teaches, [that] the viscosity of the HIPE increases.

Ans. 13–14; FF5–FF6. Examiner identifies that the skilled artisan's motivation to make HIPE from the formulations contemplated in Finley is to create products having "[u]niformity of the emulsion . . . to insure distribution of components." *Id.* at 14.

Appellant contends that Finley does not teach high internal phase emulsions (HIPE) emulsions but instead teaches low-internal phase emulsions (LIPE) (Appeal Br. 2–5); that there is no reason to "to modify the LIPE system of Finley to provide a HIPE system as disclosed in Catalfamo" (*id.* at 5–7); that Examiner is improperly relying on inherency (*id.* at 7–8);

and that Examiner has not given weight to Appellant's proffered unexpected results (*id.* at 8–9).

We are not persuaded by Appellant's contention that Finley is limited to LIPE emulsions. Appellant contends that Finley "is directed to conventional, low-internal phase emulsions ('LIPEs'), i.e., emulsions in which the continuous phase is present at a higher amount than the dispersed phase." Appeal Br. 3. Appellant contends that Finley is silent with respect to the HIPE. *Id.* at 4. Appellant contends that one of skill in the art would understand that "the phase that is present in the greater concentration will tend to be the continuous phase." *Id.* (citing https://www.processingmagazine.com/emulsion-stability-basics/) (emphasis omitted). According to Appellant

> if oil were slowly added to the 40 percent O/W emulsion with good agitation, the emulsion would gradually become more and more viscous and then suddenly become quite fluid again. After this point is reached, closer examination would show that the emulsion was the W/O type. This process is known as inversion, and the final product is sometimes called an invert emulsion.

Id. (emphasis removed). Regardless of inversion, Appellant argues, the product is still an LIPE. *Id.*

We are not persuaded by Appellant's arguments because they address the teachings in Finley separately, when Examiner's rejection relies on a combination to arrive at a conclusion of obviousness. The test for obviousness is what the combined teachings of the references as a whole would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Here, Examiner acknowledges that Finley is silent with respect to the formation of a particular emulsion (*see* Ans. 6) but

finds that Finley teaches emulsions that contain SAP in the water phase. *See id.* at 13 ("Finley clearly teaches including the SAP (Makimousse 25) in the aqueous phase"). Examiner relies on Catalfamo for teaching methods of making HIPE using similar components to those disclosed in Finley. *See id.* at 6.

Catalfamo evidences that high internal phase emulsions (HIPE or HIPEs), and the benefits of such, would have been known to one of ordinary skill in the art. Catalfamo 1:14–2:28. The production of HIPEs, results in a "relatively high dispersed phase to continuous phase ratios the continuous (external) phase becomes essentially a thin film separating and coating the droplet-like structures of the internal, dispersed phase." Catalfamo 1:19–22. Catalfamo further explains that after premixing the two immiscible fluids the "premixed process stream [is processed] using at least one static mixer segment in a single pass so as to provide sufficient shear to emulsify said first phase in said second phase creating said high internal phase emulsion having a[n] internal phase size distribution with a mean particle size." *Id.* at 2:43–48. "Another typical component of the oil phase [as explained in Catalfamo] is an emulsifier (or emulsifiers) that permits the formation of stable HIPE emulsions. Suitable emulsifiers . . . include any of a number of conventional emulsifiers." *Id.* at 6:43–47. Catalfamo teaches that "[t]he internal water phase of the HIPE is generally an aqueous solution containing one or more dissolved components," such as water-soluble electrolytes. *Id.* at 9:24–26. Catalfamo teaches that the "dispersed liquid can contain an active ingredient that is soluble (or insoluble) which, upon the polymerization of the continuous (external) phase and evaporation of the dispersed (internal) phase, coats (or is contained in) the polymerized cells

form a polymer foam with various properties." *Id.* at 10:11–15. Examples of components that can be dispersed in the liquid aqueous phase are "gelatinizing powders such as starch for cushions, and concrete for light weight structural foams." *Id.* at 10:26–28. Catalfamo explains that by controlling particle size and selection of emulsifier one can create HIPE emulsion. Catalfamo teaches that it is the processing of the components that determines whether a composition forms an HIPE. *See id.* at 10:43–45 ("if too much shear force is applied, the continuous phase will be ruptured allowing the discontinuous phase droplets to re-combine"). We determine that Examiner has provided sufficient evidence that, based on the combination of Finley and Catalfamo, one of ordinary skill in the art would have been motivated to produce HIPE emulsions using the components taught in Finley and applying the process taught in Catalfamo.

We are also not persuaded by Appellant's contention that there is no reason "to modify the LIPE system of Finley to provide a HIPE system as disclosed in Catalfamo." Appeal Br. 5–7. Here, Examiner identifies that HIPE emulsions, as disclosed in Catalfamo, are desirable to ensure uniformity of the emulsion for distribution of components. *See* Ans. 14 ("Uniformity of the emulsion is desired to insure distribution of components"), FF5. The law does not require that the teachings of the reference be combined for the reason or advantage contemplated by the inventor, as long as some suggestion to combine the elements is provided by the prior art as a whole. *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992); *In re Kronig*, 539 F.2d 1300, 1304 (CCPA 1976).

We are also not persuaded by Appellant's contention that Examiner is improperly relying on inherency. Here, Examiner is relying on Finley for

teaching the inclusion of a SAP within the water phase before the components are combined to form an emulsion. *See* Ans. 6 (Finley's claims "clearly describe a w/o emulsion as being a suitable formation of their invention"). Examiner is relying on inherency with respect to the components having a particular size and exhibiting a phase separation under a particular level of stress. *See* Ans. 5 ("The ability of the SAP to alter or not alter the viscosity and the particle sizes thereof are considered inherent properties of the elected species of sodium polyacrylate starch") (citing *In re Spada*, 911 F.2d 705, 709 (Fed. Cir. 1990)). We find no error on this record with Examiner's reliance on inherency to establish that the same chemical compounds would necessarily have the same properties.

We are also not persuaded by Appellant's contention that Examiner has not given weight to Appellant's evidence of alleged unexpected results. Specifically, cite to the alleged discovery that the inclusion of SAP in an emulsion leads to products having improved sensory experiences. Appeal Br. 8. Examiner explains, however, why the proffered evidence is not sufficient. *See* Ans. 16–17. Examiner points out that "the data is not commensurate in scope with the claims since the claims are broad to any oil and water phases and to any SAP, but compositions C and D [as shown in Table 2 of the Specification] only use one SAP and specific agents in the two phases." Ans. 16; *In re Lindner*, 457 F.2d 506, 508 (CCPA 1972) ("It is well established that the objective evidence of nonobviousness must be commensurate in scope with the claims."). Examiner finds that Appellant has not established a sufficient nexus between the evidence and the merits of the claimed invention. Ans. 16 (citing *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010); *Ormco Corp. v. Align Technology, Inc.*, 463

F.3d 1299, 1312 (Fed. Cir. 2006) ("[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent.")). Examiner finds that "Appellant has shown that difference in sensory [perception] exist[s] when variations in the amount of SAP are made but have not shown that this is unexpected," especially because the components of the conventional cream (for the comparative testing) are not disclosed. Ans. 16–17. The evidence of record, therefore, supports the conclusion that Examiner considered Appellant's proffered evidence of unexpected results but found the evidence insufficient to overcome the prima facie case.

The question before us is whether the evidence provided is sufficiently probative of non-obviousness because they show unexpected results that are "'different in kind and not merely in degree from the results of the prior art.'" *See Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 739 (Fed. Cir. 2013) (quoting *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004)). Here, the Specification compares SAP-containing O/W HIPE with a commercial product that is an O/W LIPE. *See* Spec. 21. As Examiner points out, the Specification does not disclose the composition of the commercial product used in the comparison studies. Thus, Appellant's evidence is insufficient to show whether the improved skin feel is due to the structure of the emulsion (e.g., HIPE vs. LIPE) or a feature present in the prior art (e.g., the inclusion of SAP in the formulation as taught in Finley and Labatut). One of ordinary skill in the art would have known that the inclusion of SAP in a skin formulation provides improved sensory effect. *See* Labatut ¶ 191 (inclusion of SAP provides a feeling that is thicker between the fingers, and that the observed "dragging effect is

increased in the presence of superabsorbent polymer, which is also reflected by a tendency to slow down the speed of penetration."). Thus, an improvement to the sensory experience resulting from the inclusion of a SAP would have been expected. Accordingly, we find no error with Examiner conclusion that the evidence relied on by Appellant is not sufficient to overcome the evidence of obviousness.

We conclude, considering the totality of the cited evidence and arguments, that the preponderance of the evidence supports Examiner's conclusion of obviousness with respect to claim 1, and Appellant has not provided sufficient rebuttal evidence or evidence of secondary considerations that outweighs the evidence supporting Examiner's rejection. As Appellant does not argue the claims separately, claims 2–16 fall with claim 1. 37 C.F.R. § 41.37 (c)(1)(iv).

II. Obviousness over Labatut

Appellant contends that "Labatut is directed to conventional LIPE systems and not HIPEs." Appeal Br. 9. Appellant contends "there is no disclosure in Labatut that the 80% – 97% aqueous phase is the internal phase of the emulsions." Reply Br. 4; Appeal Br. 9.

Examiner finds that Labatut recites many of the elements recited in the claim but acknowledges that "Labatut does not embody a composition comprising the elected species or an additional emulsifier nor does it exemplify a water-in-oil emulsion." Ans. 10. Examiner's position is that "[b]ecause the amount of aqueous internal phase [of Labatut] is greater than the oil phase, the emulsion can be considered a HIPE based on the Appellant's definition." Ans. 17.

We find that, on this record, Appellant has the better position.

Example 1 of Labatut discloses a composition that contains a SAP in the aqueous phase that is then mixed with the additional components including the oil phase. Labatut ¶¶ 187–188. Labatut identifies the use of a Rayneri mixer for processing the components (*see id.* ¶ 188) but is otherwise silent with respect to the structure of the product produced by this mixer. Identifying that the individual components are within the claimed range is not enough to establish that when combined the product has the requisite HIPE structure. What is missing from Examiner's analysis for this rejection is evidence that an artisan would have a reason to formulate Labatut's components into an HIPE as opposed to an LIPE.[2] *See KSR*, 550 U.S. at 418 (obviousness rejections require "some articulated reasoning with some rational underpinning"). Just because the composition can be processed in a way that could result in an HIPE structure does not provide a sufficient reason to show that the ordinarily skilled person would have done so. We are not persuaded that Examiner has met the burden of setting out a prima facie case of obviousness over Labatut.

Accordingly, we reverse the rejection over Labatut alone.

[2] Notably, unlike the first rejection, Examiner does not cite Catalfamo, nor rely on its teachings concerning HIPEs, for this rejection.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–16	103	Finley, Catalfamo	1–16	
1, 7–15	103	Labatut		1, 7–15
Overall Outcome			1–16	

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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED