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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/201,186	11/14/2011	Karl Manfred Voelker	ES-4662-1947	7436
23117	7590	10/15/2019	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			DICUS, TAMRA	
			ART UNIT	PAPER NUMBER
			1791	
			NOTIFICATION DATE	DELIVERY MODE
			10/15/2019	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KARL MANFRED VOELKER, THOMAS LINDEMANN, and
DENIS HUG

Appeal 2019-000557
Application 13/201,186
Technology Center 1700

Before ROMULO H. DELMENDO, JEFFREY T. SMITH, and
CHRISTOPHER C. KENNEDY, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), the Appellant¹ appeals from the Primary Examiner's decision to reject claims 1–3, 6, 7, 10–12, and 14.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. The Appellant identifies “DSM IP Assets B.V.” as the real party in interest (Appeal Brief filed April 26, 2018 (“Appeal Br.”) at 3).

² In reply to a new ground of rejection in the Examiner's Answer entered August 31, 2018 (“Ans.”), a Reply Brief was filed October 31, 2018 (“Reply Br.”). Therefore, pursuant to 37 C.F.R. § 41.39(b)(2), the appeal has been maintained. *See also* Appeal Br. 7–15; Final Office Action entered August 25, 2017 (“Final Act.”) at 2–7.

BACKGROUND

The subject matter on appeal relates to an emulsion comprising a specified amount of polyunsaturated fatty acids (PUFAs), which may be used in food products, especially beverages (Specification filed August 11, 2011 (“Spec.”) at 1, ll. 3–11). Representative claim 1 is reproduced from the Claims Appendix to the Appeal Brief, as follows:

1. An emulsion comprising
 - (i) 6-18 weight % of poly unsaturated fatty acids;
 - (ii) 10-40 weight % of gum Arabic;
 - (iii) 5-45 weight % of at least one adjuvant; and
 - (iv) 15-50 weight % of water.

(Appeal Br. 17).

REJECTION ON APPEAL

Claims 1–3, 6, 7, 10–12, and 14 stand rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Mehansho et al.³ (“Mehansho”) in view of Sakata et al.⁴ (“Sakata”) (Ans. 4–11).⁵

DISCUSSION

1. Grouping of Claims

The Appellant relies on the same arguments for all claims on appeal (Reply Br. 2–9). Therefore, we decide this appeal on the basis of independent claim 1, which we designate as representative pursuant to 37 C.F.R. § 41.37(c)(1)(iv). Claims 2, 3, 6, 7, 10–12, and 14 stand or fall with claim 1.

³ US 2007/0298083 A1, published December 27, 2007.

⁴ US 2008/0249000 A1, published October 9, 2008.

⁵ The Examiner no longer relies on Heise et al. (US 2006/0110521 A1, published May 25, 2006), applied in the final rejection (Final Act. 2).

2. *The Examiner's Position*

The Examiner finds that Mehansho describes an emulsion (for a beverage) that may have the same ingredients recited in claim 1 (Ans. 4). Regarding the amount of PUFA, the Examiner finds that Mehansho teaches using PUFA in an amount of 5 g/100 mL, which equates to about 5 weight percent—a value that is close to the lower endpoint of 6 weight percent recited in claim 1—and, therefore, concludes that a *prima facie* case of obviousness exists as to the PUFA amount limitations (*id.*). According to the Examiner, “the range of amounts that are used [in Mehansho] would fall into [the] Applicant’s ranges and would be achieved by routine experimentation” because “discovering an optimum value of a result effective variable such as by increasing the amount involves only routine skill in the art” (*id.* at 5).

As for the amount of gum Arabic, the Examiner acknowledges that Mehansho does not disclose any amount for this component in the emulsion but finds that the reference teaches a concern with fish oil odor (*id.* at 6). The Examiner finds further that Sakata, which is also concerned with reducing odor in emulsions, teaches gum Arabic in a less than 50 mass % aqueous solution as having excellent emulsification ability (*id.*). Based on these findings, the Examiner concludes that a person having ordinary skill in the art would have included gum Arabic in amounts that overlap those recited in claim 1 “since Mehansho already teaches gum Arabic and it suffices as a *prima facie* case of obviousness and further having benefits as taught above [in Sakata]” (*id.*).

As for the amount of adjuvants, the Examiner finds that Mehansho teaches adding vitamins up to the recommended daily intake (USRDI)

amounts and, therefore, concludes that a person having ordinary skill in the art would have added these adjuvants in amounts that overlap or fall within the range recited in claim 1 (*id.* at 5).

Regarding the amount of water, the Examiner finds that Mehansho discloses an example in which the water content is approximately 57 weight percent and that “[t]he increase of water yields a more fluid drink” (*id.* at 4, 6). According to the Examiner, the determination of optimum amounts for the ingredients, including the water content in the emulsion, would have been obvious to a person having ordinary skill in the art as a matter of routine optimization (*id.* at 6).

3. *The Appellant’s Contentions*

The Appellant contends that the prior art references would not have suggested the PUFA, adjuvant, and water amounts recited in claim 1 because (i) 5% by weight PUFA disclosed in Mehansho is not close to 6% by weight PUFA recited in the claim as those values differ by 20%, (ii) 57% by weight water disclosed in Mehansho differs from 50% by water recited in the claim by 14%, and (iii) the nutrient (adjuvant) amounts disclosed in Mehansho are merely trace amounts that are nowhere close to the lower limit of 5% in the claim (Reply Br. 3–5). Regarding gum Arabic, the Appellant argues that Sakata discloses modified gum Arabic, which is not gum Arabic (*id.* at 5–7). Furthermore, the Appellant argues that paragraph 17 in the Funda Declaration filed May 1, 2017 establishes unexpected results (*id.* at 7).

4. *Opinion*

The Appellant’s arguments fail to identify reversible error in the Examiner’s rejection. *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011).

Mehansho describes a stable aqueous emulsion (for use in food or beverages) comprising water, a blend of esters including esters of polyunsaturated fatty acids (PUFAs), such as omega-3 fatty acids, and emulsifiers/stabilizers such as gum Arabic (Mehansho, Abstract and ¶¶ 31, 41–43, 116 (claim 1)).

Regarding the PUFA amount, we start by consulting the claim language and the Specification to ascertain what the Inventors meant by “poly unsaturated fatty acids” or “PUFA.” *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997) (“Implicit in our review of the Board’s . . . analysis is that the claim must first have been correctly construed to define the scope and meaning of each contested limitation.”).

The current Specification informs one skilled in the relevant art that the term “PUFA (Polyunsaturated fatty acid)” not only reads on a polyunsaturated fatty acid with at least 2 carbon-carbon double bonds, but also its salts and esters including EPA (eicosapenta-5,8,11,14,17-enoic acid) and DHA (docosahexa-4,7,10,13,16,19-enoic acid) (Spec. 2, l. 32–3, l. 12). According to the Inventors, the term “PUFA” also includes fish oils commercially available and known under the trademark ROPUFA[®] from DSM Nutritional Products Ltd. (*id.* at 3, ll. 16–18).

Based on this understanding of “PUFA” or “poly unsaturated fatty acids,” we discern no reversible error in the Examiner’s determination that Mehansho would have suggested PUFA amounts that fall within the range recited in claim 1. Contrary to the Appellant’s belief, Mehansho’s disclosure for PUFA amounts is not limited to those approaching 5% by weight because that disclosure (Mehansho ¶ 37) relates to preferred embodiments and to the concentrations of omega-3 fatty acid species only.

As the Examiner explains (Ans. 8), Mehansho's disclosure is not limited to its examples (Mehansho ¶ 116 (claim 1)). Moreover, Mehansho describes a concentrated emulsion that includes Ropufa [sic, ROPUFA[®]] '30' Fish Oil (Roche), which contains EPA, DHA, and omega fatty acid, in an amount as high as 8.25% by weight of a concentrated emulsion (Mehansho ¶¶ 112–113 (Example 4, Table 5)). And, consistent with the Examiner's position, the discovery of suitable relative amounts of components in a known composition would have been within the level of a person having ordinary skill in the art as a matter of routine experimentation. *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) (“[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.”).

As for the water content, we discern no reversible error in the Examiner's finding that a higher water content would yield a more fluid drink (Ans. 6). On this point, Mehansho teaches a beverage composition containing 57.31% by weight of water (Mehansho ¶ 108 (Table 3)). A person having ordinary skill in the art would have drawn a reasonable inference from this working example that a concentrated emulsion or even a powder formulation (*id.* ¶ 110 (Table 4)) having a substantially lower water content is within the scope of Mehansho's disclosure. Therefore, it would have been obvious to a person having ordinary skill in the art to formulate an emulsion with a lower water content, such as 50% by weight, for ease of storage and/or transport. *In re Preda*, 401 F.2d 825, 826 (CCPA 1968) (“[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences

which one skilled in the art would reasonably be expected to draw therefrom.”).

As for the amount of adjuvant, the Appellant does not specifically address the Examiner’s reasoning that any amount within the recommended daily intake of nutrients, which would necessarily include the amounts recited in claim 1, may be used. Moreover, the current Specification includes an expansive definition for “adjuvant” (Spec. 7, ll. 7–15)—i.e., it reads on various materials such as saccharides, which include sugar, or even triglycerides.

We also agree with the Examiner (Ans. 9) that “gum Arabic” as recited in claim 1 does not exclude the type of modified gum Arabic described in Sakata. In Sakata, the modification of gum Arabic to provide gum Arabic with enhanced emulsifying ability merely involves providing a less than 50 mass % aqueous solution of gum Arabic at a temperature generally below 60°C (Sakata ¶¶ 37, 88 (claim 1)). The Appellant does not direct us to any description in the current Specification that would preclude such a modification.

Lastly, we discern no error in the Examiner’s assessment of the Funda Declaration (¶ 17) as lacking factual basis (Ans. 9–10). That paragraph merely states a conclusion without any supporting comparative experimental data. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997).

For these reasons, and those given by the Examiner, we uphold the rejection as entered against claim 1.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Evidentiary Basis	Affirmed	Reversed
1-3, 6, 7, 10-12, 14	103(a)	Mehansho, Sakata	1-3, 6, 7, 10-12, 14	

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