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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/801,805	07/16/2015	Randal M. Hill	C1408.70024US02	8755
23628	7590	01/29/2020	EXAMINER	
WOLF GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE BOSTON, MA 02210-2206			RUNYAN, SILVANA C	
			ART UNIT	PAPER NUMBER
			3674	
			NOTIFICATION DATE	DELIVERY MODE
			01/29/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RANDAL M. HILL, DAVID GERMACK,
MELINDA SOEUNG, and DAVID L. HOLCOMB

Appeal 2019-003287
Application 14/801,805
Technology Center 3600

Before LINDA E. HORNER, BENJAMIN D. M. WOOD, and
MICHAEL J. FITZPATRICK, *Administrative Patent Judges*.

FITZPATRICK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant, Flotek Chemistry, LLC,¹ appeals under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 1–25. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellant is the “applicant” under 37 C.F.R. § 1.42(b) and identifies itself as the sole real party in interest. Appeal Br. 3.

STATEMENT OF THE CASE

The Specification

The Specification's disclosure relates to "[m]ethods and compositions comprising particles for the treatment of an oil and/or gas well." Spec. 1:10–11.

The Claims

Claims 1–25 are rejected. Final Act. 1. Claim 1, the sole independent claim, is illustrative and reproduced below.

1. A method for treating an oil and/or gas well comprising,
 - combining a first fluid and a second fluid to form an emulsion or a microemulsion, the emulsion or the microemulsion including an aqueous continuous phase,
 - wherein the first fluid comprises a plurality of hydrophobic nanoparticles and a non-aqueous phase;
 - wherein the second fluid comprises a surfactant and an aqueous phase; and
 - wherein, in the emulsion or the microemulsion, a portion of the hydrophobic nanoparticles are each at least partially surrounded by the surfactant and in contact with at least a portion of the non-aqueous phase; and
 - injecting the emulsion or the microemulsion including the aqueous continuous phase into an oil and/or gas well comprising a wellbore.

Claims App. (filed Nov. 19, 2018) 2.

The Examiner's Rejections

The rejections before us are as follows:

1. claims 1–3, 5, 11–17, and 19–25 under 35 U.S.C. § 102(a)(2) as anticipated by Maghrabi² (Final Act. 2); and
2. claims 4, 6–10, and 18 under 35 U.S.C. § 103 as unpatentable over Maghrabi and Kakadjian³ (*id.* at 12).

DISCUSSION

Rejection 1 – Anticipation by Maghrabi

Maghrabi is titled “Emulsified Acid with Hydrophobic Nanoparticles for Well Stimulation.” Maghrabi, [54]. The Examiner found that Maghrabi teaches all of the limitations of claim 1. Final Act. 2–4 (citing Maghrabi ¶¶27–28, 113–114, 124).

Appellant argues that the Maghrabi teachings cited by Examiner as anticipatory of claim 1 are unrelated to one another. Thus, according to Appellant, “[a]ny attempt to reach a method that includes each limitation of claim 1 would need to combine unrelated descriptions in a way that is not taught by, and is even discouraged by, Maghrabi.” Appeal Br. 6 (citing *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972)).

“In particular, [according to Appellant,] there is no description whatsoever in Maghrabi of using an oil-in-water emulsion including hydrophobic nanoparticles and an aqueous continuous phase as recited in claim 1.” *Id.* at 7. Rather, according to Appellant, “the only description in Maghrabi relating to such hydrophobic particles is [in] the context of the emulsified acid method which uses the water-in-oil emulsion composition”

² US 2014/0116695 A1, published May 1, 2014 (“Maghrabi”).

³ US 2009/0200033 A1, published Aug. 13, 2009 (“Kakadjian”).

(i.e., continuous oil phase). *Id.* (citing Maghrabi ¶¶27–28). Appellant argues that Maghrabi’s paragraphs 113 and 114 regarding continuous aqueous phases are not related to Maghrabi’s emulsified acid method taught at paragraphs 27 and 28. *Id.* at 8 (The “statement in Maghrabi in [0013]-[0114] regarding the fact that an emulsion can be an oil-in-water type or water-in-oil type . . . merely provides background information about emulsions, in general, and does not pertain to Maghrabi’s emulsified acid process.”) (citing Aug. 7, 2017, Declaration of first named inventor Randal M. Hill ¶7).

The Examiner responds, in part, as follows:

In Paragraph 0168, Maghrabi expressly discloses: “The **emulsion** can also include other additives. For example, the emulsion can contain a freezing-point depressant. Preferably, the freezing point depressant is for the **water of the continuous phase**.” (emphasis added). Thus, Maghrabi expressly discloses that the emulsion has an **aqueous** (i.e., water) **continuous phase**.

This portion of the disclosure corresponds with the disclosure of Maghrabi at Paragraphs 0112-0115. These paragraphs in Maghrabi expressly state that an emulsion can be an oil-**in-water** type, which would have an **aqueous continuous phase**. Additionally, these paragraphs in Maghrabi expressly state that multiple emulsions are possible and include a water-in-oil-**in-water** type, which would have an **aqueous continuous phase**.

Ans. 4 (all emphasis by Examiner).

The Examiner has the better position. Maghrabi discloses a “method [that] includes the steps of: (A) forming a treatment fluid comprising a composition *according to the invention*; and (B) introducing the treatment fluid into a well.” Maghrabi ¶28 (emphasis added). Paragraph 27 provides one embodiment of that composition. However, the “Detailed Description”

provides many additional variations of the composition. *Id.* ¶29.

Under a section titled “Emulsion,” Maghrabi teaches that “[a]n emulsion can be an oil-in-water (o/w) type or water-in-oil (w/o) type,” the former being an aqueous continuous phase. *Id.* ¶114. Maghrabi further states:

It should be understood that multiple emulsions are possible. These are sometimes referred to as nested emulsions. Multiple emulsions are complex polydispersed systems where both oil-in-water and water-in-oil emulsions exist simultaneously in the fluid, wherein the oil-in-water emulsion is stabilized by a lipophilic surfactant and the water-in-oil emulsion is stabilized by a hydrophilic surfactant. These include water-in-oil-in-water (w/o/w) and oil-in-water-in-oil (o/w/o) type multiple emulsions.

Id. ¶115. Finally, in paragraph 168 (cited in the Answer), Maghrabi refers to an emulsion that explicitly has a continuous aqueous phase. *Id.* ¶168 (“For example, the emulsion can contain a freezing-point depressant . . . for the *water of the continuous phase.*” (emphasis added)).

The teachings cited by the Examiner regarding an aqueous continuous phase (i.e., paragraphs 113, 114, and 168) are related to the exemplary composition of paragraphs 27 and 28, in that they are variations of that composition. Appellant’s argument to the contrary is not persuasive, and Appellant does not apprise us of error in the anticipation rejection of claim 1.⁴ Accordingly, we affirm the rejection of claim 1, as well as that of claims 2–3, 5, 11–17, and 19–25, which claims Appellant argued solely based on their ultimate dependence from claim 1. *See* Appeal Br. 9.

Rejection 2 – Obviousness in View of Maghrabi and Kakadjian

Appellant argues the obviousness rejection solely on the basis that the

⁴ Appellant did not file a reply brief.

additional reference, Kakadjian, does not cure the alleged deficiency in the anticipation rejection of claim 1. Appeal Br. 9. Because there is no such deficiency, Appellant has not apprised us of error. Accordingly, we affirm the rejection of claims 4, 6–10, and 18 under 35 U.S.C. § 103 as unpatentable over Maghrabi and Kakadjian.

SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–3, 5, 11–17, and 19–25	102(a)(2)	Maghrabi	1–3, 5, 11–17, and 19–25	
4, 6–10, and 18	103	Maghrabi, Kakadjian	4, 6–10, and 18	
Overall Outcome			1–25	

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