UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW D. MALEC, TIMOTHY M. FIGLEY, and KRISTA L. TURPIN

Appeal 2013-005196
Application 12/456,567
Technology Center 1600

Before DONALD E. ADAMS, DEMETRA J. MILLS and JACQUELINE T. HARLOW, *Administrative Patent Judges*.

MILLS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134. The Examiner has rejected the claims for obviousness. We have jurisdiction under 35 U.S.C. § 6(b).

WE AFFIRM.

STATEMENT OF CASE

The following claims are representative.

1. An ultra-high load, aqueous glyphosate salt-containing concentrate comprising:

a. water;

b. glyphosate salt in solution in the water in an amount greater than about 39 weight percent of acid equivalent, based on the weight of the concentrate, said glyphosate salt being selected from the group consisting of the isopropylamine salt of glyphosate, the potassium salt of glyphosate, mixtures of the isopropylamine salt and the potassium salt of glyphosate and mixtures of the potassium salt and the ammonium salt of glyphosate;

c. a surfactant system in an amount ranging from about 1 to about 20 weight percent, based on the weight of the concentrate, comprising:

i. from about 10 to about 60 weight percent, based on the weight of the surfactant system, of one or more dialkoxylated alkylamines;

ii. from about 5 to about 30 weight percent, based on the weight of the surfactant system of one or more water miscible solubilizers; and

iii. from about 30 to about 75 weight percent, based on the weight of the surfactant system, of one or more amine oxides;

said concentrate having a cloud point above at least 70° C, or no cloud point when the concentrate is heated to its boiling point.

26. The concentrate of claim 25 wherein the water miscible solubilizer comprises polyalkylene glycol possessing a molecular weight of from about 200 to about 1000.

27. The concentrate of claim 26 wherein the polyalkylene glycol is polyethylene glycol.

Cited References

Parker et al.,	US 5,843,866	Dec. 1, 1998
Pallas et al.,	US 2003/0087764 A1	May 8, 2003

Grounds of Rejection

1. Claims 1–25 and 28–31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pallas.
2. Claims 26 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pallas in view of Parker.

FINDINGS OF FACT

The Examiner's findings of fact are set forth in the Answer at pages 4–11. The following facts are highlighted.

1. The Appellants' Specification discloses that the dialkoxylated alkylamine is preferably tallowamine. ¶ 27.
2. The Specification discloses that the water miscible solubilizer may be selected from polyalkylene glycols with polyalkylene glycols having a molecular weight ranging from about 50 to about 1000, particularly from about 100 to about 600, more particularly from about 200 to about 400, being preferred. ¶ 28.
3. The Specification discloses that amine oxide surfactants include lauryl amine oxides and lauryl dimethyl amine oxide. ¶ 29.

4. Pallas discloses "a storage stable aqueous concentrate is produced by formulating glyphosate salt with compatible solvent which has a cloud point above 60 degrees Celsius [0028–0030]." Ans. 5.

5. In Pallas, one

> embodiment features a water soluble herbicide dissolved in an aqueous medium and a surfactant component [0041–42]. The herbicide preferably comprises 10–60% of the composition, the surfactant component 0.5-30% by weight of the composition and a stabilizer and/or solvent component which ranges from 0-30% to 0-15% of the composition [0053].

Ans. 5.

6. In Pallas, it is also preferred that the surfactant component comprises one or more cationic surfactants, or a mixture of one or more cationic surfactants and one or more nonionic surfactants. ¶ 52, ¶ 123.

7. In Pallas, "Glyphosate is the preferred herbicide and the salts are selected from ammonium, potassium, isopropyl amine salt and mixtures thereof [0063]. Further co-herbicides may be present [0069]." Ans. 5.

8. In Pallas, "[p]referred cationic and nonionic surfactants include the amine oxide lauryl dimethylamine oxide (Chemoxide L670) [0115-116] and the dialkoxylated amine." Id. Tallow amine surfactants are also contemplated. ¶ 13. The amine oxide may act as a stabilizer. ¶ 51.

9. Pallas discloses an aqueous herbicidal concentrate composition or microemulsion. Abstract, ¶ 41.

10. Parker "discloses [glyphosate] formulations comprising a surfactant with 50% tallow amine, and 20% polyethylene glycol (molecular weight 600) that was mixed and then added to glyphosate (Example 3)." Ans. 7.

PRINCIPLES OF LAW

In making our determination, we apply the preponderance of the evidence standard. *See, e.g., Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office). The Board "determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction 'in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

"In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant." *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citations omitted). In order to determine whether a prima facie case of obviousness has been established, we consider the factors set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966): (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the relevant art; and (4) objective evidence of nonobviousness, if present.

"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).

The teachings of a reference are not limited to the specific examples disclosed therein. *In re Mills*, 470 F.2d 649, 651 (CCPA 1972); *In re Chapman*, 357 F.2d 418, 424 (CCPA 1966) ("A reference can be used for all it realistically teaches and is not limited to disclosures in its specific illustrative examples.").

Rejection 1

Claims 1–25 and 28–31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pallas.

We agree with the Examiner's fact finding, statement of the rejection and responses to Appellants' arguments as set forth in the Answer. We find that the Examiner has provided evidence to support a prima facie case of obviousness. We provide the following additional comment to the Examiner's argument set forth in the Final Rejection and Answer.

We find that the Examiner, on this record, has provided evidence to support a prima facie case of obviousness, which has not been rebutted by Appellants with sufficient evidence.

Pallas discloses storage stable glyphosate compositions including a surfactant system comprising surfactant component 0.5–30% by weight of the composition and a stabilizer and/or solvent component which ranges from 0-30% to 0–15% of the composition. FF5. The range of surfactant in Pallas overlaps with the 1–20% range claimed, the stabilizer/solvent of Pallas overlaps with the claimed amine oxide. In Pallas, it is also preferred

that the surfactant component comprises one or more cationic surfactants, or a mixture of one or more cationic surfactants and one or more nonionic surfactants. ¶ 53.

Preferred cationic and nonionic surfactants of Pallas include an amine oxide lauryl dimethylamine oxide (Chemoxide L70) and a dialkoxylated amine. Pallas ¶ 119. Tallowamine surfactants are also contemplated (¶¶ 13, 14; FF7) as well as combinations of cationic surfactants, and cationic and anionic surfactants. FF6. The glyphosate composition of Pallas may also optionally include propylene glycol, consistent with the claimed solubilizer (¶154). FF2.

The Examiner acknowledges that

> Pallas et al. does not teach the specific ranges within the solvent system for the dialkyoxylated alkyl amine, diethoxylated tallow amine (10-60% of the solvent component); the water miscible solubilizers (5-30%); and the amine oxides (30-75%) to form a concentrate having a cloud point above at least 70 degrees Celsius or no cloud point when the concentration is heated to its boiling point. However, it is routine optimization to select and adjust the surfactants to this range since Pallas teaches the surfactant component comprises any combination of surfactants. Pallas may not teach a cloud point above 70 degrees Celsius, but Pallas does teach the ideal cloud point should be above 60 degrees or more [0029]. Therefore, optimizing the formulation so as to achieve a cloud point higher than 60 degrees Celsius is suggested by the teachings of Pallas et al.

Ans. 5–6.

The Examiner concludes that

> It would have been prima facie obvious to combine the teachings Pallas et al. and formulate the specific solvent system so as to obtain a cloud point above 70 degrees with a reasonable

> expectation of success. One of ordinary skill would have been motivated to make the formulation by routine optimization of the surfactants since Pallas teaches that the ideal cloud point should be above 60 degrees Celsius.

Ans. 6.

Appellants contend, among other things, that Pallas fails to teach the claimed surfactant system. Br. 5. Appellants contend that Pallas' closest examples include Example 76 of Pallas which includes polyethylene glycol 400 (C97) and an ethoxylated tallowamine (C110), which fails the 60° temperature stability test. Br. 5. Example 76 also includes an octyl amine (C91) not an amine oxide, and cetereth 2 propoxylate 9 ethoxylate (C46). Page 47.

Appellants argue that Pallas

> Example 127 (p. 57) includes C10 [myristyl dimethyl amine oxide] and the ethoxylated tallowamine (C110) in three formulations. None of these formulations includes a water miscible solubilizer, however. None of these formulations, however, includes an amine oxide. In addition, all three formulations are only comparative, as each fails the test for stability at 60°C, and none is further tested.

Br. 5. Thus, Appellants admit that the examples from Pallas they put forth in support of patentability, are not comparative with Pallas disclosed preferred amine oxide surfactants (¶115) such as lauryl dimethylamine oxide (Chemoxide L70; ¶115) which may be used in combination with one or more cationic surfactants, such as dialkoxylated amines, or a mixture of one or more cationic surfactants and one or more nonionic surfactants (FF6), and which may optionally include polyethylene glycol ¶154.

We are not persuaded by Appellants' arguments. A disclosure such as Pallas is not limited to its examples. *In re Mills*, 470 F.2d 649, 651 (CCPA 1972). Appellants have failed to provide evidence to show that it would not have been routine optimization by one of ordinary skill in the art to select and adjust the disclosed surfactant combinations of Pallas to the claimed ranges since Pallas teaches the surfactant component comprises any combination of surfactants.

On balance, Appellants have failed to provide evidence that Pallas does not teach a cloud point of 70 degrees or that it would not have been routine optimization to achieve the claimed cloud point, especially in view of the fact that Pallas teaches the ideal cloud point should be above 60 degrees or more. To show criticality of the claimed range, "'it is not inventive to discover the optimum or workable ranges by routine experimentation.' *In re Aller*, 220 F.2d 454, 456 (CCPA 1955). "[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980). "[T]he discovery of an optimum value of a variable in a known process is normally obvious." Exceptions to this rule include (1) the results of optimizing a variable were unexpectedly good and (2) the parameter optimized was not recognized in the prior art as one which would affect the results. *In re Antonie*, 559 F.2d 618, 620 (CCPA 1977). Appellants have not established one of these exceptions with evidence.

Appellants remaining arguments have been addressed fully by the Examiner in the Response to Arguments section of the Answer. We adopt the Examiner's responses to these other arguments as our own.

The obviousness rejection is affirmed.

Rejection 2

2. Claims 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pallas in view of Parker.

Pallas is discussed herein and in the Answer, pages 4–6. Pallas does not teach the specific water soluble surfactant polyethylene glycol with a molecular weight from 200–1000. Ans. 7. Parker is relied on by the Examiner for the disclosure of formulations comprising a surfactant with 50% tallow amine, and 20% polyethylene glycol (molecular weight 600) that was mixed and then added to glyphosate (Example 3).

The Examiner concludes that

> It would have been prima facie obvious to combine the teachings Pallas et al. and Parker et al. and formulate the specific solvent system with the specific glycol polyethylene glycol 600 with a reasonable expectation of success. One of ordinary skill would have been motivated to make the formulation because Parker et al. teach that surfactant systems for glyphosate were known to have polyethylene glycol 600 with tallow amine surfactants at the time of the present invention.

Ans. 7.

We find that the Examiner has provided sufficient evidence to support a prima facie case of obviousness of claims 26 and 27 on this record.

Appellants contend that

> Parker uses the prepolymer to make a urethane/urea polymer that, as a film, will keep glyphosate on the plant surfaces longer. The skilled person has only disincentives to modify Parker's teachings by omitting the prepolymer, as this would destroy Parker's intended purpose of making a polymer coating that will keep the pesticide on the plant. Note that the

> glyphosate is added only after the other components (including excess water and the prepolymer) react for two hours.

Br. 8.

We are not persuaded by the Appellants' arguments. We agree with the Examiner that the pending claims use the transitional phrase "comprising" which makes the claim open to additional components such as a prepolymer. Appellants have not established with appropriate evidence that the inclusion of a prepolymer would interfere with the function of the surfactant components. "Attorney's argument in a brief cannot take the place of evidence." *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974). *See also, Gemtron Corp. v. Saint-Gobain Corp.*, 572 F.3d 1371, 1380 (Fed. Cir. 2009) (emphasizing that "unsworn attorney argument ... is not evidence").

Appellants further argue that Parker leaves out the required amine oxide. Br. 9. Again we are not persuaded by Appellants argument. The Examiner finds that Parker teaches surfactant systems of glyphosate were known to have contained PEG 600 with tallowamine at the time of the present invention to produce a stable clear solution. Ans. 11. Pallas is relied on by the Examiner for the disclosure of a surfactant system including tallow amine, amine oxide and polyethylene glycol. Appellants have failed to provide argument or evidence that one of ordinary skill in the art would not have combined Parker's tallow amine and polyethylene glycol in the amounts disclosed in the glyphosate surfactant of Pallas.

Rejection 2 is affirmed.

CONCLUSION OF LAW

The cited references support the Examiner's obviousness rejections, which are affirmed for the reasons of record. All rejected claims fall.

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

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