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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte IAN D. SMITH

Appeal 2011-003337
Application 11/890,109
Technology Center 1700

Before CHUNG K. PAK, LINDA M. GAUDETTE, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's refusal to allow claims 1through 14, all of the pending claims in the above-identified application.[1] A hearing was held on February 9, 2012. We have jurisdiction under 35 U.S.C. § 6.

[1] *See* Appeal Brief ("App. Br.") filed August 25, 2010, 2; Examiner's Answer ("Ans.") filed September 22, 2010, 2; and Reply Brief ("Reply Br.") filed November 17, 2010, 2.

STATEMENT OF THE CASE

The subject matter on appeal is directed to "aqueous hydraulic fluid compositions, especially hydraulic fluid compositions that are suitable for use in blowout preventer devices used to control wellhead pressure of oil wells" (Spec. 1, ll. 4-6). Details of the appealed subject matter are recited in representative claims 1 and 4 reproduced from the Claims Appendix to the Appeal Brief as shown below:

> 1. An aqueous hydraulic fluid composition comprising:
>
> a first lubricant comprising at least one phospholipid; and
>
> a second lubricant comprising an alkoxylate salt;
>
> wherein the hydraulic fluid composition is substantially free of an oil selected from the group consisting of mineral oils, synthetic hydrocarbon oils, and mixtures thereof.
>
> 4. The aqueous hydraulic fluid composition of claim 1 wherein the alkoxylate salt comprises a calcium, magnesium or zinc salt of an alkoxylate selected from the group consisting of laurates, palmitates, oleates and stearates.

As evidence of unpatentability of the claimed subject matter, the Examiner relies on the following prior art references at page 3 of the Answer:

Mueller	US 4,802,998	Feb. 7, 1989
Bigorra Llosas	US 2004/0167232 A1	Aug. 26, 2004
Askew	WO 2005/075612 A1	Aug. 18, 2005
Navarrini	EP 1 580 320 A2	Sep. 28, 2005

Appellant seeks review of the following grounds of rejection maintained by Examiner in the Answer:

1) Claims 1 through 3, 7, 8, and 10 through 14 under 35 U.S.C. §102(b) as anticipated by the disclosure of Askew;

2) Claims1 through 5, 7, 8, and 10 through 14 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Bigorra Llosas;

3) Claims 1 through 8 and 10 through 14 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Askew and Mueller; and

4) Claim 9 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Askew and Navarrini. (*See* App. Br. 3-4.)

RELEVANT FACTUAL FINDINGS, PRINCIPLES OF LAW, ISSUE, ANALYSES AND CONCLUSIONS[2] [3]

I. ANTICIPATION BASED ON ASKEW

According to the Examiner at page 3 of the Answer, Askew discloses hydraulic fluid compositions comprising phospholipids, salts of decanoic acid/TEA corresponding to the claimed alkoxylate salt, and less than 0.01

[2] The claims not separately argued stand or fall with the argued claims. *See* 37 C.F.R. § 41.37(c)(1)(vii) ("When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone.").

[3] Any new arguments in the Reply Brief not presented in the Appeal Brief will not be considered absent a showing of good why the arguments could not have been presented in the Appeal Brief. *See Ex parte Borden*, 93 USPQ2d 1473, 1477 (BPAI 2010) (informative).

weight percent of oil or substantially free of oil. Appellant does not dispute the Examiner's determination that the claimed alkoxylate salt embraces a salt of a fatty acid. (*Compare* Ans. 3 *with* App. Br. 10 and Reply Br. 6-7.) However, Appellant contends that the Examiner has not demonstrated that a salt of a combination of decanoic acid and TEA constitutes a salt of a fatty acid, i.e., the claimed alkoxylate salt. (*See* App. Br. 10 and Reply Br. 6-7.)

Thus, the dispositive question raised by the Examiner and Appellant is: Has the Examiner demonstrated that the salt of decanoic acid/TEA taught by Askew constitutes a salt of a fatty acid, i.e., the claimed alkoxylate salt? On this record, we answer this question in the negative.

As correctly argued by Appellant at page 10 of the Appeal Brief, the Examiner has not demonstrated that the salt of the combination of decanoic acid/TEA exemplified in Askew includes a fatty acid salt, rather than an amine salt having a decanoic acyl group ($C_{16}H_{35}NO_5$). Askew describes fatty acids as acyl groups and various amines as corrosion inhibitors. (*See* Askew, pp. 7 and 9.) Nothing in Askew identified by the Examiner teaches or suggests using decanoic acid or any other fatty acid in salt form to impart any desired function or property to its hydraulic fluid composition. (*See* Ans. 3-4.) Nor has the Examiner identified any disclosure in Askew, which indicates the presence of unreacted decanoic acid that has been neutralized in its hydraulic fluid composition. (*Id*.) Thus, on this record, we are constrained to agree with Appellant that the Examiner has not demonstrated that the salt of the combination of decanoic acid/TEA exemplified in Askew includes a fatty acid salt.

II. ANTICIPATION BASED ON BIGORRA LLOSAS

Appellant does not dispute the Examiner's finding that the nanoemulsion compositions taught by Bigorra Llosas contain the claimed phospholipid and alkoxylate salt. (*Compare* Ans. 4-5 *with* App. Br. 11-12.) Nor does Appellant argue in his Appeal Brief that the preamble limitation "aqueous hydraulic fluid" requires different proportions of phospholipid and alkoxylate salt than those taught by Bigorra Llosas, requires additional ingredients not taught by Biorra Llosas, and/or excludes any requisite (not optional) ingredients taught by Biorra Llosas. (*See* App. Br. 11-12.) Rather, Appellant contends that Bigorra Llosas does not teach using either no oil or substantially no oil in its nanoemulsion composition as required by claims 1 through 3, 7, 8, and 10 through 14. (*Id*.) In support of this position, Appellant relies upon the written description of one of the prior art references relied upon by the Examiner, namely Askew, to show that one of ordinary skill in the art would have understood the term "substantially free of oil" as something less than 0.01 weight percent of the oil. (*See* App. Br. 12.)

Thus, the dispositive question is: Has the Examiner demonstrated that Bigorra Llosas teaches a nanoemulsion composition "substantially free of oil selected from the group consisting of mineral oils, synthetic hydrocarbon oils, and mixtures thereof" as required by claims 1 through 3, 7, 8, and 10 through 14 within the meaning of 35 U.S.C. § 102(b)? On this record, we answer this question in the affirmative.

As correctly found by the Examiner at page 4 of the Answer, Bigorra Llosas teaches employing a Guerbet alcohol, in lieu of a mineral oil in its nanoemulsion composition. Specifically, Bigorra Llosas teaches employing mineral oils and/or Guerbet alcohols in its nanoemulsion compositions. (*See* Bigorra Llosas, Abstract and pp. 3-4, paras. 0047 and 0055.)

Given the three options from which Guerbet alcohols can be selected, we concur with the Examiner that one of ordinary skill in the art would have readily envisaged a nanoemulsion composition containing Guerbet alcohols and no oils, i.e., "substantially free of oil," from the teachings of Bigorra Llosas within the meaning of 35 U.S.C. §102(b). *See In re Schaumann,* 572 F.2d 312 (CCPA 1978) (When the prior art discloses a genus, a species of that genus may be anticipated when the species is part of a well delineated or limited class.); *In re Petering*, 301 F.2d 676, 682 (CCPA 1962)(A small genus can be a disclosure of each species within the genus.)

In making this finding, we have considered Appellant's reliance on the first and second Declarations of record executed by Ian Smith on February 23, 2010 and July 1, 2010, respectively to show that the claimed subject matter imparts unexpected results. (See App. Br. 4-9 and Reply Br. 4-6.) However, as stated by the predecessor to our reviewing court in *In re Malagari*, 499 F.2d 1297, 1302 (CCPA 1974), "If the rejection under [ ] 102 is proper…, appellant cannot overcome it by showing such unexpected results or teaching away in the art, which are relevant only to an obviousness rejection." *See also In re Wiggins*, 488 F.2d 538, 543 (CCPA 1973) (Evidence of unexpected results cannot overcome a rejection based on anticipation.)

Appellant separately contends that Bigorra Llosas does not anticipate the particular alkoxylate salt recited in claims 4 and 5 within the meaning of 35 U.S.C. §102(b). (App. Br. 13.)

Thus, with respect to claims 4 and 5, the dispositive question raised by the Examiner and Appellant is: Has the Examiner demonstrated that Bigorra Llosas describes the particular alkoxylate salt recited in claims 4 and 5 with sufficient specificity to meet the anticipation requirement of 35 U.S.C. §102(b)? On this record, we answer this question in the negative.

As correctly argued by Appellant at page 13 of the Appeal Brief, Bigorra Llosas discloses a long list of possible additives, including stabilizers corresponding to the specific alkoxylate salt recited in claims 4 and 5, that may be included in its nanoemulsion composition depending on its applications. (*See* Bigorra Llosas, pp. 4-5, paras. 0060, 0071 and 0072.) Some picking and choosing of ingredients from the myriad of possible additives listed in Bigorra Llosas depending on the application of a nanoemulsion composition is necessary to arrive at a nanoemulsion composition containing the specific alkoxylate salt recited in claims 4 and 5. As stated in *In re Arkley*, 455 F.2d 586, 587-88 (CCPA 1972):

> [F]or the instant rejection under 35 U.S.C. § 102(e) to have been proper, the [prior art] reference must clearly and unequivocally disclose the claimed compound or direct those skilled in the art to the compound without *any* need for picking, choosing, and combining various disclosures…. Such picking and choosing may be entirely proper in the making of a 103, obviousness rejection, where the applicant must be afforded an opportunity to rebut with objective evidence any inference of obviousness…, but it has no place in the making of a 102, anticipation rejection.

Under these circumstances, we concur with Appellant that the Examiner has not demonstrated that Bigorra Llosas describes the particular alkoxylate salt recited in claims 4 and 5 with sufficient specificity to meet the anticipation requirement of 35 U.S.C. §102(b). *See Atofina v. Great Lakes Chem. Corp*., 441 F.3d 991, 999 (Fed. Cir. 2006) (When a prior art reference teaches a large range (corresponding to a large genus) that encompasses, among other things, the claimed narrow range (corresponding to a few species), "no reasonable fact finder could conclude that the prior art describes the claimed range [i.e., the claimed species,] with sufficient specificity to anticipate this limitation of the claim."); *Schaumann*, 572 F.2d at 315 (The prior art reference must identify each and every element as set forth in the claim "with sufficient specificity to constitute a description thereof within the purview of 35 U.S.C. § 102[(b)]").

III. OBVIOUSNESS BASED ON ASKEW AND MUELLER

Askew, like Appellant, discloses an aqueous hydraulic fluid composition for use in Blow-Out Preventor (BOP) stack, a hydraulically operated safety device, used in drilling for subsea oil. (*Compare* Askew, p.1 *with* Spec. 1-2.) Appellant does not dispute the Examiner's finding at page 5 of the Answer that Askew teaches an aqueous hydraulic fluid composition comprising a phospholipid as a primary lubricant, a non-phospholipid lubricant as an additional lubricant, a corrosion inhibitor (benzotriazoles), a biocide (e.g., guanidines), an anti-freeze additive (e.g., monoethylene glycol) and less than 0.01 weight percent of oil or substantially free of oil. (*Compare* Ans. 5 *with* App. Br. 13-17 and Reply Br. 11-16; *compare also*

Askew, pp. 8-10 and 12 *with* claims 1-8 and 10-14.) Rather, Appellant contends that one of ordinary skill in the art would not have been led to employ an alkoxylate salt, such as calcium stearate, in the aqueous hydraulic fluid composition taught by Askew. (*See* App. Br. 13-17 and Reply Br. 11-16.)

Thus, the first critical question raised by the Examiner and Appellant is: Would one of ordinary skill in the art have been led to employ an alkoxylate salt, such as calcium stearate, as the additional non-phospholipid lubricant of the aqueous hydraulic composition taught by Askew within the meaning of 35 U.S.C. §103(a)? On this record, we answer this question in the affirmative.

As stated by Supreme Court of the United States in *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007):

> [A]nalysis [of whether the subject matter of a claim would have been obvious under § 103] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can *take account of the inferences and creative steps that a person of ordinary skill in the art would employ*. [(Emphasis added.)]

See also In re Bozek, 416 F.2d 1385, 1390 (CCPA 1969) ("Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness 'from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.'"). The common knowledge attributable to one of ordinary skill in the art includes what was admittedly known in the art by Appellant at the time of the invention. *See In re Nomiya*, 509 F.2d 566, 570-71 (CCPA 1975) (The

admitted prior art in applicant's Specification may be used in determining the patentability of a claimed invention.); *see also In re Davis*, 305 F.2d 501, 503 (CCPA 1962).

Here, as correctly found by the Examiner at pages 5, 6, and 11 of the Answer, Mueller teaches that calcium stearate is a known lubricant used to impart lubricant properties to a water-based fluid in the oil drilling art. Appellants also acknowledge at pages 2 and 3 of the Specification that such known calcium stearate lubricant was also known to be environmentally safe and can be discharged offshore (listed on the PLONOR list of acceptable substances) at the time of the invention. Askew teaches the desirability of employing environmentally friendly lubricants, with the primary lubricant being a phospholipid lubricant in its aqueous (water-based) hydraulic fluid composition used in the oil drilling art (p. 5, ll. 1-6 and 14-18).

Given the above teachings, we concur with the Examiner that one of ordinary skill in the art would have been led to employ the claimed calcium stearate (alkoxylate salt) taught by Mueller as the secondary lubricant of the aqueous hydraulic composition taught by Askew, with a reasonable expectation of successfully imparting desired environmentally acceptable lubricant properties. *See KSR*, 550 U.S. at 417 (*quoting Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976) ("[W]hen a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious.")).

Appellant contends that the claimed subject matter imparts unexpected results, thereby rebutting any inference of obviousness

established by the Examiner. (*See* App. Br. 4-9 and 15-16 and Reply Br. 4-5 and 13-14.) In support of this contention, Appellant relies upon the two Declarations of record executed by Ian Smith on February 23, 2010 and July 1, 2010, respectively and Examples 1 through 3 in the Specification. (*Id*.)

Thus, the second critical question is: Has Appellant demonstrated that the claimed subject matter as a whole imparts unexpected results? On this record, we answer this question in the negative.

It is well established that Appellant bears the burden of showing that the claimed invention imparts unexpected results. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972). Such burden requires Appellant to provide a showing that is actually unexpected and is reasonably commensurate with the scope of protection sought by the claims on appeal. *See Klosak*, 455 F.2d at 1080; *In re Grasselli*, 713 F.2d 731,743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980).

Here, as correctly found by the Examiner at pages, 7, 8, and 11 of the Answer, Appellant has not demonstrated that the claimed subject matter imparts unexpected results. The Examples in the Specification, in particular Example 1 at pages 9 and 10 of the Specification, show that the improved torque performance based on the maximum applied load is dependent on the amount of a lubricant used in aqueous hydraulic fluid compositions. Appellant has not shown that one of ordinary skill in the art would not have reasonably expected such torque performance improvement under the Falex test from using more lubricants on a rotating test pin (i.e., employing a better lubricated rotating pin). Appellant has not shown that an aqueous hydraulic

composition containing 14% of lubricating materials (i.e., 7% of lecithin (a phospholipid lubricant) and 7% of calcium stearate (second lubricant)) supposedly representative of the claimed subject matter imparts better torque performance than that obtained by using an aqueous hydraulic composition containing the same amount of the single lubricant material (i.e., 14% of lecithin) supposedly representative of the prior art.

Appellant's reliance on the first and second Declarations of record executed by Ian Smith also does not remedy the deficiencies in the showing in the Specification. The hydraulic fluid compositions containing 0.5% or 1% calcium stearate, 50% or 66% monoethylene glycol (MEG), and 49.5% or 33% water and containing 0.5% or 1% calcium stearate and 99.55% or 99% water referred to in the first and second Declarations executed by Ian Smith are not relevant to the claimed subject matter or the subject matter exemplified at page 15 of Askew or the subject matter preferred at page 16 of Askew. The hydraulic fluid compositions containing 7% calcium stearate, 62% monoethylene glycol, 6% phosphate salt and 25% water referred to in the second Declaration executed by Ian Smith indicates that the maximum applied load for its torque performance is about 1100 pound whereas the hydraulic fluid compositions containing 7% lecithin, 62% monoethylene glycol, 6% phosphate salt and 25% water referred to in Example 1 of the Specification indicates that the maximum applied load for its torque performance is about 1400 pound. Yet, the hydraulic fluid compositions containing 7% lecithin and 7% calcium stearate (14 percent lubricant material) referred to in the second Declaration and Example 1 of the Specification show that the maximum applied load for their torque

performances are about 2500 pounds, the additive effect of using 14% of the lubricant material which would be reasonably expected by one of ordinary skill in the art.

Moreover, Appellant has not shown that this showing is commensurate in scope with the protection sought by the claims on appeal. While the showing in the Declarations and Specification is limited to the couple specific hydraulic fluid compositions containing 7% lecithin, 7% calcium stearate, 6% phosphate and the remaining amount of water, with or without monoethylene glycol, the claims are not so limited. In particular, the claims include a myriad of phospholipid compounds, including those materially different from lecithin, and a myriad of alkoxylate salts, including those materially different from calcium stearate, in amounts significantly outside of those shown in the Declarations and the Specification. As explained by our reviewing court in *In re Harris*, 409 F.3d 1339, 1344 (Fed. Cir. 2005):

> The Board also correctly reasoned that the showing of unexpected results is not commensurate in scope with the degree of protection sought by the claimed subject matter because the elemental composition of CMSX®-486 is at or near the midpoint of the claimed range. While Harris's evidence may show a slight improvement over some alloys, the record does not show that the improved performance would result if the weight-percentages were varied within the claimed ranges. Even assuming that the results were unexpected, Harris needed to show results covering the scope of the claimed range.

Accordingly, based on the totality of record, including due consideration of Appellant's arguments and evidence, we determine that the preponderance of evidence weighs most heavily in favor of obviousness of

the subject matter recited in claims 1 through 8 and 10 through 14 within the meaning of 35 U.S.C. § 103(a).

IV. OBVIOUSNESS BASED ON ASKEW AND NAVARRINI

We are constrained to reverse the Examiner's § 103 rejection of claim 9 based on Askew and Navarrini for the reasons explained above. As indicated *supra*, the Examiner has not demonstrated that Askew teaches or would have suggested using an alkoxylate salt in its aqueous hydraulic fluid composition. Although the Examiner relies on Navarrini for teaching borax decahydrate as a known biocide, the Examiner has not demonstrated, much less asserted, that Navarrini teaches an alkoxylate salt or its use in an aqueous hydraulic fluid composition. Thus, the combination proposed by the Examiner would not result in the claimed invention within the meaning of 35 U.S.C. § 103.

ORDER

In view of the foregoing, it is

ORDERED that the decision of the Examiner rejecting claims 1 through 3, 7, 8, and 10 through 14 under 35 U.S.C. §102(b) as anticipated by the disclosure of Askew is REVERSED;

FURTHER ORDERED that the decision of the Examiner rejecting claims 1through 3, 7, 8, and 10 through 14 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Bigorra Llosas is AFFIRMED;

FURTHER ORDERED that the decision of the Examiner rejecting claims 4 and 5 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Bigorra Llosas is REVERSED;

FURTHER ORDERED that the decision of the Examiner rejecting claims 1 through 8 and 10 through 14 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Askew and Mueller is AFFIRMED;

FURTHER ORDERED that the decision of the Examiner rejecting claim 9 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Askew and Navarrini is REVERSED; and

FURTHER ORDERED that no time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED-IN-PART

kmm