UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFFREY J. MILLER

Appeal 2008-5754
Application 11/042,560
Technology Center 1700

Decided: November 28, 2008

Before EDWARD C. KIMLIN, CHUNG K. PAK, and
CHARLES F. WARREN, *Administrative Patent Judges*.

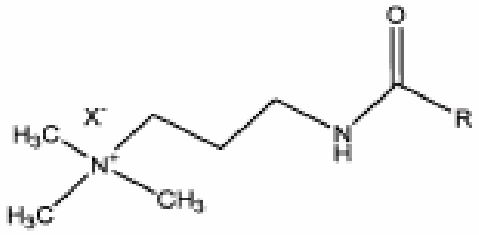
KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-20. Claims 1 and 6 are illustrative:

1. A drilling fluid comprising a nonaqueous phase and an organophilic clay treated with a quaternary ammonium surfactant having an amide linkage.

6. The drilling fluid of claim 1, wherein the quaternary ammonium surfactant comprises a compound generally represented by the following formula:



wherein the R is an alkyl group and the X" is an anion.

The Examiner relies upon the following references in the rejection of the appealed claims:

Subramanian	WO 01/18147 A1	Mar. 15, 2001
Dino	EP 1 138 740 A1	Oct. 4, 2001

Appellant's claimed invention is directed to a drilling fluid comprising a nonaqueous phase and a clay treated with a quaternary ammonium surfactant having an amide linkage. Claim 6 recites a specific formula for the surfactant.

Claims 1, 2, 10-14, 16-18, and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Dino. Claims 3-5, 9, 15, and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Dino. Also, claims 6-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dino in view of Subramanian.

We have thoroughly reviewed the respective positions advanced by Appellant and the Examiner. With the exception of the Examiner's § 103 rejection of claims 6-8, we will sustain the Examiner's rejections.

Concerning the Examiner's § 102 and § 102/103 rejections over Dino, the sole argument advanced by Appellant is that the surfactant of Dino does not contain the presently claimed "amide linkage." Appellant contends that Dino's disclosure of amide groups on the quaternary nitrogen atom is not a disclosure of an amide linkage. Appellant maintains that the "Specification clearly refers to amide linkages as amide groups that link one or more functional groups . . . Appellant's Specification discloses hydrocarbon chains both between the quaternary nitrogen atom and the amide group and between the amide group and the end of the functional group containing the amide group (*i.e.*, the amide group forms a *linkage*)" (Br. 5, first para.).

The flaw in Appellant's argument is that the Specification does not define the claim language "amide linkage" as an amide group linking two separate hydrocarbon chains. While Appellant's Specification exemplifies surfactants having an amide moiety between hydrocarbon chains, the Specification relates that "[a]ny quaternary ammonium surfactant having an amide linkage that is suitable for displacing the cations of the organophilic clay may be employed to treat the clay" (¶ 0015). Consequently, when the claim language at issue is given its broadest reasonable interpretation, we concur with the Examiner that it encompasses an amide group that is linked to a quaternary ammonium surfactant as disclosed by Dino. We find nothing unreasonable in interpreting the claim language to embrace quaternary ammonium surfactants that are linked to an amide group. Indeed, Appellant has chosen to argue the broadest claim on appeal and not the more limiting claim 2 which is more representative of Appellant's argument.[1]

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[1] With the exception of claims 6-8, Appellant has not separately argued the claims on appeal. Accordingly, claims 1-5 and 9-20 stand or fall together.

We will not sustain the Examiner's § 103 rejection of claims 6-8, which define the nitrogen atom of the quaternary ammonium group as having three methyl groups. Dino requires that one of the substituents on the nitrogen atom has 8 to 30 carbon atoms which are considerably more than the one carbon atom of a methyl group. While the Examiner cites Subramanian for the obviousness of substituting a methyl group at the location of Dino's compound which requires 8 to 30 carbon atoms, we agree with Appellant that one of ordinary skill in the art would not have been motivated to do so since Subramanian is directed to aqueous based fluids, whereas Dino and Appellant are directed to oil-based systems. The Examiner maintains that one of ordinary skill in the art would have been motivated to make the methyl substitution on the quaternary ammonium nitrogen atom of Dino "to improve the gelling characteristics of the drilling fluid, which would improve the removal of solid matter from the site of operation" (Ans. 10, first para.). The Examiner has not explained, however, why one of ordinary skill in the art would have had the requisite reasonable expectation that the effective performance of the Subramanian surfactant in an aqueous-based composition would translate to the oil-based composition of Dino.

In conclusion, based on the foregoing, the Examiner's rejections of claims 1-5 and 9-20 are sustained, whereas the Examiner's § 103 rejection of claims 6-8 is reversed. Accordingly, the Examiner's decision rejecting the appealed claims is affirmed-in-part.

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)(iv)(effective Sept. 13, 2004).

AFFIRMED-IN-PART

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