

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN R. HURLOCK
and MANIAN RAMESH

Appeal No. 96-1952
Application No. 08/163,778¹

ON BRIEF

Before SOFOCLEOUS, WALTZ, and SPIEGEL, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the examiner's refusal to allow claims 1 through 5 as amended after the final rejection (see the Advisory Action dated June 7, 1995, Paper No. 8, and the amendment dated May 22, 1995,

¹ Application for patent filed December 9, 1993.

Appeal No. 96-1952
Application No. 08/163,778

Paper No. 7). Claims 1 through 5 are the only claims remaining in this application.

According to appellants, the invention is directed to a dispersant system which comprises (1) a copolymer of diallyldimethylammonium chloride (DADMAC) and certain classes of hydrophobic monomers and (2) a water soluble cationic copolymer composed of 20 mole% or more of monomer units represented by formula (II)(Brief, page 2). Claim 1 is illustrative of the subject matter on appeal and is attached as an Appendix to this decision.

The examiner has relied upon the following references as evidence of obviousness:

Farrar et al. (Farrar)	4,835,206	May 30, 1989
Takeda et al. (Takeda)	4,929,655	May 29, 1990
Suzuki et al. (Suzuki) (Published German Patent Application) ²	DE 2749295	May 18, 1978
Masano et al. (Masano)	57-90035	June 4, 1982

²The examiner has relied upon the abstract of each of the Suzuki ("Nitto") and Masano ("Mitsubishi") references (see the Answer, page 4, second paragraph). This merits panel relies upon and cites from the English translation of the full Suzuki and Masano references. A copy of these translations have been inserted into the file record. The examiner is encouraged to rely upon an English translation of the full reference when readily available.

Appeal No. 96-1952
Application No. 08/163,778

(Published Japanese Patent Application)

Claims 1 through 5 stand rejected under 35 U.S.C. § 103 as unpatentable over Farrar in view of Takeda, Suzuki or Masano (Answer, page 3).³ We reverse this rejection for reasons which follow.

OPINION

Independent claim 1 on appeal recites a dispersant system requiring a first dispersant polymer which is a copolymer of DADMAC and a group of monomers including dialkylaminoalkylacrylates having C₆ to C₂₀ quaternaries. The second dispersant polymer required by claim 1 on appeal is a copolymer composed of at least 20 mole% of cationic monomer units of formula (II).⁴

³It should be noted that claim 5 depends upon claim 1 but there is no antecedent basis in claim 1 for the word "hydrophobic" as recited in line 2 of claim 5. It is also noted that "C6 to C20" in line 2 of claim 3 should be "C₆ to C₂₀". Upon return of this application to the examiner, these errors should be corrected.

⁴The monomer units represented by formula (II) are acrylates, (meth)acrylates, acrylamides, and (meth)acrylamides with a quaternized aminoalkyl moiety. The quaternary groups attached to the amino nitrogen are all C₂ or less. See the specification, pages 12-13.

Appeal No. 96-1952
Application No. 08/163,778

The examiner finds that Farrar discloses a blend of polymers where the "first polymer is the reaction product of 'one or more' dialkylaminoalkyl (meth)acrylate or (meth)acrylamide monomers or the quaternized ammonium forms of those monomers, with diallyldialkyl ammonium chloride (DADMAC) monomers." The examiner further finds that the second polymer of Farrar is a reaction product of the same monomers, but in different proportions (see the Answer, page 3, citing Farrar, column 2, ll. 3-28, column 4, line 38 to column 5, line 10, and Example 2 bridging columns 8 and 9).

The examiner has not cited any support for the factual finding that Farrar discloses, as either the first or second material, a reaction product of "one or more" dialkylaminoalkyl (meth)acrylate (such as DMAEMA, dimethylaminoethyl methacrylate, see Farrar, column 8, ll. 40-41) or (meth)acrylamide monomers with DADMAC monomers. Farrar discloses DADMAC as one material and DMAEMA as the other (second) material but there is no disclosure cited to teach or suggest the specific *three* monomers required as a minimum by claim 1 on appeal (see Example 2 of Farrar).

Appeal No. 96-1952
Application No. 08/163,778

The "one or more" teaching of Farrar relied upon by the examiner refers to the method of polymerization:

The first material therefore is preferably an addition polymer, generally made by vinyl or allyl addition polymerisation of one or more water soluble ethylenically unsaturated monomers.
(Column 4, ll. 40-43).

The "ethylenically unsaturated monomers" disclosed by Farrar in this context are not specified. However, immediately after this disclosure Farrar does teach that DADMAC alone is preferably the polymer made by allyl addition (column 4, ll. 44-49). Similarly, Farrar teaches that when DADMAC copolymers are used as the second material, useful co-monomers are acrylamide, polyamides, polyamines, and polyethylene imine (column 5, line 67 - column 6, line 6). The examiner has not shown that the specific monomers recited in appealed claim 1 as useful in DADMAC copolymers or as the second dispersant polymer were disclosed or suggested by Farrar. The secondary references to Takeda, Suzuki and Masano, cited by the examiner to show the use of benzyl quaternary groups in flocculating agents similar to those disclosed by Farrar (Answer, page 4), do not remedy the deficiency of the primary reference to Farrar.

"Where the

Appeal No. 96-1952
Application No. 08/163,778

legal conclusion of obviousness is not supported by facts it cannot stand." *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967). Accordingly, the rejection of claims 1 through 5 under § 103 as unpatentable over Farrar in view of Takeda, Suzuki or Masano is reversed.

The decision of the examiner is reversed.

REVERSED

MICHAEL SOFOCLEOUS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
THOMAS A. WALTZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
CAROL A. SPIEGEL)	

Appeal No. 96-1952
Application No. 08/163,778

Administrative Patent Judge)

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APPENDIX

Claim 1. A dispersant system used in forming polymer dispersions which comprises:

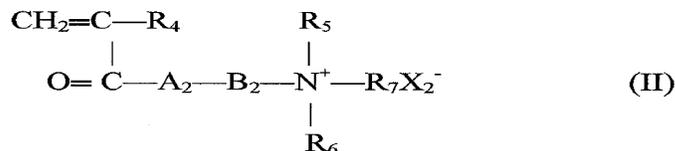
a. a first dispersant polymer which is a copolymer of diallyldimethylammonium chloride and a monomer selected from the group consisting of: dialkylaminoalkylacrylates having C_6 to C_{20} quaternaries, dialkylaminoalkylmethacrylates having C_6 to C_{20} quaternaries, dialkylaminoalkylacrylamides having C_6 to C_{20} quaternaries; dialkylaminoalkyl(meth)acrylamides having C_6 to C_{20} quaternaries; and alkyl esters of acrylic acid; and,

b. a second dispersant polymer which is a water soluble cationic copolymer composed of at least 20 mole

Appeal No. 96-1952
 Application No. 08/163,778

percent of cationic monomer units represented by the formula below:

where R_4 is either hydrogen or CH_3 ; R_5 and R_6 are each an alkyl group having 1 to 2 carbon atoms; R_7 is a hydrogen atom or an alkyl group having 1 to 2 carbon atoms; A_2 is either an oxygen atom or either an NH; B_2 is either an alkylene group having 2 atoms or a carbon atom or a hydroxypr group and an anionic n.



NH; B_2 is alkylene having 2 carbon a opylene X_2^- is an counterio

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Appeal No. 96-1952
Application No. 08/163,778

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Appeal No. 96-1952
Application No. 08/163,778

APJ WALTZ

APJ SOFOCLEOUS

APJ SPIEGEL

DECISION: REVERSED

Send Reference(s): Yes No
or Translation (s)

Panel Change: Yes No

Index Sheet-2901 Rejection(s): _____

Prepared: November 17, 2000

Draft Final

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OB/HD GAU

PALM / ACTS 2 / BOOK
DISK (FOIA) / REPORT