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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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GARY J. CALTON, SIDNEY R. SIEMER and LOUIS L. WOOD

Appeal No. 1996-1072
Application 08/132,289

ON BRIEF

Before OWENS, WALTZ and KRATZ, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the examiner's final rejection of claims 11-15 and 19, and refusal to allow claims 1-5 and 9 as amended after final rejection. These are all of the claims

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remaining in the application.

THE INVENTION

Appellants claim a slow release insect repellent composition consisting essentially of a volatile insect repellent and an alkylated polyvinyl pyrrolidone wherein the alkyl group has 4 to 30 carbon atoms. Appellants also claim a method for repelling insects by applying the composition to an area to be made repellent. Claim 1 is illustrative and reads as follows:

1. A composition having slow release properties for an insect repellent consisting essentially of a polymer consisting of polyvinyl pyrrolidone and an alkyl group of 4-30 carbons, said polymer formulated in a suitable formulation with a volatile insect repellent.

THE REFERENCES

Flashinski et al. (Flashinski) 1988	4,774,082	Sep. 27,
Gallagher 1992	5,102,662	Apr. 7,
Shih et al. (Shih) 1992 ¹	5,139,770	Aug. 18,
Beldock et al. (Beldock)	5,227,406	Jul. 13,

¹Filed December 17, 1990.

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1993²
Nichols 5,290,570 Mar. 1,
1994³

Chemical Abstracts No. CA115(13):134400g, abstract of *Fed. Regist.* 56(137), 32514-15, July 17, 1991 (EPA).

GAF brochure (GAF), "Specialty Products for Personal Care: Ganex® WP-660 Resin - New Water-Proofing Polymer" 1-8 (GAF Chemicals Corp. 1990).

THE REJECTIONS

Claims 1-5, 9, 11-15 and 19 stand rejected as follows:

1) under 35 U.S.C. § 112, first paragraph, enablement requirement, 2) under 35 U.S.C. § 103 over Gallagher in view of Flashinski and GAF, and 3) under 35 U.S.C. § 103 over Flashinski, Nichols or Bedlock, in view of Shih and EPA.⁴

OPINION

We have carefully considered all of the arguments

²Continuation of application filed April 9, 1990.

³ Continuation of application filed November 29, 1990, which is a continuation-in-part of application filed May 30, 1989.

⁴The Jacquet et al., Bolich, Jr., Login, Metravers and Duraback et al. secondary references relied upon in the final rejection (page 4) are not applied in the rejection in the examiner's answer. We consider these references to be withdrawn from the rejection.

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advanced by appellants and the examiner and agree with appellants that the aforementioned rejections are not well founded. Accordingly, we reverse these rejections.

Rejection under 35 U.S.C. § 112, first paragraph

A specification complies with the 35 U.S.C. § 112, first paragraph, enablement requirement if it allows those of ordinary skill in the art to make and use the claimed invention without undue experimentation. See *In re Wright*, 999 F.2d 1557, 1561, 27

USPQ2d 1510, 1513 (Fed. Cir. 1993); *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1576, 224 USPQ 409, 413 (Fed. Cir. 1984).

The examiner argues that appellants' invention is limited to compatible volatiles, that "suitable" in claim 1 does not describe the invention sufficiently to have permitted one of ordinary skill in the art to arrive at the claimed invention, and that concentrations of inerts and actives vary, with decreasing actives requiring additional inerts (answer, pages

3-4). The examiner, however, does not provide the required explanation as to why appellants' specification would not have enabled one of ordinary skill in the art to carry out the claimed invention without undue experimentation.

Consequently, we reverse the rejection under 35 U.S.C. § 112, first paragraph.

Rejection over Gallagher in view of Flashinski and GAF

Gallagher discloses an unexpanded plastic having dispersed therein discrete polymer particles which entrap an insect repellent (col. 1, lines 5-9; col. 3, lines 11-17). The examiner argues that Gallagher discloses polymeric compositions incorporating polyvinyl pyrrolidone (PVP) and unsaturated alkyls, and that Gallagher's example III discloses a mixture of PVP and hexyloxystearate which meets appellants' claim requirement of PVP and a C₄₋₃₀ alkyl group (answer, page 4). This argument is not well taken because appellants' claims require an alkylated PVP, not a mixture of an alkyl group-containing compound and PVP. Moreover, Gallagher indicates that the product does not include a mixture of PVP and the copolymer. The PVP is a surfactant or stabilizer in

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an aqueous suspending medium (col. 8, lines 17-19; col. 9, lines 11-12). The monomers are insoluble in the aqueous suspending medium and are polymerized to form beads or spheres suspended in the aqueous polymerization medium (col. 9, lines 39-43). The beads or spheres then are separated from the aqueous suspending medium (col. 9, lines 24-27).

Flashinski discloses slowing the release properties of an insect repellent by combining the insect repellent with a copolymer of maleic anhydride and an alpha olefin (col. 1, lines 10-12 and 52-53). This reference does not disclose an alkylated PVP polymer.

GAF discloses an alkylated PVP polymer and teaches that it has numerous skin care and cosmetic applications including skin creams and lotions, sunscreens, facial makeup, baby care, eye and lip pencils, lipsticks and mascaras (page 1). GAF does not disclose combining the polymer with an insect repellent.

The examiner argues that it would have been *prima facie* obvious to one of ordinary skill in the art to use the GAF

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polymer to prolong the presence of an insect repellent in a sunscreen (answer, pages 5-6). This argument is not persuasive because, first, the examiner has not established that the applied references would have provided one of ordinary skill in the art with 1) a motivation to use the GAF polymer to slow the release of an insect repellent, and 2) reasonable expectation of success in doing so. See *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). Second, the examiner has not explained why Gallagher, Flashinski and GAF would have fairly suggested to one of ordinary skill in the art, including an insect repellent in a sunscreen.

For the above reasons, we find that the examiner has not established that the combined teachings of Gallagher, Flashinski and GAF provide a factual basis which is sufficient for supporting a conclusion of obviousness of the invention recited in any of appellants' claims. We therefore reverse the rejection under 35 U.S.C. § 103 over these references.

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*Rejection over Flashinski, Nichols, or Beldock,
in view of Shih and EPA*

Nichols discloses emulsifier-free, stabilized lotions (col. 1, lines 14-15). One of the lotions contains an insect repellent, but does not contain an alkylated PVP polymer (col. 5, lines 24-36).

Beldock discloses insect repellents in lotion and spray form and teaches that an insect repellent can be included in a sunscreen lotion to provide a multipurpose lotion (col. 1, lines 8-9; col. 2, lines 10-35). This reference does not disclose that the lotion can include an alkylated PVP polymer.

Shih discloses cosmetic compositions containing moderately crosslinked PVP polymers in the form of fine, white powders (col. 1, lines 52-61). The cosmetic compositions typically are conditioning shampoos, lotions for hand and body treatment, and sunscreens (col. 1, line 66 - col. 2, line 2). The examiner argues that at column 3, lines 1-2, Shih discloses appellants' alkyl groups (answer, page 7). The compounds relied upon by the examiner are 1,7-octadiene, 1,9-decadiene, and 1,13-tetradecadiene which are used by Shih to crosslink the PVP (col. 2, line 57 - col. 3, line 13). The

examiner's argument is not convincing because the examiner has not explained why, after the PVP is crosslinked by the compounds relied upon by the examiner, an alkylated PVP is obtained, i.e., a PVP polymer having a group of the form C_nH_{2n+1} .⁵

EPA discloses that poly(vinylpyrrolidone/1-eicosene) and poly(vinylpyrrolidone/1-hexadecene) are exempt from tolerance requirements when used as inert ingredients for pesticides applied to growing crops or to raw agricultural commodities after harvest. The examiner does not explain, and it is not apparent, why this reference is relevant to insect repellants.

The examiner argues that in view of the applied references, it would have been obvious to one of ordinary skill in the art to include an insect repellent in a sunscreen composition (answer, page 7). Even if this argument is correct, the examiner has not set forth a *prima facie* case of obviousness because, as explained above, the examiner has not established that the applied references would have fairly

⁵ See *Hackh's Chemical Dictionary* 27 (McGraw-Hill, 4th. ed, 1969).

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suggested, to one of ordinary skill in the art, use of an alkylated PVP in combination with an insect repellent. Accordingly, we reverse the rejection under 35 U.S.C. § 103 over Flashinski, Nichols or Bedlock, in view of Shih and EPA.

DECISION

The rejections of claims 1-5, 9, 11-15 and 19 under 35 U.S.C. § 112, first paragraph, enablement requirement, under 35 U.S.C. § 103 over Gallagher in view of Flashinski and GAF, and under 35 U.S.C. § 103 over Flashinski, Nichols or Bedlock, in view of Shih and EPA, are reversed.

REVERSED

TERRY J. OWENS)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
THOMAS A. WALTZ)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
)	
PETER F. KRATZ)	
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