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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex parte* KLAUS FLORY,  
ANDREAS STANGE,  
MICHAEL KROENER,  
and  
NORBERT SENDHOFF

MAILED

APR 24 1995

PAT & TM OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Appeal No. 93-4388  
Application 07/775,928<sup>1</sup>

HEARD: April 7, 1995

Before GOLDSTEIN, JOHN D. SMITH, and TURNER, *Administrative Patent Judges.*

GOLDSTEIN, *Administrative Patent Judge.*

*DECISION ON APPEAL*

The claims remaining on appeal are claims 1, 2, 5 to 7 and 10 to 16. Claim 4 has been withdrawn from further consideration by the examiner under 37 CFR 1.142(b). There are no allowed claims. Illustrative claim 1 is reproduced below:

<sup>1</sup> Application for patent filed November 6, 1991.

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1. A cationic urea/formaldehyde resin, produced by condensing urea and formaldehyde in a molar ratio of from 1:1.5 to 1:3 in the presence of polymers which contain not less than 1 mol% of polymerized vinylamine units and have K values of from 5 to 300 (determined according to H. Fikentscher in 5% strength aqueous sodium chloride solution at 25°C and at a polymer concentration of 1% by weight), in an amount of from 5 to 50 g, based on one mole of urea in the end product, where the mixture is first:

- a) precondensed at a pH of from 8 to 14, then acidified and
- b) condensed at a pH of from 1 to 5 until gel formation begins,
- c) then from 0.3 to 1.5 moles of formaldehyde are added per mole of urea used,
- d) post-condensation is carried out and
- e) the resin solution is subsequently neutralized.

The sole reference relied on by the examiner on appeal is:

Fischer et al. (Fischer)      4,663,379      May 5, 1987

Reference of record relied on in appellants' arguments is:

Kirk-Othmer (Kirk-Othmer), *Encyclopedia of Chemical Technology*, pp. 963-975, Third Edition, Volume 23, John Wiley & Sons, New York (1980).

References newly cited herein are:

Fieser et al. (Fieser), *Organic Chemistry*, p. 168, Second Edition, Reinhold Publishing Corporation, New York (1950).

Royals, *Advanced Organic Chemistry*, p. 594, Prentice-Hall, Inc., New York (1954).

All of the appealed claims have been finally rejected under 35 U.S.C. § 103 as being unpatentable over Fischer. We shall not affirm this rejection.

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The major point of contention in this appeal is whether or not the protective colloid copolymers of Fischer correspond to appellants' polymers containing "polymerized vinylamine units." The examiner has apparently accepted the nomenclature used in the claims as indicating the unit resulting from polymerization of the hypothetical vinylamine.

It is the examiner's position that the poly(vinylamides) of the reference when exposed to an aqueous solution would undergo hydrolysis. Appellants have presented evidence in the Kirk-Othmer publication that poly(vinylpyrrolidinone) (PVP) is very resistant to hydrolysis. However, the reference even if interpreted narrowly is open to the use of poly(vinyl-caprolactam). However, the examiner has not indicated what conditions in the process of the reference would have been responsible for hydrolysis of any poly(vinylamides).

One of ordinary skill in the relevant art would have been aware that amides are not readily hydrolyzed under ordinary conditions. They are quite stable to water *per se*. Acid or alkaline catalysis is generally required as is elevated temperature. The Fieser textbook is informative in illustrating that amides can be prepared as products of mild hydrolysis of nitriles "and can be hydrolyzed to acids [thus forming an amine coproduct] under more drastic conditions." The Royals textbook



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NOTICE OF REFERENCES CITED

APPLICANT(S)

Flory et al.

U.S. PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
A						
B						
C						
D						
E						
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FOREIGN PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L								
M								
N								
O								
P								
Q								

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

R	Fieser et al. (Fieser), "Carboxylic Acids," Organic Chemistry, p. 168, 2nd Ed., Reinhold Publishing Corp., NY 1950
S	Royals, "Methods of Carbonyl Compounds," Advanced Organic Chemistry, p. 594, Prentice-Hall, Inc., NY 1954.
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EXAMINER

Decision by Board

DATE

4/24/95