

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SON N. KIM, AXEL SANNER and KARIN SPERLING-VIETMEIER

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Appeal No. 1998-3116  
Application 08/367,327

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ON BRIEF

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Before OWENS, JEFFREY T. SMITH and PAWLIKOWSKI, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This is an appeal from the examiner's final rejection of claims 1, 4-7 and 9, which are all of the claims remaining in the application.

*THE INVENTION*

The appellants' claimed invention is directed toward a specified water soluble or water dispersible polyurethane and

methods of using it for treating hair and for coating or binding

a pharmaceutical composition. Claim 6, which claims the polyurethane, is illustrative:

6. A polyurethane which is soluble or dispersible in water and is composed of

a) at least one compound which contains two or more active hydrogens per molecule,

b) at least one diol containing acid groups or salt groups and

c) at  
least one  
diisocyanate  $\Lambda \left[ \text{O} - \left( \overset{\text{O}}{\parallel} \text{C} - \underset{\text{CH}_3}{\text{CH}} - \text{O} \right)_u - \text{H} \right]_w$  (I $\Lambda$ ) anate  
with acid numbers  
of from 12 to 150 or  
the salts of this polyurethane, which contains as compounds in  
group (a) at least 5 mol% of a polycondensate of lactic acid  
and of a polyol of the formula

Appeal No. 1998-3116  
Application 08/367,327

where

Y is a radical derived from a dihydric to tetrahydric alcohol,

n is 1-50 and

m is 1-4,

as copolymerized units.

#### *THE REFERENCES*

Johnston et al. (Johnston) 1988	4,743,673	May 10,
Zaalishvili et al. (Zaalishvili) <sup>1</sup> 1983 (Russian patent application)	2,854,648	May 7,

#### *THE REJECTION*

Claims 1, 4-7 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Zaalishvili in view of Johnston.

#### *OPINION*

We reverse the aforementioned rejection.

Zaalishvili discloses polyester urethanes which are useful in medicine and have film-forming and fiber-forming

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<sup>1</sup>Citations herein to this reference are to an English translation thereof, a copy of which is provided to the appellants with this decision.

Appeal No. 1998-3116  
Application 08/367,327

properties (pages 2 and 4). The polyester urethanes are made using, as a reactive component, a hydroxyl-containing oligoester selected from a general formula (page 3) which includes compounds falling within the scope of the formulae for carboxylic acid diols in the appellants' independent claims. The oligoester imparts biodegradable properties to the end product, *see id.*, and the solubility of the polyester urethanes in organic solvents facilitates their processing into articles (page 8). Zaalishvili does not disclose using, as a component of the reaction mixture for making the polyester urethanes, the diol containing acid groups or salt groups recited in each of the appellants' independent claims, and does not disclose use of the polyester urethanes for treating hair or for coating or binding a pharmaceutical composition as recited in, respectively, the appellants' claims 1 and 9.

The portion of Johnston relied upon by the examiner (answer, page 4) is a discussion of U.S. patent no. 3,412,054 to Milligan et al. which, Johnston states (col. 1, lines 20-24), discloses reacting a 2,2-di(hydroxymethyl)alkanoic acid

Appeal No. 1998-3116  
Application 08/367,327

with an organic diisocyanate to produce a polyurethane containing unreacted carboxylic acid groups. Johnston states that "[t]hese acids are unique because their carboxyl groups do not react to any significant extent with the isocyanates to prevent the formation of the desired carboxy [group-containing polyurethane] resin" (col. 1, lines 24-27).

The examiner argues that it would have been obvious to one of ordinary skill in the art to use Johnston's 2,2-di(hydroxymethyl)alkanoic acid as a component when making Zaalishvili's polyester urethane "because Johnston teaches this for enabling water solubility for cosmetic and pharmaceutical products, which would result in biodegradable and physiologically compatible products" (answer, page 4). Regarding the use requirements of the appellants' claims 1 and 9, the examiner argues that "[i]t would be obvious to combine the properties of biodegradability and water solubility for the applications of Johnston", see *id.*, which include making hair sprays and coating pharmaceutical capsules and tablets (col. 7, lines 8 and 33-38).

The examiner does explain how Johnston discloses that the

Appeal No. 1998-3116  
Application 08/367,327

carboxy groups of Milligan render the polyurethane water soluble. Johnston merely teaches that Milligan discloses a way to include carboxy groups in a polyurethane. Moreover, the examiner does not explain why using Milligan's 2,2-di(hydroxymethyl)alkanoic acid to make Zaalishvili's polyester urethanes would render them water soluble or water dispersible, or why, in view of the disclosure by Zaalishvili that the solubility of the polyester urethanes in organic solvents facilitates their processing to articles (page 8), one of ordinary skill in the art would have desired make the polyester urethanes water soluble or water dispersible.

The examiner has pieced together teachings from the Zaalishvili and Johnston disclosures without adequately explaining why the references themselves would have led one of ordinary skill in the art to combine these teachings so as to arrive at the appellants' claimed invention. The record indicates that the examiner instead has combined the teachings of the references based upon the description of the appellants' invention in their specification. In doing so, the examiner used impermissible hindsight in rejecting the claims. See *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d

Appeal No. 1998-3116  
Application 08/367,327

1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Rothermel*, 276 F.2d 393, 396, 125 USPQ 328, 331 (CCPA 1960). Accordingly, we reverse the examiner's rejection.

*DECISION*

The rejection of claims 1, 4-7 and 9 under 35 U.S.C. § 103 over Zaalishvili in view of Johnston is reversed.

*REVERSED*

TERRY J. OWENS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
JEFFREY T. SMITH	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
BEVERLY A. PAWLIKOWSKI	)	
Administrative Patent Judge	)	

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Appeal No. 1998-3116  
Application 08/367,327

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