

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte G. FREDERICK HUTTER and MICHAEL D. MATZINGER

Appeal No. 2002-1229
Application No. 09/140,809

ON BRIEF

Before GARRIS, WALTZ, and DELMENDO, Administrative Patent Judges.
GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1, 2 and 4-24 which are all of the claims remaining in the application.

The subject matter on appeal relates to a method which comprises printing ink onto a cellulose substrate and coating the printed substrate with a cationic, water-soluble polymer

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comprised of specifically defined first, second and third monomers. Further details of this appealed subject matter are set forth in representative independent claim 1 which reads as follows:

1. An improved method of printing an ink-jet ink composition comprising a colorant and a carrier material wherein the improvement comprises the steps of (a) printing the ink onto a cellulose substrate and (b) coating the printed substrate with a cationic, water-soluble polymer comprised of a first monomer, a second monomer, and a third monomer wherein the first monomer is N-vinylpyrrolidinone, the second monomer is selected from the group consisting of N-methylolacrylamide, N-methylolmethacrylamide, N-isobutoxymethylacrylamide, and mixtures thereof, and the third monomer is represented by the formula:



wherein R is a hydrogen atom or a methyl group; Y is O or NH; n is an integer from 1 to about 4; R', R'', and R''' are hydrogen or alkyl or aralkyl groups independently containing from 1 to about 18 carbon atoms; and X is an anion such as chloride, bromide, tosylate, or alkylsulfate.

The references set forth below are relied upon by the examiner as evidence of obviousness:

Maslanka et al. (Maslanka)	4,235,982	Nov. 25, 1980
Lehr	5,006,644	Apr. 9, 1991
Mitchell et al. (Mitchell)	5,026,427	Jun. 25, 1991
Nakashima et al. (Nakashima)	5,126,392	Jun. 30, 1992
Mochizuki	5,266,969	Nov. 30, 1993
Bermes et al. (Bermes)	5,431,723	Jul. 11, 1995
Kashiwazaki et al. (Kashiwazaki)	5,439,514	Aug. 8, 1995
Kado et al. (Kado)	5,506,295	Apr. 9, 1996
Kappele et al. (Kappele)	5,656,071	Aug. 12, 1997
Sano et al. (Sano)	5,690,723	Nov. 25, 1997
Pawlowski	5,690,722	Nov. 25, 1997

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Katsen et al. (Katsen)	5,746,817	May 5, 1998
Lin	5,851,274	Dec. 22, 1998
		(filed Jan. 13, 1997)

Claims 1, 2, 4-8 and 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kado in view of Lehr, Mochizuki, Maslanka and Nakashima; the remaining claims on appeal stand correspondingly rejected over these references and further in view of the other previously listed references relied upon by the examiner.

We refer to the brief and to the answer for a complete exposition of the opposing viewpoints expressed by the appellants and by the examiner concerning the above noted rejections.

OPINION

For the reasons which follow, we cannot sustain any of these rejections.

Concerning appealed claim 1, which is the sole independent claim before us, the examiner states that "Maslanka . . ., which is drawn to a cationic polymer useful for coating substrates such as paper (col. 20, lines 23-25), discloses a cationic water soluble prepolymer comprising (1) N-vinylpyrrolidone monomer, (2) N-methylolacrylamide monomer, and (3) quaternary ammonium monomer such as methacryloloxyethylammonium chloride (col. 5, lines 28-68, and col. 7, lines 41-49, 53, and 57)" (answer, pages

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5-6) and makes the following conclusion of obviousness on page 7 of the answer:

Therefore, in light of Mochizuki's disclosure that printed substrates are coated with a protective layer to fix the ink and prevent discoloration, and Lehr's disclosure that printed cellulosic substrates are subjected to after-treatments to improve waterfastness, as well as the motivation for using a cationic polymer disclosed by Maslanka . . . as described above, it therefore would have been obvious to one of ordinary skill in the art to coat the printed substrate of Kado . . . with a cationic polymer in order to produce a printed substrate which has improved waterfastness, reduced discoloration, and improved strength, and thereby arrive at the claimed invention.

The examiner's aforementioned position is deficient in that Maslanka's ultimate polymer, while admittedly disclosed as being useful inter alia as a coating for paper, does not constitute a "cationic, water-soluble polymer" of the type here claimed. Instead, this ultimate polymer is a graft copolymer which is expressly and repeatedly described as being water-insoluble (e.g., see lines 13-33 in column 4). This ultimate polymer is obtained by graft copolymerizing an ethylenically unsaturated monomer, such as styrene, onto a water-soluble cationic prepolymer, and, as properly indicated by the examiner, this cationic water-soluble prepolymer is comprised of monomers which include those here claimed. However, it is appropriate to stress that Maslanka contains no disclosure of using this prepolymer for

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coating paper or for any purpose other than as an intermediate in forming patentee's ultimate water-insoluble graft copolymer.

In light of the foregoing, it is apparent that the examiner's rejection is improper. That is, if the examiner's obviousness conclusion is predicated on using Maslanka's ultimate, water-insoluble, graft copolymer as a coating on the printed paper of Kado, the rejection would be improper because the method resulting from this combination would not include the here claimed step of coating with a "cationic, water-soluble polymer" of the type defined by appealed independent claim 1. On the other hand, if the examiner's obviousness conclusion is predicated on using Maslanka's cationic, water-soluble, prepolymer as a coating for the printed paper of Kado, the rejection is improper because the applied prior art including Maslanka contains no teaching or suggestion that this prepolymer is useful as a coating for printed paper.

Under the circumstances recounted above, it is apparent that the only teaching or suggestion for combining the applied references in such a manner as to achieve the here claimed invention derives from the appellants' own specification rather than the applied prior art. It follows that we agree with the appellants' argument that the examiner's rejection is improperly

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based upon impermissible hindsight. See W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1551, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

The above discussed deficiency of the examiner's position taints all the rejections before us on this appeal. Therefore, we cannot sustain any of the examiner's section 103 rejections of the appealed claims.

The decision of the examiner is reversed.

REVERSED

Bradley R. Garris)	
Administrative Patent Judge)	
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Thomas A. Waltz)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
Romulo H. Delmendo)	
Administrative Patent Judge)	

BRG:tdl

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