

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN TSAI, PETER T. TRZASKO, MICHAEL T. PHILBIN,
ROBERT L. BILLMERS, MARTIN M. TESSLER,
JOSEPH A. VAN GOMPEL and MORTON W.

RUTENBERG

Appeal No. 1996-2738
Application 08/252,501¹

ON BRIEF

Before JOHN D. SMITH, WALTZ, and ROBINSON, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

¹ Application for patent filed June 1, 1994. According to appellant's, the application is a division of Application 08/004,161, filed January 11, 1993, now U.S. Patent no. 5,349,089, issued September 20, 1994; which is a division of Application 07/683,483, filed April 9, 1991, now U.S. Patent no. 5,227,481, issued July 13, 1993; which is a continuation of Application 07/516,024, filed April 27, 1990, now abandoned; which is a continuation-in-part of Application 07/376,779, filed July 7, 1989, now abandoned.

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DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 25 through 27 and 32 through 38, which are the only claims remaining in this application.

According to appellants, the invention is directed to a process for making paper wherein cationic polysaccharide derivatives having at least two cationic moieties bonded to each derivatized saccharide monomer are added to paper stock during manufacture to improve drainage, pigment and pulp retention and paper strength (Brief, page 2).

Appellants state that the claims stand or fall together for each of the individual grounds of rejection (*Id.*). Claims 25 and 32 are illustrative of the subject matter on appeal and a reproduction of these claims is attached as an Appendix to this decision.

The examiner has relied upon the following references in support of the rejections:

Hofreiter et al. (Hofreiter)	3,067,088	Dec. 4,
1962		

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Jarowenko 1967	3,331,833	Jul. 18,
Jarowenko ²	3,354,034	Nov. 21, 1967

Claims 25 through 27 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as unpatentable over Hofreiter or Jarowenko ('833 or '034) (Answer, page 3). Claims 32 through 38 stand rejected under 35 U.S.C. § 103 as unpatentable over Hofreiter (Supplemental Answer, page 1). We *affirm* the rejections of claims 25 through 27 but *reverse* the rejection of claims 32 through 38 for reasons which follow.

OPINION

A. *The Rejections under § 102(b)/ § 103*

In accordance with the provisions of 37 CFR §1.192(c)(7)(1995) and appellants' statement on page 2 of the Brief, we select claim 25 from the grouping of claims for these rejections and decide this appeal, as to these claims, on the basis of claim 25 alone. The process of claim 25

² U.S. Patent No. 3,354,034 is a division of U.S. Patent No. 3,331,833. Since these patents have an identical or substantially identical disclosure, this decision will only refer to and cite from Jarowenko, U.S. Patent No. 3,354,034.

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recites adding a cationic polysaccharide derivative having at least two cationic moieties bonded to each derivatized saccharide monomer to a paper stock at any time during manufacture. Claim 25 further recites that the cationic polysaccharide derivative has "been prepared by reacting a substantially non-crosslinked polysaccharide with a polycationic reagent having a single polysaccharide reactive group and at least two cationic groups". Therefore this claim recites a method for making paper which comprises adding a "product-by-process" (the cationic polysaccharide derivative). Accordingly, with regard to the product-by-process limitation recited in claim 25 on appeal, where the examiner reasonably believes that the prior art discloses a product that appears to be either identical or only slightly different from the product claimed, a rejection under § 102 or § 103 is proper. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977). *Compare In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976). In *Hirao*, applicants specifically recited the

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process steps for making an additive product in method of use type claims. The solicitor argued that the claim was analogous to a product-by-process claim and that the court should not give weight to the process of preparation limitations. *Hirao*, 535 F.2d at 69, 190 USPQ at 17. Contrast the *Hirao* case to claim 25 here on appeal where appellants do not specifically claim the process of making the cationic polysaccharide derivative but couch the claimed

additive in product-by-process form. Accordingly, we construe claim 25 on appeal as a method of making paper where a product-by-process (the cationic polysaccharide derivative) is added. A lesser burden of proof is required of the examiner to establish a *prima facie* case of anticipation/obviousness for product-by-process claims. *In re Fessman*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). "...[T]he patentability of the *products* defined by the claims, rather than the processes for making them, is what we must gauge in light of the prior art." *In re Wertheim*, 541 F.2d 257, 271, 191 USPQ

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90, 103 (CCPA 1976).

Both Hofreiter and Jarowenko are directed to paper manufacturing processes where a specified additive is added during the paper manufacture to improve, *inter alia*, the strength of the paper, pigment retention and water resistance. See Hofreiter, column 1, lines 17-33, and Jarowenko, column 1, lines 26-33. We agree with the examiner that, irregardless of the reaction mechanism for preparing the additives disclosed by the references, Hofreiter and Jarowenko disclose additives for use

during paper manufacture that reasonably appear to be identical or substantially identical to the claimed "cationic polysaccharide derivative having at least two cationic moieties bonded to each derivatized saccharide monomer" (see the Answer, pages 3-4). See Hofreiter, column 2, lines 15-50,

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especially

lines 45-50, where polymeric amidazolines and polyalkylene polyamines are disclosed as polymeric nitrogen-containing compounds for use in the starch product. See Jarowenko, column 2, lines 1-41, where tertiary amino alkyl starch ethers containing ethyleneimine units are disclosed. Both references disclose cationic polysaccharide (i.e., starch) derivatives having at least two cationic (i.e., nitrogen) moieties bonded to each derivatized saccharide monomer.

Once the examiner meets the lesser burden of proof by showing products in the prior art that reasonably appear to be identical or substantially identical to the claimed additive product, the burden shifts to appellants to establish, by objective evidence or argument, that the prior art and claimed

products differ in an unobvious manner. *Fessman, supra.*

Appellants have not offered any objective evidence in an

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attempt to show that the products of Hofreiter and Jarowenko differ from the claimed product in an unobvious manner.

Appellants argue that Hofreiter, at column 2, lines 45-50, refers to synthetic polymer type compounds and "there is no indication anywhere in the reference that they are starch containing compounds." (Brief, page 3). Appellants' argument is not well taken since Hofreiter alternatively refers to "polymeric nitrogen containing compound" and "a positively charged nitrogen containing starch product" (column 1, lines 17-25). Therefore it is clear that the "cationic polymeric nitrogen-containing compounds" disclosed by Hofreiter at column 2, lines 45-50, refer to the corresponding nitrogen containing starch product, especially taken in context with the previous disclosure of the preparation of amine-substituted starch derivatives (column 2, lines 15-44).

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Appellants argue that Jarowenko does not disclose the polycationic reagents employed in appellants' process of preparation (Brief, page 4). This argument is not persuasive since the process of preparation as recited in claim 25 on appeal has not been shown to produce a substantially different product than that disclosed by Jarowenko. *See Wertheim, supra.*

Appellants assert that several critical limitations are neither disclosed nor suggested by Hofreiter or Jarowenko (Brief, page 5). However, three of these four "critical limitations" are process of preparation limitations which are given little weight since the prior art discloses an additive product identical or substantially identical to the claimed additive. The other "critical limitation" was a "[c]ationic polysaccharide derivative having at least two cationic moieties bonded to each derivatized saccharide monomer", which has been discussed above in our decision and also by the examiner on pages 3-4 of the Answer.

Appellants further argue that Jarowenko discloses a

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reaction product which is a graft copolymer and thus cannot be the reaction product of a reagent having a single polysaccharide

reactive group (Brief, pages 6-7). Appellants' argument is not persuasive since Jarowenko specifically discloses that only the ethyleneimine chain is being grafted onto the starch molecule (at one hydroxyl group, see column 2, lines 11-40). Jarowenko also discloses that this reaction product is "non-inhibited" or "non-crosslinked", which is the same objective desired by appellants (column 4, lines 53-55, and the specification, page 2, line 25-page 3, line 15).

For the foregoing reasons, we determine that the examiner has established a *prima facie* case of anticipation/obviousness which, based on the totality of the record including appellants' arguments, has not been rebutted. Accordingly, the rejections of claims 25 through 27 under 35 U.S.C. § 102(b) or § 103 over

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Hofreiter or Jarowenko ('833 or '034) are affirmed.

B. The Rejection of claims 32-38 under § 103

In the Supplemental Answer dated March 19, 1996 (Paper No. 14), the examiner states that claims 32-38 stand rejected over Hofreiter for the reasons given in the rejection of claims 25-27 and that "it would have been obvious to employ the claimed

polyamines as the polyamine in Hofreiter et al for the reasons given in discussion of the obviousness of using polyamines having a single polysaccharide reactive group." (Page 1). However, the examiner has failed to present any reasoning why one of ordinary skill in the art, in possession of the generic "polymeric amidazolines, polyalkylene polyamines and the like" of Hofreiter, would have selected the specific polyamines recited in claim 32 on appeal. "We decline to extract from *Merck [Merck & Co. v. Biocraft Labs., Inc., 874 F.2d 804, 806-09, 10 USPQ2d 1843, 1845-48 (Fed. Cir. 1989)]* the rule that

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the Solicitor appears to suggest - that regardless of how broad, a disclosure of a chemical genus renders obvious any species that happens to fall within it." *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992). Here the examiner has failed to establish why one of ordinary skill in the art would have been led to the specific polyamines of the formula recited in claim 32 on appeal from the generic disclosure of Hofreiter. Accordingly, we determine that the examiner has not established a *prima facie* case of obviousness and the rejection of claims 32-38 under 35 U.S.C. § 103 over Hofreiter is reversed.

The decision of the examiner has been affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

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APPENDIX

25. A process for making paper, comprising adding to a paper stock at any time during manufacture a cationic polysaccharide derivative having at least two cationic

moieties bonded to each derivatized saccharide monomer, said derivative having been prepared by reacting a substantially non-crosslinked polysaccharide with a polycationic reagent having a single polysaccharide reactive group and at least two cationic groups, whereby the derivative is water soluble.

32. The paper of Claim 27 wherein the polycationic reagent is a polyamine having the structure:

