

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte HU Q. THOMAS

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Appeal No. 2005-1538  
Application No. 09/950,654

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ON BRIEF

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Before WALTZ, TIMM, and FRANKLIN, Administrative Patent Judges.  
FRANKLIN, Administrative Patent Judge.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1-5, 10-19, and 24-26. Claims 6-9 are directed to non-elected species and therefore are not under consideration in this appeal. Claims 20-23 have been canceled. We note that on page 2 of the answer, the examiner includes claim 23 in the statement of the rejection. We believe this was an inadvertent oversight because claim 23 has been canceled. Brief, page 1.

Claim 1 is illustrative of the subject matter on appeal and is set forth in the attached Appendix.

The examiner relies upon the following references as evidence of unpatentability:

Jewell et al. (Jewell)	6,524,348 B1	Feb. 25, 2003
Seltzer	WO 99/05108	Feb. 4, 1999

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Claims 1-5, 10-19, and 24-26 stand rejected under 35 U.S.C. § 103 as being obvious over Seltzer in view of Jewell.

To the extent that any one claim is argued with reasonable specificity regarding its patentability, we consider such claim in this appeal. We therefore consider claim 1 in this appeal. See 37 CFR § 41.37(c)(1)(vii) (September 2004); formerly 37 CFR § 1.192(c)(7) (2003). Also see Ex parte Schier, 21 USPQ2d 1016, 1018 (Bd. Pat. App. & Int. 1991).

We have carefully reviewed the appellant's brief filed on December 10, 2004, the examiner's answer, and the evidence of record. This review has led us to the following determinations.

#### OPINION

I. The 35 U.S.C. § 103 rejection of claims 1-5, 10-19 and 24-26 as being obvious over Seltzer in view of Jewell

The examiner's position for this rejection is set forth on pages 2-3 of the answer.

Appellant's position for this rejection is set forth on pages 3-11 of the brief. Beginning on page 5 of the brief, appellant points out that Seltzer is discussed in the specification. Appellant argues that Seltzer applies nitroxides as coatings on finished paper, and that there is no description of attaching the nitroxides to pulp via a primary or secondary amino group. Brief, page 5.

In response, beginning on page 3 of the answer, the examiner correctly points out that on page 65 of Seltzer, Seltzer teaches that the instant additive system (which includes the nitroxides) can be added to pulp or paper at a number of places during the manufacturing or processing operations. On page 65, beginning at line 5, Seltzer discloses a detailed list

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of such places. Seltzer teaches that the precise location where the stabilizer additive should be added will depend on the specific equipment involved, the exact process conditions being used and the like. In some cases, the additives may be added at one or more locations for most effectiveness.

Hence, Selter is not limited to applying the nitroxides as coatings, as appellant asserts.

The examiner also correctly points out that, on page 96 of Seltzer, Seltzer teaches that a hindered amine can be used, and that the hindered amine can be a hindered amine TEMPO. See Examples I and J on page 96 of Seltzer. Answer, page 3.

The examiner relies upon Jewell for using tetra-methyl hindered amine to prevent the color reversion in paper pulp, and refers to column 4, lines 21-23 of Jewell. The examiner also refers to Table 16 in column 24 of Jewell in this regard. Answer, page 3.

The examiner concludes that it would have been obvious to have substituted the particular hindered amine of Jewell including the 4-amino TEMPO found in Table 16, for the hindered amine of Seltzer, for performing the same function of stabilizing the pulp from light and preventing color reversion. Answer, page 3.

Appellant argues that Jewell is not directed to materials which contain lignin. That is, appellants argue that the cellulose fibers treated in Jewell are not lignocellulosic materials. Appellant argues that the cellulose pulp of Jewell is described as generally having about 86-88%  $\alpha$ -cellulose and 12-14% hemicellulose, and refers to column 4, lines 16 and 17 of Jewell in this regard. Brief, pages 5-6. Appellant also argues that the nitroxide used in Jewell is not chemically attached to

the cellulose by an amino or any other group, and is not attached at all. Appellant refers to several disclosures of Jewell in support thereof. Brief, pages 6-7.

On page 7 of the brief, appellant argues that the nitroxides in Jewell are not employed as light stabilizers or yellow inhibitors; they are employed as oxidants. Appellants conclude that Jewell contains no teachings whatsoever relevant to lignocellulosic materials and contains no teachings relevant to the problem of yellowing of lignocellulosic materials or brightness loss in lignocellulosic materials. Brief, pages 7-10.

In response, beginning on page 4 of the answer, the examiner disagrees that Jewell does not teach to treatment of lignocellulosic material. The examiner states that Jewell teaches treating "lower cost market pulps" and refers to column 4, lines 12-13 in this regard. The examiner also finds that Jewell teaches that the invention is directed to fibrous carboxylated cellulose products including bleached and unbleached kraft hardwood or softwood pulps and refers to column 4, lines 2-12 in this regard. Answer, page 4.

The examiner states that Jewell only excludes high  $\alpha$ -cellulose pulps, not the lower grades of pulp that contain less  $\alpha$ -cellulose. Answer, page 4.

The examiner states that further evidence that Jewell includes lignocellulosic material is the statement made in column 4 at lines 18-26, where Jewell states the following:

To the present inventors' knowledge the lower  $\alpha$ -cellulose pulps or other cellulose having a high content of hemicellulose have never before been treated with TEMPO or other cyclic nitroxide compounds to produce a stable carboxylated fiber.

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By stable is meant minimum D.P. loss in alkaline environments, and very low self cross linking and color reversion.

The examiner further states that Seltzer on page 1, last full paragraph, discusses that color reversion or discoloration of pulp is ascribed to light induced reactions that cleave or breakdown ketyl radicals formed in the lignin. The phenoxy radicals are oxidized by other oxygen-centered radicals to form yellow chromophores. The examiner reasons that clearly the color reversion discussed by Jewell is due to the yellowing of the lignin in the pulp. The examiner concludes therefore that Jewell teaches using hindered amino hydroxides, including 4-amino TEMPO, to prevent the lignin contained in the lignocellulosic material from yellowing. Answer, page 4.

We agree with the examiner's position for the following reasons.

Seltzer does explain that discoloration of pulp is ascribed to light induced reactions that cleave or breakdown ketyl radicals formed in the lignin. As such, we agree with the examiner's reasoning that lignin does exist in the material disclosed in Jewel because Jewel addresses color reversion. We also note that lignocellulosic material is raw vegetable matter consisting primarily of cellulose and lignin, or primarily of cellulose and lignin and minor amounts of carbohydrate and resin, and such materials include straw, bagasse, corn stalk, grass, wood pulp, wood, and bark. See the attached definition of U.S. Subclass 106/162.5. As such, we agree with the examiner that the hardwood and softwood pulps disclosed in column 4 at lines 8-10 of Jewell contain lignin (especially in view

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of the fact that Jewell recognizes that materials treated with the disclosed TEMPO produce a stable fiber (wherein a "stable" fiber refers to very low cross-linking and color reversion)).

With regard to appellant's argument as set forth at the bottom of page 6 and page 7 of the brief (e.g., that the nitroxide in Jewell is not chemically attached to the cellulose by an amino or any other group, etc.), we are not persuaded by such argument. These assertions are not verified or sworn to by appellants, or reviewed by an expert or one of ordinary skill in the art, but merely submitted by appellants' attorney, and therefore must be given little weight as mere attorney argument. See In re Scarborough, 500 F.2d 560, 566, 182 USPQ 298, 302 (CCPA 1974).

Finally, we agree with the examiner's position that it would have been obvious to have replaced the TEMPO of Seltzer with the TEMPO of Jewell, for performing the same function of stabilizing the pulp from light and preventing color reversion. See In re Fout, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982) (equivalence is its own motivation and no express suggestion is necessary to render such substitution obvious).

In view of the above, we therefore affirm the 35 U.S.C. § 103 rejection of claims 1-5, 10-19, and 24-26 as being obvious over Seltzer in view of Jewell.

## II. Conclusion

The obviousness rejection is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a) (iv) (effective Sept. 13, 2004).

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AFFIRMED

Thomas A. Waltz	)	
Administrative Patent Judge	)	
	)	
	)	
Catherine Timm	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
Beverly A. Franklin	)	
Administrative Patent Judge	)	

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APPENDIX

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Ogilvy, Renault, LLP  
1981 McGill College Avenue  
Suite 1600  
Montreal, QC  
H3A2Y3  
Canada