

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.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 ROBERT L. BILLMERS
and
VICTOR L. MACKEWICZ

Appeal No. 2002-2261
Application No. 09/568,111

ON BRIEF

Before KIMLIN, DELMENDO and POTEATE, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-22, all the claims in the present application. Claim 1 is illustrative:

1. A paper coating compositions [sic] for providing barrier properties comprising:

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a) a hydrophobically modified high amylose starch where the starch has an amylose content of at least 40% by weight and is modified with a hydrocarbon group of 6 to 18 carbon atoms, and

b) from about 1 to 10% by weight, based on the weight of dry starch, of hydrolyzed polyvinyl alcohol having a degree of hydrolysis of from about 88% to 99%.

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

Lacz et al. (Lacz '473)	5,567,473	Oct. 22, 1996
Schlom et al. (Schlom)	5,833,755	Nov. 10, 1998
Lacz et al. (Lacz '450)	5,254,450	Oct. 19, 1993

Appellants' claimed invention is directed to a paper coating composition comprising the recited high amylose starch and hydrolyzed polyvinyl alcohol. According to appellants' specification, the coating composition "provides good barrier properties when applied to paper" (page 1, line 3). The specification explains that "[b]arrier properties refer to an increase in the resistance of paper to various materials such as water, air, oil and grease, and also higher surface strength (wax pick) and resistance to crack-on-fold" (page 3, lines 6-8).

Appealed claims 1-5, 7, 8, 11, and 14-21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lacz '450 in view of Lacz '473. Claims 6, 9, 10, 12, 13 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over the stated combination of references further in view of Schlom.

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Appellants submit at page 3 of the Brief "[t]he patentability of dependent claims 2-22 will stand or fall with claim 1." Accordingly, we will limit our consideration to the examiner's 35 U.S.C. § 103 rejection of claim 1, with which all the appealed claims stand or fall. We note that appellants' only argument with respect to the separate rejection using Schlom as a tertiary reference is that Schlom fails to cure the asserted deficiencies of Lacz '450 and Lacz '473.

We have thoroughly reviewed each of appellants' arguments for patentability, as well as the specification data relied upon in support thereof. We are in complete agreement with the examiner, however, that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's rejection.

There is no dispute that Lacz '450, like appellants, discloses a paper coating composition comprising the presently claimed hydrophobically modified high amylose starch having an amylose content of at least 40% by weight and modified with a hydrocarbon group of 6 to 18 carbon atoms, as well as up to 10% by weight of polyvinyl alcohol. Appellants also have not challenged the examiner's legal conclusion that it would have

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been obvious for one of ordinary skill in the art to use the specific hydrolyzed polyvinyl alcohol disclosed by Lacz '473, i.e., one having a degree of hydrolysis within the claimed range, as a polyvinyl alcohol in the composition of Lacz '450. Indeed, as noted by the examiner, Lacz '450 specifically teaches the use of the claimed polyvinyl alcohol that is disclosed by Lacz '473 (see column 4, lines 1 et seq.). Consequently, based on these unchallenged findings of the examiner, we find that it would have been prima facie obvious for one of ordinary skill in the art to formulate a paper coating composition within the scope of claim 1 on appeal.

Appellants emphasize that the starch-coated paper of Lacz '450 is extruded with a layer of polyolefin, and "one of skill in the art would predict that the observed increase in the oxygen impermeability of the polyolefin-coated papers relates to the greater integrity of the polyolefin layer" (page 4 of Brief, third paragraph). According to appellants, "this observation [of Lacz '450] does not predict the success of a starch coating in the absence of the polyolefin layer to reduce oxygen permeability, much less air flow (as measured in Gurley porosity)" (id.).

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We understand appellants' argument to be that it is the polyolefin layer which causes the increased oxygen impermeability reported by Lacz '450. However, this argument is not supported by the express disclosure in Lacz '450 that "[i]mpregnation of the paper support with hydrophobically substituted amylose starch in accordance with the method of the present invention greatly diminishes the oxygen permeability of the support" (column 2, lines 35-39), and that "[i]mpregnation of the paper sheet with sufficient hydrophobically substituted amylose starch to reduce oxygen permeability does not interfere with the subsequent extrusion coating of polyethylene layers on the paper sheet" (column 2, lines 42-46). In our view, Lacz '450 makes it quite clear that the increase in oxygen permeability is attributed to the coating of amylose starch.

Appellants also contend that neither Lacz '450 nor Lacz '473, singularly or in combination, appreciates that appellants' hydrophobically modified, high amylose starch-containing coating confers superior Gurley porosity (air resistance) compared to a hydrophobically modified low amylose starch-containing coating. Appellants invite comparison of samples 1 and 4 in Table 1 found at page 12 of the specification. However, although appellants maintain that "Lacz '450 only

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discloses that a hydrophobically modified amylose-containing starch base coated paper that is further extruded with polyolefin impedes the permeability of oxygen" (sentence bridging pages 4 and 5 of Brief), appellants have not addressed the examiner's citation of Lacz '450 which teaches a preference for high amylose starch containing more than 50 weight percent amylose (see column 3, lines 25-28). Also, as explained above, Lacz '450 attributes oxygen impermeability to the coating of amylose starch, not the extruded polyolefin. As a result, we cannot subscribe to appellants' position that "the Examiner has failed to establish a prima facie case of obviousness based on the combination of Lacz '450 and Lacz '473" (page 5 of Brief, second paragraph, emphasis added).

Appellants also rely upon the asserted unexpected superior Gurley porosity demonstrated in the present specification, Table 1, samples 1 and 4. However, appellants have not shouldered their initial burden of establishing that the specification results would be considered truly unexpected by one of ordinary skill in the art, especially in light of the disclosure in Lacz '450 that the claimed high amylose starch and polyvinyl alcohol provide increased oxygen impermeability. In re Merck & Co., 800 F.2d 1091, 1099, 231 USPQ 375, 381 (Fed. Cir.

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1986); In re Klosak, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972). From our perspective it would appear that the increase in oxygen impermeability associated with both the claimed high amylose starch and hydrolyzed polyvinyl alcohol would have raised the reasonable expectation that the claimed coating composition would have a superior Gurley porosity compared to a coating composition not containing a high amylose starch. Significantly, comparative example 4 of the present specification fails to identify the amylose content of the Waxy Corn or the degree of hydrolysis of the polyvinyl alcohol. Hence, it is not clear what specific compositions are being compared in Examples 1 and 4 of the specification.

In conclusion, based on the foregoing, it is our judgment that the evidence of obviousness presented by the examiner outweighs the evidence of nonobviousness proffered by appellants. Accordingly, the examiner's decision rejecting the appealed claims is affirmed.

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

AFFIRMED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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ROMULO H. DELMENDO)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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LINDA R. POTEATE)	
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