

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. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MITSUO HATTORI,
HITOSHI FURUTA,
and
HIROKAZU MAEDA

Appeal No. 1999-0990
Application No. 08/647,562

HEARD: OCTOBER 9, 2001

Before GARRIS, WALTZ, and PAWLIKOWSKI, **Administrative Patent Judges**.

WALTZ, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 and 3 through 5, which are the only claims remaining in this application.¹

¹Appellants' amendment subsequent to the final rejection, dated Jan. 6, 1998, Paper No. 10, cancelled claim 2 and was

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According to appellants, the invention is directed to a process for producing an inorganic mold by kneading a mixture of particulate inorganic matter and water while adding a water-soluble hemicellulose, which is produced from the extraction of soybeans under acidic conditions at a pH near the isoelectric point of the soybean protein (Brief, page 4). A copy of illustrative independent claim 1 is attached as an Appendix to this decision.

The examiner has relied upon the following references as evidence of obviousness:

Salzberg	2,206,369	Jul. 2,
1940		
Maeda et al. (Maeda)	5,587,197	Dec. 24,
1996		(filed May 10,
1995)		

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Maeda in view of Salzberg (Answer, page 3). We reverse the examiner's rejection essentially for the reasons stated in the Brief, Reply Brief, and the reasons

entered as per the Advisory Action dated Jan. 15, 1998, Paper No. 11.

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set forth below.

OPINION

The examiner finds that Maeda discloses the claimed water-soluble hemicellulose as extracted under acidic conditions at a pH near the isoelectric point of soybean protein (Answer, page 3). Appellants agree with this finding that Maeda discloses a process for production of water-soluble vegetable fibers containing hemicellulose (see the Answer, page 4; Brief, page 12; Reply Brief, page 6). The examiner further finds that Salzberg teaches the use of soybean seed meal as a binder for foundry sand molds (Answer, page 3). This finding is also not contested by appellants (Brief, pages 9 and 13; Reply Brief, pages 6-7).

In view of these findings and the teaching of Maeda that the hemicellulose material has superior adhesive properties, the examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of appellants' invention to use the water-soluble hemicellulose of Maeda as a binder for foundry sand molds (Answer, page 3).

Appellants argue that the combination of references is improper as there is no motivation to combine them (Brief,

page 9; Reply Brief, pages 4-5). We agree.

Maeda discloses the problems with remoistening adhesives and that these problems can be solved by using the water-soluble vegetable fibers of his invention (col. 1, ll. 56-61). However, Maeda only teaches the use of these adhesives in biodegradable films, paste and chewing gum or other low calorie food products (col. 1, ll. 17-20; ll. 45-47; col. 4, ll. 4-13; ll. 30-33; and ll. 39-40). The examiner has failed to present convincing evidence or reasoning to establish why one of ordinary skill in this art would have substituted the adhesive material of Maeda, which is only taught as an adhesive for food materials, for the binder in the foundry sand mold of Salzberg. On this record, there is no evidence that the water-soluble hemicellulose of Maeda is the same or substantially similar in structure and composition to the soybean seed meal binder of Salzberg (see Salzberg, page 1, col. 2, l. 8-page 2, col. 1, l. 3).² Evidence of a

²In fact, the preponderance of the evidence in this record shows that the hemicellulose of Maeda is made by a materially different process than the soybean seed meal of Salzberg and contains different amounts of protein while being treated at different temperatures (Brief, page 11; Reply Brief, pages 3-4). The examiner has not rebutted this evidence (see the

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suggestion, teaching, or motivation to combine references may flow from the prior art themselves, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. See *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996). “[T]he showing must be clear and particular.” *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Merely because Maeda teaches water-soluble hemicellulose as an adhesive

Answer).

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(for food products) does not provide a suggestion or motivation for using water-soluble hemicellulose as a substitute for any prior art adhesive/binder.

For the foregoing reasons and those set forth in the Brief and Reply Brief, we determine that the examiner has failed to establish a *prima facie* case of obviousness in view of the reference evidence. Accordingly, the rejection of claims 1 and 3 through 5 under 35 U.S.C. § 103 over Maeda in view of Salzberg is reversed.

The decision of the examiner is reversed.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
THOMAS A. WALTZ)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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APPENDIX

1. A process for producing an inorganic mold by molding of a kneaded mixture containing a particulate inorganic material and water, which process comprises extracting water-soluble hemicellulose from soybeans under acidic conditions at a pH near the isoelectric point of soybean protein, and adding said water-soluble hemicellulose to said kneaded mixture.