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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte POUL-EGEDE GLAHN

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Appeal No. 1997-1068
Application 08/161,635

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ON BRIEF

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Before KIMLIN, JOHN D. SMITH, and OWENS, **Administrative Patent Judges**.

JOHN D. SMITH, **Administrative Patent Judge**.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 86-92 and 101-112.

Appealed claim 86 is representative and is reproduced below:

86. A process comprising treating a solution, gel or

suspension of pectin starting material having a degree of esterification greater than about 60% with a cation-containing preparation to obtain at least a first fraction having a higher degree of calcium sensitivity and a second fraction having a lower degree of calcium sensitivity than said pectin starting material wherein the cation-containing preparation comprises a cation that is a metal ion derived from salts selected from the group consisting of alkaline earth metal salts, alkali metal salts, transition metal salts, and mixtures thereof.

The references of record relied upon by the examiner are:

Hedges et al. (Unilever A1) 0,432,835 A1 June 19, 1991

Hedges et al. (Unilever B1) 0,432,835 B1 March 2, 1994

A prior art reference discussed by appellants is:

Rolin et al. (Rolin) WO 89/12648 December 28, 1989

The appealed claims stand rejected under 35 U.S.C. § 103 as unpatentable over Unilever A1 or Unilever B1. We cannot sustain the stated rejections.

Pectins are high molecular weight hydrocolloidal substances related to carbohydrates which are found in varying proportions in fruits and plants and consist primarily of partially methoxylated galacturonic acid units (i.e., carboxylic acid units) joined in long chains. Typically,

pectins are derived by dilute-acid extraction of the inner portion of the rind of citrus fruits, or of fruit pomaces, usually apples. See The Condensed Chemical Dictionary, revised by Hawley, p.780, c.1981, copy attached, and the specification at pages 1-3. Such commercial pectin extracts are composed of a mixture of molecules which differ according to molecular weight, distribution of molecular weight, and degree of esterification (methoxylation). Pectins with more than 50% of the carboxylic acid groups esterified with methyl alcohol are referred to as high methoxyl pectins (HMPs) while pectins with less than 50% of the carboxylic acid groups esterified with methyl alcohol are called low methoxyl pectins (LMPs). See the specification at page 3, lines 19-23. Further, according to appellants' brief at page 6, HMPs may be formed having either a localized charge or a distributed charge. See schematic Formula II and Formula III as respectively depicted in the brief at page 6. Based on the statements in the brief at pages 8 and 9 and the specification at page 4, lines 18-22, appellants' invention is based on the

discovery that some HMPs contain a mixture[1] of a calcium-sensitive fraction (CSP) and a non-calcium sensitive fraction (NCSP) which can be separated into separate fractions in a commercially feasible manner. Thus, pectin which has a high degree of esterification wherein its few reactive carboxylic acid units are evenly distributed along the chain as depicted in schematic Formula III, is said to be relatively unreactive to calcium ions and other metal cations, and is referred to as a NCSP fraction pectin. In contrast, an

[1] See the brief at page 8, lines 14-18.

HMP having a distributed charge as depicted by the Formula II pectin is said to be a CSP fraction pectin. The herein claimed process treats a pectin starting material having a degree of esterification greater than 60% with a cation-containing preparation to obtain "at least a first fraction having a higher degree of calcium sensitivity and a second fraction having a lower degree of calcium sensitivity than the pectin starting material." See appealed claim 86.

The stated rejections of the appealed claims based on the Unilever references cannot be sustained. First, as appellant has emphasized in his brief, the Unilever B1 reference is not available as prior art to the present application. Thus, the alternatively stated rejection based on this document is reversed. However, appellant acknowledges that the rejection based on Unilever A1 must be considered on the merits since this reference has a publication date of June 19, 1991 and is thereby an effective prior art reference to the subject matter defined by the appealed claims.

The examiner correctly points out that Unilever A1 teaches a method for producing a gel composition wherein,

inter alia, a pectin suspension is treated with a cation preparation to form a composition containing microgel particles in a liquid continuous phase. However, Unilever A1 does not identify the pectin starting material as having a degree of esterification greater than 60% as specified for the claimed pectin starting material. Moreover, there is no indication that Unilever A1 envisions the use of pectin starting materials which are HMPs which, when reacted with a cation, form a mixture comprising two fractions wherein one fraction is a CSP and the other is a NCSP. Thus, as appellant argues in the brief at page 18, it is not apparent that Unilever A1 discloses a process which produces two pectin fractions as claimed herein, i.e., a first fraction having a higher degree of calcium sensitivity and a second fraction having a lower degree of calcium sensitivity as compared to the pectin starting material, from a reaction with a pectin starting material as claimed. Even if one of ordinary skill in this art had been led to have utilized a fruit pectin as the starting pectin in Unilever A1's process as contended by the examiner, there is no assurance that first and second

fractions of CSP and NCSP would be obtained, because there is no assurance that any particular selected fruit pectin starting material would possess the properties required to produce the claimed first and second fractions. Compare the brief at page 17. Accordingly, the examiner's stated rejection of the appealed claims based on Unilever A1 cannot be sustained.

OTHER ISSUES

In appellant's brief at page 13, appellant describes the Rolin reference as disclosing that pectins produced from citrus fruits can be both highly esterified and calcium sensitive. In addition, we note that Rolin discloses that when hard water is used in some mixtures of high-esterified pectins, there is a tendency for the pectins to react with calcium to form undissolved pectin and dissolved pectin. See page 1, line 34 to page 2, line 3 of Rolin. Prior to taking further action in this application, the examiner should carefully evaluate the Rolin reference inclusive of the above disclosure to determine whether there is any basis to conclude

that first and second fractions of pectin as claimed are inherently produced by this prior art process.

The decision of the examiner is reversed.

REVERSED

EDWARD C. KIMLIN Administrative Patent Judge	)
JOHN D. SMITH Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
TERRY J. OWENS Administrative Patent Judge	)

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