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for publication and is not binding precedent of the Board.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

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte VLADISLAV DOLNIK, WILLIAM A. GURSKE
and ALLAN PADUA

Appeal No. 2005-1918
Application No. 09/946,396

ON BRIEF

Before SCHEINER, ADAMS and GREEN, Administrative Patent Judges.

SCHEINER, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-5. Claims 6-23 are also pending, but have been withdrawn from consideration.

BACKGROUND

Galactomannans, linear polysaccharides made up of mannose and galactose residues in various proportions, are the primary components of many commercially available gums, e.g., guar gum (guaran), tara gum and locust bean gum. According to appellants, "[o]nly [a] limited number of methods have been [used] to purify guaran and other galactomannans." (Specification, page 3). "Usually guaran is dissolved in water and a cold water insoluble pellet is removed by filtration or centrifugation" and protein contaminants are separated by precipitation with alcohols including ethanol, methanol and isopropyl alcohol, resulting in a galactomannan preparation with a "relatively high (above 1%)" protein content (id.).

THE CLAIMS

Claim 1 is representative of the subject matter on appeal:

1. A composition comprising:
   a galactomannan having 50-90% be weight of mannose residues;
   10-50% by weight of galactose residues; and
   less than 0.1% by weight of protein.

THE REJECTIONS

The examiner rejected claims 1 and 2 under 35 U.S.C. § 102 (b) as anticipated by Gebert,[1] and rejected claims 1-5 under 35 U.S.C. § 103, as unpatentable over Gebert and Bayerlein.[2]

We affirm both of these rejections.

DISCUSSION

Anticipation

The claimed galactomannan composition contains less than 0.1% protein by weight. According to the examiner, Gebert describes "a composition comprising a purified galactomannan having 50-90% anhydromannose residues [mannose residues],

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[1] Gebert et al., U.S. Patent 6,063,402, filed June 7, 1995, and issued May 16, 2000.

[2] Bayerlein et al., U.S. Patent 4,753,659, filed August 11, 1986, and issued June 28, 1988.

10-50% anhydrogalactose residues [galactose residues]," and a "protein content [ ] disclosed as being as low as 0.00%" (Answer, page 3, first and second sets of brackets in the original).

According to appellants, "the Gebert reference does not support a prima facie case of anticipation" (Brief, page 5) because it is not enabling for a galactomannan composition containing less than 0.1% protein by weight, despite "the protein content values [of 0.06% and 0.00%] reflected in the Gebert reference at column 15, Table 4" (id.). Appellants argue that Gebert's most restrictive claim (claim 2) is limited to "purified galactomannans 'with less than 0.5% by weight' of protein" (Brief, pages 7-8), thus, the "extremely low protein contents mentioned in Table 4 of Gebert, are not material to [the] patentability [of Gebert's claims] and [ ] should not be given the same deference and presumption of validity extended to more significant portions of the disclosure." Id., page 8.

Nevertheless, "[i]n patent prosecution, the examiner is entitled to reject applications as anticipated by a prior art patent without conducting an inquiry into whether or not that patent is enabled or whether or not it is the claimed material (as opposed to the unclaimed disclosures) in that patent that are at issue." Amgen, Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1355, 65 USPQ2d 1385, 1416 (Fed. Cir. 2003) (footnote and citation omitted). Thus, "a presumption arises that both the claimed and unclaimed disclosures in a prior art patent are enabled" (id.), which appellants "can then overcome [ ] by proving that the relevant disclosures of the prior art patent are not enabled" (id.).

Appellants argue that "the methods disclosed in Gebert cannot produce a purified galactomannan composition with a protein content lower than 0.40%" (Brief, page 5), and that any reported values of less than 0.40% "are likely[ ] due to measuring errors

resulting from the sensitivity limitations of the method used in Gebert[ ] for determining protein content" (id.). Appellants submit the declaration of co-inventor William A. Gurske (dated August 13, 2003) in support of their assertions that "the method of Gebert cannot produce or measure the purity of galactomannan disclosed in portions of the Gebert [patent]" (Brief, page 9). Having carefully considered the declaration, we find insufficient basis to support appellants' assertions.

The basis of Dr. Gurske's conclusion that Gebert's purified preparation must have contained at least 0.40 % protein, rather than the values reported at column 15, Table 4, is essentially as follows: "Gebert purified galactomannans by centrifugation and ethanol precipitation" (Declaration, page 4), and this method "is known from prior art literature"[3] which "demonstrate[s] that the methods disclosed in Gebert cannot produce

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[3] The following references were attached to the Declaration of William A. Gurske, in support of the conclusions therein:

Heyne & Whistler (Reference "P"), "Chemical Composition and Properties of Guar

Polysaccharides," J. Am. Chem. Soc., Vol. 70, pp. 2249-2252 (1948).

Carson & MacLay (Reference "Q"), "The Thiocyanation of Polysaccharide Tosyl Esters," J. Am. Chem. Soc., Vol. 70, pp. 2220-2223 (1948).

Rafique & Smith (Reference "R"), "The Constitution of Guar Gum," J. Am. Chem. Soc., Vol. 72, pp. 4634-4637 (1950).

Dea & Morrison (Reference "S"), "Chemistry and Interactions of Seed Galactomannans," in Advances in Carbohydrate Chemistry and Biochemistry, Vol. 31, Tipson & Horton, eds., Academic Press, New York, p. 259 (1975).

Lopes da Silva & Gonçalves (Reference "T"), "Studies on a Purification Method for

a purified galactomannan composition with a protein content lower than 0.40%[,] [t]herefore, the protein content values reflected in [ ] Gebert . . . are incorrect and are likely[ ] due to measuring errors resulting from the sensitivity limitations of the [Kjeldahl] method used in Gebert[ ] for determining protein content" (id.).

Dr. Gurske does not discuss the prior art literature in any detail, except to say that the references describe galactomannans purified "by centrifugation and ethanol precipitiation" that "have protein levels greater tha[n] 0.44%" (Declaration, page 4, emphasis in the original). The primary implication, of course, is that the purification procedures used in the references are directly comparable to Gebert's procedure, so the protein levels of the purified products should be directly comparable as well. However, even a cursory review of the evidence presented reveals differences between Gebert's procedure and the procedures used in the prior art references, e.g., differences in the raw starting materials, differences in the duration of various steps in the purification procedures, differences in the types and concentrations of solvents used in the procedures, differences in the number of times certain steps were repeated, etc.

Merely by way of example, we note that Gebert's purification procedure starts with five specifically identified "commercially available guar gum[s]," one with an initial protein content of 2.5% and another with 2.88%, while Reference "P" starts with a "guar

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Locust Bean Gum by Precipitation with Isopropanol," Food Hydrocolloids, Vol. 4, No. 4, pp. 277-287 (1990).

flour" containing 3.5-4.0% protein. Reference "Q" also starts with guar flour (of unknown protein content). Reference "S" does not discuss protein content at all, and merely says that whole carob seed or guar seed "is normally ground to a fine powder, and the gum is extracted by prolonged stirring with hot or cold water, or dilute, aqueous sodium hydroxide solution; [or] sometimes, 1% acetic acid has been used. The soluble portion of the gun is then separated by centrifugation or extraction, and the polysaccharide is recovered by precipitation with ethanol" or methanol or isopropanol. "Purification of the crude galactomannan is achieved either by repeated precipitations with alcohol" and "[t]he purification step may be repeated several times." Reference "T" uses locust bean gum as a starting material, rather then guar gum.

Dr. Gurske does not begin to account for, or even acknowledge, these differences between Gebert and the prior art references. In our view, Gebert and the prior art references are not directly comparable, and do not provide an adequate evidentiary basis to support Dr. Gurske's conclusion that Gebert's purified galactomannans must have contained at least 0.40% protein. Moreover, Dr. Gurske's conclusion that "the protein content values reflected in [Gebert] at column 15, Table 4, (i.e., 0.06% and 0.00%)" should really have been at least 0.40%, "and are likely[ ] due to measuring errors resulting from the sensitivity limitations of the [Kjeldahl] method" (Declaration, page 3) appears to be inconsistent with Dr. Gurske's acknowledgement that "[t]he sensitivity of the Kjeldahl method . . . [is] about 0.1 wt%" (id., page 4).

In our view, the examiner has met his burden of providing sufficient evidence to establish a prima facie case of anticipation, properly shifting the burden of coming forward with evidence or argument to appellants. Having carefully considered appellants' response, we find the evidence and arguments presented to be insufficient

to overcome the prima facie case of anticipation. The rejection of claims 1 and 2 under 35 U.S.C. § 102 (b) as anticipated by Gebert is affirmed.

Obviousness

The examiner rejected claims 1-5 under 35 U.S.C. § 103 (a) as unpatentable over Gebert and Bayerlein.

In responding to the examiner's rejection, appellants merely reiterate their arguments regarding Gebert. We find these arguments to be unpersuasive for the reasons discussed above. The rejection of claims 1-5 under 35 U.S.C. § 103 is affirmed.

CONCLUSION

We have affirmed the rejection of claims 1 and 2 under 35 U.S.C. § 102 (b), and the rejection of claims 1-5 under 35 U.S.C. § 103 (a).

TIME PERIOD FOR RESPONSE

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

AFFIRMED

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Toni R. Scheiner	)
Administrative Patent Judge	)
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	) BOARD OF PATENT
	)
Donald E. Adams	) APPEALS AND
Administrative Patent Judge	)
	) INTERFERENCES
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Lora M. Green	)
Administrative Patent Judge	)

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