

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DONALD E. CARPENTER,
WEN-SHERNG CHEN, ALEX GONSALVES,
GERARD HASENHUETTL, and RICHARD SILVER

Appeal 2008-1387
Application 11/184,461
Technology Center 1700

Decided: May 22, 2008

Before CHARLES F. WARREN, ROMULO H. DELMENDO, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicants appeal to the Board from the decision of the Primary Examiner finally rejecting claims 1 through 28 in the Office Action mailed February 21, 2006. 35 U.S.C. §§ 6 and 134(a) (2002); 37 C.F.R. § 41.31(a) (2006).

We affirm the decision of the Primary Examiner.

Claim 1 illustrates Appellants' invention of a soy protein-containing dry sauce mix, and is representative of the claims on appeal:

1. A soy protein-containing dry sauce mix comprising about 10 to about 75 percent soy flour, about 25 to about 90 percent cheese powder, and about 1 to about 5 percent cheese flavoring, wherein the dry sauce mix can be used to prepare a soy protein-containing sauce to be combined with a cooked starch-based product, thereby, providing significant levels of soy protein without significantly and adversely affecting the organoleptic or other sensory properties of the combined sauce and cooked starch-based product.

The Examiner relies upon the evidence in these references (Ans. 3):

Bos	US 4,415,599	Nov. 15, 1983
Spanier	US 4,568,555	Feb. 4, 1986
Yamamoto	US 4,803,088	Feb. 7, 1989
Schoenmaker	US 6,190,709 B1	Feb. 20, 2001

Soy flour (2000), [http://www.wholehealthmd.com/ME2/default.asp\(follow "Reference Library" hyperlink; then follow "soy flour" hyperlink\)](http://www.wholehealthmd.com/ME2/default.asp(follow%20%22Reference%20Library%22%20hyperlink;%20then%20follow%20%22soy%20flour%22%20hyperlink)).

Appellants request review of the ground of rejection under 35 U.S.C. § 103(a) advanced on appeal: claims 1 through 9 and 23 through 28 as unpatentable over Schoenmaker in view of Spanier, Bos, and Soy flour; and claims 10 through 22 as unpatentable over Yamamoto in view of Schoenmaker, Spanier, Bos and Soy flour. App. Br. 6; Ans. 3 and 6.

Appellants argue the two grounds of rejection together in view of the common Schoenmaker reference, referring in several instances to the claims in the first ground of rejection as a group. App. Br., e.g. 6, 11 and 12. Thus, we decide this appeal based on claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2006).

The principal issues in this appeal are whether the Examiner has carried the burden of establishing a prima facie case in each of the grounds

of rejection advanced on appeal which, of course, turn on the issues addressed below.

The plain language of claim 1 specifies any soy protein-containing dry sauce mix comprising at least the ingredients soy flour, cheese powder, and cheese flavoring, in amounts within the stated percentage ranges, which can be combined in any manner with any cooked starch-based product, the mix providing any amount of soy protein. The transitional term “comprising” opens the claim to include dry sauce mixes which contain any amount of additional ingredients, including any form of any starch or other thickeners. *Spec.*, e.g., 6:6-10. *See, e.g., Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995) (“The claimed composition is defined as comprising - meaning containing at least - five specific ingredients.”); *In re Spada*, 911 F.2d 705, 706 (Fed. Cir. 1990) (“While claim 31 requires that the polymers comprise members of two general classes of monomers, Spada’s specific examples illustrate polymers in which members of three general classes of monomers are present.”).

We find Schoenmaker would have disclosed to one of ordinary skill in this art, among other things, a dry mix for a cheese sauce which contains, among other things, about 30 percent starch and wheat flour, and about 25 percent cheese powder. The dry mix is combined with water to form a cheese sauce. The cheese sauce dry mix does not contain cheese flavoring. The cheese sauce dry mix does contain a soy protein hydrolyzate as a flavor enhancer. The enhancer can be used with a broad range of flavors including cheese flavors. Schoenmaker Example 10; *see also* col. 1, l. 58 to col. 2, l. 14, col. 6, ll. 1-7, 17, and 32-33, and Example 1.

We find Spanier would have disclosed to one of ordinary skill in this art, cheese sauces which contain among other things, cheese and cheese flavoring, wherein the cheese flavoring can be present in an amount of about 0.5 to about 5.0 weight percent. Spanier, e.g., col. 4, ll. 24-25, col. 5, ll. 13-25, col. 8, ll. 3-9. The cheese sauces contain at least one suitable food starch in native or modified form, such as from seeds, including wheat, and tubers. Spanier, e.g., col. 6, l. 53 to col. 7, l. 17.

We find Bos would have disclosed to one of ordinary skill in this art dry cheese sauce mixes which contain, among other things, a wide variety of starches, including wheat flour, as thickening agents which “aid in increasing the viscosity when the dry mix is reconstituted.” Bos., e.g., col. 2, ll. 11-20, and col. 3, ll. 3-15.

We find Soy flour would have disclosed to one of ordinary skill in this art that soy flour, either low-fat or full-fat, is a source of isoflavones, iron, calcium, riboflavin and pantothenic acid, and contains “almost three times the amount of protein as wheat flour.” The reference discloses that soy flour can be added to, among other things, “sauces . . . as a thickener,” providing a “nutty, rich flavor.”

We find Appellants acknowledge that food kits containing a dried cheese blend and dry pasta, such as macaroni and cheese, and rice starch based products are known in the art. Spec. 1:20-26.

We determine the combined teachings of Schoenmaker, Spanier, Bos, and Soy flour, the scope of which we determined above, provide convincing evidence supporting the Examiner’s case that the claimed invention encompassed by claim 1, as we interpreted this claim above, would have

been prima facie obvious to one of ordinary skill in the food arts familiar with cheese sauces and dry mixes for cheese sauces. We agree with the Examiner's determination that this person would have been led by the applied prior art to substitute soy flour for the starch and [wheat] flour in Schoenmaker's illustrative dry cheese sauce mix in any amount, including "equal substitution," to obtain the nutritional benefits offered by soy flour; and to further include therein cheese flavoring to enhance the cheese flavor of the hydrated dry cheese sauce mix product. Ans. 4-5. Indeed, one of ordinary skill in this art would have recognized the amount of a thickener in a cheese sauce is a result effective variable and would have adjusted the amount of soy flour and other thickener(s) in Schoenmaker's dry cheese sauce mix to obtain a desired result based on thickening texture and flavor when hydrated, by routine experimentation. This person would have further selected a cheese flavoring and an amount thereof for addition to this sauce mix on the same basis. *See, e.g., In re Aller*, 220 F.2d 454, 456-58 (CCPA 1955) (it is not inventive to discover by routine experimentation optimum or workable ranges for general conditions disclosed in the prior art).

Accordingly, we are of the opinion that, prima facie, one of ordinary skill in this art routinely following the combined teachings of Schoenmaker, Spanier, Bos, and Soy flour would have reasonably arrived at the claimed soy protein-containing dry cheese sauce mix encompassed by claim 1 without recourse to Appellants' Specification. *See, e.g., KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740 (2007) ("when a patent claims a structure already known in the prior art that is altered by mere substitution of

one element for another known in the field, the combination must do more than yield a predictable result”); *In re Siebentritt*, 372 F.2d 566, 567-68 (CCPA 1967) (express suggestion to interchange methods which achieve the same or similar results is not necessary to establish obviousness); *see also In re Kahn*, 441 F.3d 977, 985-88 (Fed. Cir. 2006); *In re O’Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988) (“For obviousness under § 103, all that is required is a reasonable expectation of success.” (citations omitted)); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“ [T]he test [for obviousness] is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”); *In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985) (skill is presumed on the part of one of ordinary skill in the art); *In re Bozek*, 416 F.2d 1385, 1390 (CCPA 1969) (“Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness ‘from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.’”).

Upon reconsideration of the record as a whole in light of Appellants’ contentions, we are of the opinion that Appellants have not successfully rebutted the prima facie case. We are not persuaded of error in the Examiner’s position by Appellants’ contentions that one of ordinary skill in this art would have found it difficult to use soy flour as a thickener in a dry cheese sauce mix. App. Br. 11-14. Indeed, the applied prior art teaches that thickeners from starch sources, including seeds, can be used in cheese sauces, and provides the motivation to add additional nutritional value to the

sauces by the use of soy flour from soy seeds as a thickener in the reasonable expectation of successfully obtaining such benefits. Appellants have not supported their contentions that the addition of soy flour would adversely effect the organoleptic or sensory properties of a hydrated dry cheese sauce mix, including that of Schoenmaker's Example 10. App. Br. 13-14.

In this respect, the claim 1 limitation "providing significant levels of soy protein without significantly and adversely affecting the organoleptic or other sensory properties of the combined sauce and cooked starch-based product" relied on by Appellants (App. Br. 13-14), is based on "the combined sauce and cooked starch-based product" and not the "sauce" per se. In any event, the terms "significant," "significantly," and "adversely" are terms of degree for which we find no interpretative guidance in context in the claim or in the Specification to determine the extent of the limitations, as neither the claim nor the Specification discloses a reference point for the level of soy protein or the organoleptic or other sensory properties in combined sauce and cooked starch-based products. *See, e.g., Seattle Box Co., Inc. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984) ("Definiteness problems arise when words of degree are used. That some claim language may not be precise, however, does not automatically render a claim invalid. When a word of degree is used . . . [it] must [be determined] whether the patent's specification provides some standard for measuring that degree."); *In re Mattison*, 509 F.2d 563, 564-65 (CCPA 1975). Furthermore, we determine one of ordinary skill in this art would recognize that a difference in texture and taste can result from soy flour

compared to wheat flour, and this person would have adjusted the amount of soy flour as a thickener in the sauce to obtain a desired result. App. Br. 14-15; Ans. 10-11. In this respect, Appellants have not established that the “nutty” flavor imparted by soy flour is incompatible with cheese flavors. In any event, the “nutty” flavor imparted by soy flavor would be considered by one of ordinary skill in this art, and thus, the use of this material would be expected to have that result even if not as desirable to Appellants. *See, e.g., In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994) (“We share Gurley’s view that a person seeking to improve the art of flexible circuit boards, on learning from Yamaguchi that epoxy was inferior to polyester-imide resins, might well be led to search beyond epoxy for improved products. However, Yamaguchi also teaches that epoxy is usable and has been used for Gurley’s purpose.”).

Moreover, as the Examiner points out, Appellants’ contentions based on Schoenmaker’s soy protein hydrolyzate have little relevance to the thrust of the grounds of rejection. Ans. 11; App. Br. 15-18; Reply Br. 1-3. Indeed, claim 1 does not exclude sauce compositions which include Schoenmaker’s soy protein hydrolyzate taste enhancer.

Appellants rely on the Declaration of Appellant Silver under 37 C.F.R. § 1.132 (Silver Declaration) submitted with the Amendment filed December 5, 2005, and entered by the Examiner in the Office Action mailed February 21, 2006. App. Br. 27.¹ The Silver Declaration compares two

¹ The Declaration of Appellant Silver submitted with the Amendment filed May 18, 2006, is not before us because entry was denied by the Examiner in the Office Action mailed June 1, 2006. Office Action, ¶ 8; Ans. 11. Appellants’ reliance on this document in the Appeal Brief is thus improper. 37 C.F.R. § 41.37(c)(1)(ix) (“Reference to unentered evidence is not

cheese sauces in hydrated form. The “Control Sauce” is Schoenmaker’s Example 10 “minus the 1.32g of flavor hydrolyzate.” Declaration ¶¶ 6 and 7. The “Experimental Sauce” differs from the “Control Sauce” by “replacing the wheat flour and starch with an exact equal weight of defatted soy flour.” Declaration ¶¶ 6 and 7. “The Control Sauce was thick and viscous and had a typical cheese flavor,” “clung to and coated a spoon dipped into the sauce,” and at 70°F, has a viscosity of 840 cP under test conditions. Declaration ¶ 8. “The Experimental Sauce was thin and watery and had cheesy flavor, but also a slightly beany and astringent flavor,” the spoon “had essentially no coating when withdrawn,” and at 70°F, has a viscosity of 20 cP under test conditions. Declaration ¶ 9. “The Experimental Sauce was not an acceptable cheese sauce.” Declaration ¶ 9.

Appellants contend the evidence in the Silver Declaration show that “a straight substitution of wheat flour and starch for soy flour in Example 10 of [Schoenmaker], as suggested by the Examiner, did not produce an acceptable cheese sauce because of the objectionable flavor and texture.” App. Br. 19. Appellants’ further contentions based on “Kraft consumer data” are not supported by documentary evidence. App. Br. 19.

The Examiner contends the Silver Declaration “does not state how this slightly beany and astringent flavor is measured,” pointing out that taste is subjective. Ans. 12. The Examiner contends that the difference in texture and viscosity is not unexpected because “soy flour does not have the gluten

permitted in the brief.”). Accordingly, we have not considered the arguments in the Appeal Brief based on this document in any respect. App. Br. 19-21.

structure of wheat.” Ans. 12. The Examiner contends “there is no evidence showing that the flavor and texture are objectionable.” Ans. 12.

We, like the Examiner, are of the opinion that the evidence in the Silver Declaration is not convincing. We agree with the Examiner that, as we noted above, one of ordinary skill in this art would have knowledge that there is a difference between wheat flour and other starches and soy flour, and would have adjusted the sauce composition accordingly. Indeed, we find no evidence in the Silver Declaration or other evidence and/or argument in the record establishing the practical significance of the asserted results alone and further vis-à-vis the teachings of the applied references, and that the results would have been considered unexpected in view of the prior art by one of ordinary skill in this art. *See, e.g., In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *In re Merck*, 800 F.2d 1091, 1099 (Fed. Cir. 1986); *In re Longi*, 759 F.2d 887, 897 (Fed. Cir. 1985); *In re Lindner*, 457 F.2d 506, 508 (CCPA 1972); *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972); *In re D’Ancicco*, 439 F.2d 1244, 1248 (1971).

We are reinforced in our view of the evidence by the fact that the “Experimental Sauce” differs from the claimed sauces encompassed by claim 1, as we interpreted this claim above, solely in the absence of the cheese flavoring ingredient, which ingredient can be present in the claimed sauce compositions in an amount of about 1 percent. On this record, while the cheese flavoring may affect the taste of the sauce to at least some extent, there is no evidence that this ingredient would affect the texture and viscosity of the sauce. Accordingly, on this record, the taste, texture, and

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viscosity characteristics of claimed sauces encompassed by claim 1 are not readily distinguishable from that of the “Experimental Sauce.”

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Schoenmaker, Spanier, Bos, and Soy flour alone and as further combined with Yamamoto, with Appellants’ countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 1 through 28 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The Primary Examiner’s decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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