

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LI NIE, SUKH D. BASSI, and
CLOUDALDO C. MANINGAT

Appeal 2007-2139
Application 10/755,597
Technology Center 1700

Decided: February 15, 2008

Before CHUNG K. PAK, CATHERINE Q. TIMM, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's refusal to allow claims 1, 2, 5 through 23, 26 through 29, and 31 through 34, all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 6.

STATEMENT OF THE CASE

The subject matter on appeal is directed to extruded starch-based edible products, such as long-lasting pet chews (Specification 1, paragraphs. 0002, 0008, and 0012). The appealed subject matter of this application is similar to that of Appeal No. 2007-2191 (Application 10/284,553), except that the claimed extruded body of this application also contains pregelatinized starch and at least one lubricant. Further details of the appealed subject matter are recited in representative claim 1 reproduced below:

1. An extruded, self-sustaining tough and non-brittle comestible body with long lasting chew time comprising:

between about 50-80% by weight of starch including pregelatinized starch and non-pregelatinized granular starch, the ratio of pregelatinized starch to non-pregelatinized granular starch ranging from about 1:3 to 3:1,

between about 15-23% by weight of at least one plasticizer,

between about 6-15% by weight water,

between about 0.2-1.0% of at least one lubricant, and

less than about 4% by weight of at least one fat.

The Examiner has relied upon the following references:

Oborsh	3,852,483	Dec. 3, 1974
Christensen	4,284,652	Aug. 18, 1981
Spanier	4,997,671	Mar. 5, 1991
Cheuk	6,440,485 B1	Aug. 27, 2002
Wang	6,455,083 B1	Sep. 24, 2002
Levin	6,672,252 B2	Jan. 6, 2004

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Dempsey GB 2 332 850 A Jul. 7, 1999¹

Sajid H. Alavi et al., *Rheological Characteristics of Intermediate Moisture Blends of Pregelatinized and Raw Wheat Starch*, 50. J. Agric. Food Chem., 6740-6745 (2002)(hereinafter referred to as “Alavi”).²

The Examiner has rejected claims 1, 2, 5 through 23, 26 through 29, and 31 through 34 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Christensen, Dempsey, Alavi, Cheuk, Oborsh, Levin, Spanier, and Wang.

The Appellants appeal from the Examiner's decision rejecting the claims on appeal under 35 U.S.C. § 103(a).

FACTS, PRINCIPLES OF LAW, ISSUE, AND ANALYSIS

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary consideration (e.g., unexpected results). *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). “[A]nalysis [of whether the subject matter of a claim would have been obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41 (2007) quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); see also *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006)

¹ The Examiner refers to "Dempsey" as "Gaines Treats" (Ans. 3).

² The Examiner refers to “Alavi” as “Sajid et al” (*id*).

(“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”); *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.’”).

As indicated in our decision on Appeal No. 2007-2191 (Application 10/284,553), Dempsey teaches that its initial mouldable dog food (dog chew) ingredients include, *inter alia*, 35-84% by weight of starches (corn, wheat, rice, tapioca potato, oat, sugar beet)³, 0-10% by weight of fat, 0-5% by weight of flavoring agents, and 15-20% by weight of water (pp. 2 and 4-6). We find that Dempsey also teaches extruding these ingredients at a temperature between 75°C to 125°C to gelatinize the starches (p. 13). We find that the final dog chew product, according to page 14 of Dempsey, contains, *inter alia*, 35-84% by weight of gelatinized starches, 0-10% by weight of fat, 0-10% by weight of flavoring agents (including glycol), and 5-20% by weight of water (p. 14). We find that Dempsey further mentions that its dog chew product has 5-30% by weight of protein and has a higher degree of firmness or chewiness due to the addition of calcium carbonate in its product (pp. 5-6). As explained by Cheuk, Dempsey inherently or necessarily retrogrades its starches. Specifically, we find that Cheuk evinces

³ The Appellants indicated in Application 10/284,553 that the starches of the type taught by Dempsey can be retrograded. The instant Application, also implies at page 3 that the starched exemplified in Dempsey are the ones used by the Appellants.

that at Dempsey's cooking (gelatinization) temperature and extrusion pressure, Dempsey's starches would necessarily or inherently undergo retrogradation (Cheuk, col. 2, ll. 8-14 and col. 4, ll. 12-41). *See also* Specification, p. 3, para. 0012.

We find that Wang teaches that adding up to 20% by weight of edible plasticizers to a pet chew (inclusive of a dog chew) having ingredients similar to that of Dempsey is conventional (col. 3, ll. 41-47 and col. 5, l. 18 to col. 7, l. 65). According to col. 7, l. 66 to col. 8, l. 2, of Wang, “[s]uch plasticizers improve the processing flowability of the [pet chew ingredients]. Plasticizers also enhance flexibility of articles made from the [pet chew ingredients].” We find that Levin also teaches pet chews made of the starches of the type described in Dempsey conventionally employ the claimed amount of plasticizer to provide sufficient ductility (col. 4, ll. 20-52).

Moreover, we observe that the Appellants do not challenge the Examiner's determination at page 8 of the Answer that:

Oborsh et al. teach the benefits of adding mono- and di-glycerides to pet foods and [sic.] disclose an improvement to their texture and moistness and shelf-stability, as well as Spanier et al. at col. 6, line 65-co1.7, line 10 and Levin et al. teach a pet chew that contains such additives (col. 10, lines 30-35), all these patents thus establishing that the addition of lubricants to pet chews was known in the art at the time the invention was made for the advantages shown by these references. Furthermore, note Spanier et al. teaching that packaging a dog snack prevents drying out, retards staleness and assists in and prolongs storage or shelf-life. See col. 7, lines 42-49. To package a chew or any pet food product would have been an obvious expedient, given that numerous pet chews on the market are already being marketed in packages for shelf-stability. This would have been obvious particularly because it

is known in the art that in the case of starch, staling is common when moisture is present.

In essence, the Appellants do not contest the Examiner's position that it is well within the ambit of one of ordinary skill in the art to employ the claimed amounts of plasticizer and lubricant in the pet chews of the type taught by Dempsey (as explained by Cheuk). However, the Appellants contend that one of ordinary skill in the art would not have been led to employ a mixture of pregelatinized starch/non-pregelatinized starch in the claimed ratio to form the pet chew of the type suggested by Dempsey (as explained by Cheuk), Wang, Oborsh, Levin, and Spanier.

The dispositive question is, therefore, whether one of ordinary skill in the art would have been led to employ a mixture of pregelatinized starch/non-pregelatinized granular starch in the claimed ratio, in lieu of the non-pregelatinized granular starches, in the extruded pet chew of the type suggested by Dempsey (as explained by Cheuk), Wang, Oborsh, Levin and Spanier within the meaning of 35 U.S.C. § 103(a). On this record, we answer this question in the affirmative.

Consistent with the Examiner's findings at pages 13 and 14 of the Answer, we find that Alavi teaches that "for commercial reasons, control of gelatinization [of starch granules during conventional extrusion] is important in food systems [such as pet foods] as it has a direct impact on final product texture" (p. 6740). We find that after studying the effect of shear rates used in extrusion and blends of pregelatinized and non-pregelatinized starches, Alavi concludes at page 6745 that:

By using different blends of raw and pregel starch, not only can end products of different degrees of gelatinization be produced, but also the difference in rheology would lead to different expansion characteristics

during extrusion and, thus, greater flexibility in final product texture can be achieved.

In other words, Alavi teaches the proportions of pregelatinized and non-pregelatinized starches used in forming desired pet food, inclusive of pet chews, are result effective variables.

Consequently, we determine that it is well within the ambit of one of ordinary skill in the art to employ appropriate mixtures of pregelatinized and non-pregelatinized starches, including those having the claimed proportions, in forming the extruded pet chews of the type suggested by Dempsey (as explained by Cheuk), Wang, Oborsh, Levin and Spanier within the meaning of 35 U.S.C. § 103(a). *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) ([D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) ("[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.").

CONCLUSION

Based on the factual findings set forth in the Answer and above, we affirm the Examiner's decision rejecting the claims on appeal under 35 U.S.C. § 103(a). However, we denominate our affirmance as including a new ground of rejection against all the claims on appeal pursuant to 37 C.F.R. § 41.50(b) since our reasons for affirming the Examiner's rejection are materially different from those proffered by the Examiner. We wish to emphasize that we have not relied on Christensen in affirming the Examiner's rejection.

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This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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

AFFIRMED/§ 41.50(b)

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