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 JOO HAE SONG, CHOONGIL KIM, GEORGE LORENZ, and HENRY VALDEZ

Appeal 2006-1306
Application 10/218,991
Technology Center 1700

Decided: September 20, 2006

Before GARRIS, KRATZ, and TIMM, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 1-2, 4, 6-7, 9-14, 16-22, 24-27 and 32-33, the only claims pending in this application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

We AFFIRM-IN-PART and REMAND.

INTRODUCTION

The claims are directed to a method of manufacturing confectionary products that have an outer coating (Specification 1). Claims 1 and 32 are illustrative:

1. A method of manufacturing a confectionary product comprising the steps of:

providing a confectionary center;

heating at least one polyol to at least the one polyol's melting point to produce a molten polyol;

coating the confectionary center in a coating step with at least one layer of the molten polyol, wherein the coating comprises less than 5 percent by weight water during the coating step.

32. A method of manufacturing a chewing gum comprising the steps of:

forming a chewing gum center that includes a water soluble portion and a water insoluble portion;

liquefying at least one polyol and at least one non-polyol by heating a composition that includes not more than 5% water and the polyol and non-polyol; and

coating the chewing gum center by atomizing the composition and spraying the composition on the chewing gum center.

The Examiner relies on the following prior art references as evidence of unpatentability:

Reed	US 5,270,061	Dec. 14, 1993
Mentink	US 5,314,701	May 24, 1994

The rejections as presented by the Examiner are as follows:

1. Claims 1-2, 4, 6-7, 9-14, 16-22, 24-27 and 32-33 are rejected under 35 U.S.C. § 102(b) as being anticipated by Reed.
2. Claims 1 and 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mentink.

OPINION

Appellants do not separately argue the claims in their Brief or Reply Brief. Accordingly, we select claims 1 and 32 as representative claims on which to render our decision.

CLAIM 1

Claim 1 is directed to a method of manufacturing a confectionary product including the steps: (1) "providing a confectionary center", (2) "heating at least one polyol to at least the one polyol's melting point to produce a molten polyol", (3) "coating the confectionary center in a coating step with at least one layer of the molten polyol, wherein the coating comprises less than 5 percent by weight water during the coating step."

The Examiner rejects claim 1 under § 102(b) over Reed (Answer 4). The Examiner states that Reed discloses a melting point for xylitol of "93°C, or even 61°C for the metastable form" and a confectionary manufacturing method which includes heating a xylitol mixture "up to about 200°F, or 93°C" (Answer 4). From such disclosure the Examiner contends that, since Reed "disclose[s] that the preferred polyol (xylitol) had a melting point of 93°C, or even 61°C for the metastable form . . . , and also heating the xylitol to about 200°F, or 93°C, before applying it" (Answer 5), the polyol (i.e., xylitol) must be in molten form.

Appellants argue that they have defined "molten polyol" in their Specification at page 5 to mean "when sufficiently heated, a given polyol will melt and will remain in a molten state until it is allowed to cool to a temperature below its melting point" (Br. 4-5). Moreover, Appellants define "conventional non-molten coatings" as "any coating substance that is not in a molten state, but dissolved or dispersed in an aqueous media . . . ." (Br. 5). Appellants further argue that the plain meaning of "molten" means, "made by melting" or "liquefied by heat" (Br. 5), whereas "syrup" is "a solution formed by mixing a solid (i.e., sugar) and a liquid (i.e., water)" (Br. 5). Appellants also argue that appealed claims 16, 26, and 27 distinguish "molten polyols" from "non-molten polyols" under the doctrine of claim differentiation (Br. 6).

Based on these aforenoted arguments, it is Appellants' position that Reed discloses heating polyol syrup (i.e., a solution of a polyol and water) to "200°F" (Br. 9). Moreover, Appellants argue that Reed does not disclose the temperature range with "sufficient specificity" to anticipate the claims. Regarding the "sufficient specificity" of Reed's temperature range, Appellants argue as follows: (1) if "polyol" is interpreted to include xylitol in claim 1, then a narrow melt temperature range is defined in claim 1 (i.e., 93-94.5°C), (2) Reed discloses a broad temperature range (i.e., 100-200°F) and (3) Appellants have shown that unexpected results are achieved using a molten polyol as the coating (i.e., molten polyols can be sprayed onto confectionary items without the repeated cycles of spraying and drying associated with syrups, and molten polyols have a lower water content than found in conventional non-molten coatings due to liquefying by heat rather than moisture) (Reply Br. 3-4).

With regard to the rejection of claim 1 over Reed, we share Appellants' position that this claim is not anticipated by Reed.

A specification is examined for whatever enlightenment by way of definitions or otherwise it may provide to construing claim language. *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). An applicant's specification is usually the single best guide to the meaning of a disputed term. *Phillips v. AWH Corporation*, 415 F.3d 1303, 1315, 1321, 75 USPQ2d 1321, 1327, 1332 (Fed. Cir. 2005). A careful reading of a specification will usually indicate whether an applicant is setting out specific examples for the purpose of enabling his invention or if applicant instead intends for his claims and his embodiments in the specification to be strictly coextensive. *Id*. (*citing SciMed Life Systems v. Advanced Cardiovascular Systems*, 242 F.3d 1337, 1341 (Fed. Cir. 2001)). Also, where an applicant has disclaimed or disavowed scope of claim coverage, by using words or expressions of manifest exclusion or restriction in his specification, representing a clear disavowal of claim scope, such language will be used in interpreting the claim scope. *Id*. 415 F.3d at 1319, 75 USPQ2d at 1331 (*citing Texas Digital v. Telegenix*, 308 F.3d 1193, 1204 (Fed. Cir. 2002)).

In our view Appellants have clearly disclosed in their specification that their claimed "molten polyol" cannot be construed as including polyol syrups. Appellants define in their Specification that "conventional non-molten coatings" include coating substances that are "not in a molten state" but rather are "dissolved or dispersed in an aqueous media" (Specification 6). An example of a "conventional non-molten coating" is a "polyol syrup[ ]" (Specification 6). Moreover, Appellants indicate in their Specification that "molten polyols do not possess the high water content found in

conventional non-molten coating substances."(Specification 5). Appellants' definition that "*non*-molten coatings" (emphasis added) include polyol syrups amounts to a clear disclaimer such that "molten polyol" cannot reasonably be construed to encompass polyol syrups. *Phillips*, 415 F.3d at 1315, 1321, 75 USPQ2d at 1327, 1332.

In view of our claim interpretation of the term "molten polyol", Reed cannot be read as disclosing "molten polyol." Reed discloses that a "liquid syrup" containing "xylitol", "hydrogenated isomaltulose" and water is formed (col. 7, ll. 61-68) and this "liquid syrup" is heated to a temperature range of "100°F to about 200°F" (Reed, col. 8. ll. 4-20). From the outset, Reed's "liquid syrup" (i.e., "non-molten" polyol syrup by Appellants' definition) cannot be construed as being a "molten polyol."

Additionally, we observe that the Examiner in his § 102(b) rejection over Reed relies on the doctrine of inherency. Regarding the issue of inherency, it is important to be mindful of the following principles. "In relying on the theory of inherency, the examiner must provide a basis-in-fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

The Examiner's statement that "the xylitol of Reed et al would have inherently been melted when heated to 200°F" (Answer 5) appears to be speculative at best. Reed does not indicate that any part of the syrup is melted or made molten by heating to "about 200°F". Additionally, it is unclear if the hydrogenated isomaltulose and water in the syrup mixture may affect (i.e., increase or decrease) the melting point of the xylitol. The Examiner assumes that the components of the mixture (i.e., xylitol and hydrogenated isomaltulose) melt at their pure melting point temperatures.[1] It is simply not clear what effect the mixture of the compounds will have on the melting points of the pure compounds that compose the mixture, and the Examiner does not address such a matter. The Examiner appears to be dealing in "possibilities" and "probabilities" in his determination that Reed's xylitol in the syrup melts. *Robertson*, 169 F.3d at 745, 49 USPQ2d at 1950-51. As such, we find that the Examiner has failed to establish that Reed's xylitol in the syrup mixture will melt at "100°F to about 200°F."

Moreover, Reed does not appear to disclose the temperature range with "sufficient specificity" to anticipate Appellants' claims. We agree with Appellants' "sufficient specificity" analysis in their Reply Brief (Reply Br. 3-4). We add that the disclosure of a temperature range does not necessarily constitute a specific disclosure of the endpoints of that range. *Atofina v.*

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[1] Reed discloses that the "stabile solid" form of xylitol melts at "93°-94.5°C," whereas the "metastable" form of xylitol melts at "61°-61.5°C". (Reed, col. 4, ll. 67-68, col. 5, ll. 1). Reed does not specify which xylitol form he is using in the embodiment cited by the Examiner. This ambiguity regarding the xylitol form further demonstrates the speculation surrounding the Examiner's rejection over Reed. However, regardless of the xylitol form used, Reed does not indicate that the syrup solution of xylitol, hydrogenated isomaltulose and water is melted or made molten by heating to a temperature range of "100°F to about 200°F."

Great Lakes Chemical Corporation, 441 F.3d 991, 1000, 78 USPQ2d 1417, 1424 (Fed. Cir. 2006). "The [temperature range] disclosure is only that of a range, not a specific temperature in that range, and the disclosure of a range is no more a disclosure of the end points of the range than it is of each of the intermediate points." *Id*.

If the "polyol" in claim 1 is read to include xylitol, then the melting temperature range would be 93-94.5°C for the "stabile form" (Reed, col. 4, ll. 67) or 61-61.5°C for the metastable form (col. 4-5, ll, 68-1). Relative to these temperatures, the temperature range disclosed by Reed (i.e., 100-200°F (37.7-93.3°C)) is a comparatively broad range that does not necessarily include disclosure of the endpoints (i.e., 100°F or 200°F) for applying a molten xylitol coating. *Id*. Additionally, Reed provides no example at a temperature within the "claimed" xylitol melting temperature ranges. Under these circumstances, Reed's broad temperature range cannot be found to have disclosed with sufficient specificity the narrower temperature range of xylitol so as to anticipate Appellants' claim 1.

The Examiner also rejects claim 1 under § 102(b) over Mentink. The Examiner states that Mentink discloses heating the xylitol to "at least 120°C" which would render the xylitol molten (Answer 4-5).

The Appellants make the same arguments they made with regard to Reed (i.e., "molten polyol" is defined in the Specification, the plain meaning of the term "molten" and claim differentiation). In addition to these arguments, Appellants also argue that Mentink does not disclose a process that includes coating with molten polyol (Br. 10). Rather, Appellants argue that Mentink discloses cooling the polyol to below its melting point before

coating the candy center (Reply Br. 4-5). We agree with Appellants' ultimate position.

Mentink teaches that part of his process includes heating the components of the mixture to "at least 120°C" (col. 7, ll. 41-44). However, the actual shaping of the multilayer candy such that the external coating layer is applied to the candy center involves a method where the candy is brought to a temperature of 60 to 90°C, which is below the melt temperature of the "stabile" form of xylitol (i.e., 93-94.5°C). Moreover, Mentink does not indicate whether the "stabile" or "metastable" form of xylitol is used. Under these circumstances, it is our determination that the Examiner has failed to establish a prima facie case of anticipation. That is, the portion of Mentink's disclosure relied on by the Examiner does not involve coating a confectionary center with polyol in molten form.

From the foregoing discussion, we cannot sustain either the § 102(b) rejection of claims 1-2, 4, 6-7, 9-14, 16-22 and 24-27 over Reed or the § 102(b) rejection of claims 1 and 4 over Mentink.

CLAIM 32

Claim 32 recites a method of manufacturing chewing gum that includes: (1) "forming a chewing gum center that includes a water soluble portion and a water insoluble portion," (2) "liquefying at least one polyol and at least one non-polyol by heating a composition that includes not more than 5% water and the polyol and non-polyol," and (3) "coating the chewing gum center by atomizing the composition and spraying the composition on the chewing gum center."

The Examiner rejects claim 32 under § 102(b) over Reed.

Appellants argue that Reed does not "teach or suggest the use of molten polyol" (Br. 9). Appellants also make the same arguments made above regarding claim 1 (i.e., "molten polyol" is defined in the specification, the plain meaning of "molten" would indicate that Reed does not apply, and claim differentiation). We are not persuaded by Appellants' arguments.

Appellants only argue in their Brief and Reply Brief that Reed does not disclose "molten polyol" (Br. 9, Reply Br. 2-4). However, claim 32 does not recite "molten polyol" anywhere in the claim. In fact, claim 32 more broadly recites ". . . liquefying at least one polyol and at least one non-polyol by heating . . . ." Appellants do not argue in either their Brief or Reply Brief that "liquefying at least one polyol" is synonymous with "molten polyol." Appellants' Brief and Reply Brief are silent regarding the "liquefying" feature of claim 32.

During examination claim language is given its broadest reasonable interpretation that is consistent with the specification. *Morris*, 127 F.3d at 1054, 44 USPQ2d at 1027. Additionally, a specification is examined for whatever enlightenment by way of definitions or otherwise it may provide to construing claim language. *Id*. When interpreting a claim, the specification is usually the single best guide to the meaning of disputed claim language. *Phillips*, 415 F.3d at 1315, 1321, 75 USPQ2d at 1327, 1332.

An inspection of Appellants' Specification for a definition of "liquefying" reveals that no definition is provided. Appellants have not restricted the definition of "liquefying at least one polyol . . . by heating" to only forming a "molten polyol." Rather, giving "liquefying" its broadest reasonable interpretation, such language encompasses heated solutions of

polyols (i.e., polyol syrups). This interpretation is reasonable and consistent with Appellants' specification.

As aforenoted, Reed teaches heating a syrup containing xylitol, hydrogenated isomaltulose and water to a temperature range of 100°F to 200°F (Reed, col. 7, ll. 61-68, col. 8, ll. 1-20). Interpreting the claim phrase, "liquefying at least one polyol and at least one non-polyol by heating" to encompass Reed's liquefied and heated polyol-containing (i.e., xylitol) and non-polyol-containing (i.e., hydrogenated isomaltulose) syrup is reasonable and consistent with Appellants' Specification.

In view of our claim interpretation of "liquefying" we sustain the Examiner's § 102(b) rejection of claims 32-33 over Reed.

REMAND

We remand this application for the Examiner to consider the patentability of claims 1 and 4, especially under § 103(a), over Mentink. The portion of the Mentink disclosure cited by the Examiner (i.e., col. 7, ll. 41) as teaching a "molten polyol" refers to the step of preparing the various materials that make up the various layers in the multi-layer candy (Answer 4-5). The portion of Mentink cited by the Examiner does not indicate that the coating material (i.e., "Component A" or "Component B") is applied to a confectionary core as a coating at a molten temperature. Rather, Mentink discloses three "techniques" for forming the multilayer confection where the coating material is applied to the core.

One of the "techniques" of forming the candy includes "casting" (Mentink, col. 8, ll. 24-26). In the casting technique, "several runs of cooked masses" (i.e., "Component A", "Component B" and ingredients

making up the center) are cast into molds (Mentink, col. 8, ll. 24-26). The molds are kept at a temperature of "higher than 90°C" (Mentink, col. 8, ll. 26).

Mentink's casting disclosure teaches that the "cooked masses" (i.e., "Component A" (i.e., xylitol) and "Component B" of the coating material which is disclosed at col. 7, ll. 21-25, 32-47 and the material for the candy center which is disclosed at col. 7, ll. 9-13) are cast into heated molds. The "casting" technique implies that the "cooked masses" are at a temperature at which they flow (i.e., a temperature that permits casting (i.e. pouring) into the molds).

From this Mentink disclosure, it seems that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have coated a confection center with a molten polyol because Mentink discloses forming "cooked masses" that include a polyol (i.e., xylitol) at a temperature (i.e., 120°C) well above the melting point of xylitol (i.e., 93-94.5°C ("stabile" form) or 61-61.5°C (metastable form)) and then casting the "cooked masses" into molds to form the various layers of the multi-layer confection. This is because the casting step would obviously and necessarily require that the xylitol be in a flowable, molten state.

Therefore, in response to this remand, the Examiner must determine, and make of record the results of this determination, the propriety of rejecting at least claims 1 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Mentink.

This remand to the Examiner pursuant to 37 CFR § 41.50(a)(1) (2006) is ***not*** made for further consideration of a rejection. Accordingly, 37 CFR § 41.50(a)(2) does not apply.

CONCLUSION

We have reversed the Examiner's § 102(b) rejection of claims 1-2, 4, 6-7, 9-14, 16-22, 24-27 over Reed.

We have affirmed the Examiner's § 102(b) rejection of claims 32-33 over Reed.

We have reversed the Examiner's § 102(b) rejection of claims 1 and 4 over Mentink.

We have remanded this application to the Examiner for action consistent with our above comments.

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)(2004).

AFFIRMED-IN-PART & REMANDED

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Robert M. Barrett
Bell, Boyd & Lloyd LLC
P.O. Box 1135
Chicago, IL 60690-1135