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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WOLF PETER LUDWIG

Appeal 2019-002925
Application 12/794,332
Technology Center 1700

Before CATHERINE Q. TIMM, GEORGE C. BEST, and
JANE E. INGLESE, *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ requests our review under 35 U.S.C. § 134(a) of the Examiner's decision to finally reject claims 1–14, 17, and 19–21.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies World Technology Ingredients (WTI), Incorporated, as the real party in interest. Appeal Brief filed September 10, 2018 (“Appeal Br.”) at 3.

² Final Office Action entered January 16, 2018 (“Final Act.”) at 1.

CLAIMED SUBJECT MATTER

Appellant claims a method of processing meat. Appeal Br. 7–10. Claim 1 illustrates the subject matter on appeal, and is reproduced below with emphasis added to highlight contested subject matter:

1. A method of processing meat comprising:
 - (a) providing a body of meat at a first temperature, wherein the first temperature is about 25°F to about 50°F;
 - (b) contacting the body of meat of step (a), in at least one treating vessel, with a brine solution at a second temperature,
 - wherein the second temperature is greater than the first temperature and is about 45°F to about 80°F, and
 - wherein the brine solution comprises a vinegar-derived food additive and/or a reddening agent,
 - wherein the reddening agent comprises nitrite;
 - (c) agitating the body of meat at the second temperature for a time sufficient to distribute the solution throughout the body of meat;
 - (d) cooling the body of meat in at least one cooling vessel to a third temperature,
 - wherein the third temperature is less than the second temperature;
 - (e) *agitating the body of meat at the third temperature,* wherein the third temperature is about 25°F to about 50°F;
 - (f) *contacting the body of meat of step (e) with the brine solution at the third temperature and agitating the body of meat at the third temperature until the brine solution is substantially absorbed by the body of meat; and*
 - (g) recovering the body of meat in a dry state at the third temperature.

Appeal Br. 20 (Claims Appendix) (emphasis and spacing added).

REJECTIONS

The Examiner maintains the following rejections in the Examiner's Answer entered December 28, 2018 ("Ans."):

- I. Claims 1, 7, 8, 17, 19, and 20 under 35 U.S.C. § 103(a) as unpatentable over Ludwig;³
- II. Claims 2–6 under 35 U.S.C. § 103(a) as unpatentable over Ludwig in view of Gehring;⁴ and
- III. Claims 9–14 and 21 under 35 U.S.C. § 103(a) as unpatentable over Ludwig in view of Toledo.⁵

FACTUAL FINDINGS AND ANALYSIS

Upon consideration of the evidence relied upon in this appeal and each of Appellant's timely contentions,⁶ we affirm the Examiner's rejections of claims 1–14, 17, and 19–21 under 35 U.S.C. § 103(a) for the reasons set forth in the Final Action, the Answer, and below.

We review appealed rejections for reversible error based on the arguments and evidence the appellant provides for each issue the appellant identifies. 37 C.F.R. § 41.37(c)(1)(iv) (2017); *Ex parte Frye*, 94 USPQ2d

³ US 2004/0166229 A1, published August 26, 2004.

⁴ US 6,689,403 B1, issued February 10, 2004.

⁵ US 2007/0059423 A1, published March 15, 2007.

⁶ We do not consider the new arguments Appellant presents in the Reply Brief, including the arguments directed to claims 9 and 10 (Reply Br. 10–11), because Appellant could have raised these arguments in the Appeal Brief, and Appellant does not show good cause for raising the arguments for the first time in the Reply Brief. 37 C.F.R. § 41.37(c)(1)(iv); 37 C.F.R. § 41.41(b)(2) (arguments raised for the first time in the Reply Brief that could have been raised in the Appeal Brief will not be considered by the Board unless good cause is shown).

1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (explaining that even if the Examiner had failed to make a prima facie case, “it has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections”)).

Rejection I

We first address the Examiner’s rejection of claims 1, 7, 8, 17, 19, and 20 under 35 U.S.C. § 103(a) as unpatentable over Ludwig. Appellant presents arguments for claim 1, and asserts that “claims 7, 8, 17, and 19–20 are likewise non-obvious . . . as they include each and every feature of claim 1.” Appeal Br. 12–16. We, accordingly, select claim 1 as representative, and decide the appeal as to claims 1, 7, 8, 17, 19, and 20 based on claim 1 alone. 37 C.F.R. § 41.37(c)(1)(iv).

The method of claim 1 requires, in part, (c) agitating a body of meat at a second temperature for a time sufficient to distribute a brine solution throughout the body of the meat, (d) cooling the body of meat to a third temperature, which is less than the second temperature, (e) agitating the body of meat at the third temperature, (f) contacting the body of meat with the brine solution at the third temperature and agitating the body of meat at the third temperature until the brine solution is substantially absorbed by the body of meat, and (g) recovering the body of meat in a dry state at the third temperature.

The Examiner finds that Ludwig discloses a method for processing meat that includes (a) contacting bodies of meat with a treating solution; (b) heating the bodies of meat in contact with the treating solution in an agitator to a predetermined elevated temperature and maintaining the

temperature substantially constant while agitating the meat for a period of time sufficient to distribute the treating solution in the meat; (c) thereafter cooling the bodies of meat in the agitator while continuing to agitate the meat; and (d) recovering the bodies of meat in a substantially dry state from the agitator. Final Act. 2 (citing Ludwig ¶¶ 12–17 (“SUMMARY OF THE INVENTION”)). The Examiner finds that the steps disclosed in Ludwig of (c) cooling the bodies of meat in the agitator while continuing to agitate the meat, and (d) recovering the bodies of meat in a substantially dry state from the agitator, correspond to steps (d), (e), (f), and (g) recited in claim 1. Final Act. 3.

Appellant argues that the Examiner’s finding that steps (c) and (d) of Ludwig’s method correspond to steps (d), (e), (f), and (g) of claim 1 reads steps (e) and (f) out of claim 1 “as if they do not exist,” and fails “to give any meaning to step (f) as a step that is separate from steps (e) and (g).” Appeal Br. 13–14. Appellant argues that the Examiner also “fails to provide evidence of where and how step (f) of claim 1 is actually taught in Ludwig.” Appeal Br. 14. Appellant argues that Ludwig does not teach “that after the bodies of meat are heated at the substantially constant elevated temperature to a substantially dry state that they are subsequently cooled to a third temperature that is less than the second temperature and then contacted and agitated at the lower third temperature with the brine solution before being recovered.” Appeal Br. 15.

Appellant’s arguments do not identify reversible error in the Examiner’s rejection, for reasons that follow.

The “Summary of the Invention” section of Ludwig cited by the Examiner describes the method of Ludwig’s invention in general terms, and

indicates, as the Examiner finds, that the method comprises (a) contacting bodies of meat with a treating solution; (b) heating the bodies of meat to a predetermined elevated temperature while agitating the meat; (c) cooling the bodies of meat while continuing to agitate the meat; and (d) recovering the bodies of meat in a substantially dry state. Ludwig ¶¶ 12–17.

Ludwig’s disclosures are not limited to the general description of Ludwig’s method provided in the “Summary of the Invention” section of the reference, however. Ludwig goes on to describe the method of Ludwig’s invention in greater detail in subsequent portions of the reference, indicating that the method involves contacting bodies of meat with an aqueous treatment solution at a “lower temperature” (first temperature), raising the temperature of the bodies of meat to a “relatively high” temperature of between 45°F and 60°F (second temperature), maintaining the temperature of the bodies of meat contacted with the aqueous treatment solution at the relatively high temperature (45°F to 60°F) while massaging the aqueous solution into the bodies of meat, cooling the bodies of meat to a temperature 15°F to 45°F below the relatively high temperature (third temperature) while continuing to massage the aqueous solution into meat, and maintaining the bodies of meat at the temperature below the relatively high temperature (third temperature) for a certain time period while continuing to massage the aqueous solution into the meat. Ludwig ¶¶ 18, 19, 31, 35–39.

Ludwig explains that:

the increased temperature of massaging at the initial stage tends to promote the breakdown of ingredients or additives such as polyphosphates and nitrate by enzymes in the meat and hence a greater effectiveness of these components of the treating solution with a more uniform product especially a deeper and more uniform coloration. . . . Massaging is

completed more efficiently, *even when the temperature is reduced in the subsequent stage massaging . . .* The product is obtained in a practically dry stage.

Ludwig ¶ 40 (emphasis added).

Thus, supporting the Examiner’s position that Ludwig discloses method steps corresponding to each of steps (c), (d), (e), (f), and (g) recited in claim 1, Ludwig explicitly discloses massaging an aqueous solution into meat while maintaining the temperature of the meat at a relatively high temperature (corresponding to step (c) of claim 1), cooling the meat to a temperature below the relatively high temperature (corresponding to step (d) of claim 1) while massaging the aqueous solution into the meat (corresponding to step (e) of claim 1), continuing to massage the aqueous solution into the meat while maintaining the meat at the temperature below the relatively high temperature (corresponding to step (f) of claim 1), and recovering the meat in a substantially dry state (corresponding to step (g) of claim 1).

Appellant also argues that Ludwig “teaches away from the sequence of steps (e)–(g), in particular step (f), of claim 1,” by teaching “to skip steps (e) and (f)” of claim 1 by disclosing “heating the body of meat at the substantially constant elevated second temperature to a substantially dry state and recovering the substantially dry meat after cooling.” Appeal Br. 15–16.

As discussed above, however, although paragraph 12 of Ludwig may disclose “contacting bodies of meat with a treating solution; agitating the bodies of meat in contact with the treatment solution at an elevated temperature until the bodies of meat are substantially dry; and recovering the bodies of meat in a substantially dry state,” Ludwig includes additional

disclosures—beyond those in paragraph 12—that explicitly teach method steps corresponding to each of steps (e), (f), and (g) recited in claim 1. Ludwig ¶¶ 18, 19, 31, 35–39. Thus, contrary to Appellant’s arguments, rather than teaching away from steps (e), (f), and (g) of claim 1, Ludwig discloses a method that includes such steps. *Id.*

We, accordingly, sustain the Examiner’s rejection of claims 1, 7, 8, 17, 19, and 20 under 35 U.S.C. § 103(a).

Rejection II

We next address the Examiner’s rejection of claims 2–6 under 35 U.S.C. § 103(a) as unpatentable over Ludwig in view of Gehring. Appellant presents arguments for claim 2, and asserts that claims 3–6 “are, likewise, non-obvious . . . as they include each and every feature of claim 2.” Appeal Br. 16–18. We, accordingly, select claim 2 as representative, and decide the appeal as to claims 2–6 based on claim 2 alone. 37 C.F.R. § 41.37(c)(1)(iv).

Independent claim 2 differs from claim 1 by (1) reciting in step (b) that the brine solution comprises a reddening agent, and (2) reciting in the final clause of the claim that “the reddening agent comprises nitrite derived from plant material comprising nitrate.”

The Examiner finds that “Ludwig is silent as to . . . nitrite derived from . . . plant material comprising nitrate,” and the Examiner relies on Gehring’s disclosure of reddening meat by treating the meat with a mixture comprising a plant product containing “natural nitrate.” Final Act. 6–7 (citing Gehring Abstr.). The Examiner finds that both Gehring and Ludwig disclose treating meat with nitrite/nitrate, and Gehring “further discloses that it is desirable to employ natural sources of nitrite due to the greater

consumer trust than traditional additives.” Final Act. 7 (citing Gehring col. 1, ll. 19–25). The Examiner concludes that “one of ordinary skill in the art would have been motivated to modify Ludwig in view of Gehring et al and to substitute traditional source of nitrite with natural sources of nitrite due to the greater consumer trust than traditional additives as suggested by Gehring.” Final Act. 7.

Appellant argues that Gehring discloses using a reddening agent in a process that involves cooking meat in water, whereas Ludwig discloses a meat treatment process for enhancing the water holding capacity of meat that involves agitating and contacting the meat with a treatment solution at an elevated substantially constant temperature until the meat is substantially dry. Appeal Br. 17. Appellant argues that “[t]here is no suggestion in Gehring that his reddening agent could be used in a process that does not involve the cooking of meat in water.” *Id.* Appellant argues that Gehring discloses adding the reddening agent to a meat product at a temperature of 2°C to 20°C (35.6°F–68°F), and then cooking the meat product to a core temperature of greater than 62°C (143.6°F), whereas Ludwig discloses treating meat at much lower temperatures. *Id.* Appellant argues that the Examiner “fails to present any evidence that the reddening agent of Gehring would be effective at a significantly lower temperature of Ludwig.” *Id.*

Appellant’s arguments do not identify reversible error in the Examiner’s rejection, for reasons that follow.

Ludwig’s process is directed to treating fresh (raw) meat with a solution that includes sodium nitrite, and involves first massaging the nitrite solution into the fresh meat at a temperature of 45°F to 60°F, and cooling the meat by 15°F to 45°F while continuing to massage the nitrite solution into

the meat (as discussed above). Ludwig ¶¶ 19, 36–39, 57, 58. One of ordinary skill in the art would have understood that fresh or raw meat treated according to this process would require cooking (or heating) before the meat could be consumed, and would have understood that the cooking temperature would need to be sufficiently high to allow the meat to be consumed safely.

Gehring discloses a process for reddening meat that involves adding a mixture comprising a plant product containing “natural nitrate” to fresh (raw) meat, allowing the meat to “rest/ripen” at a temperature of 2°C to 20°C (35.6°F to 68°F), and then heating the meat to a core temperature of greater than 62°C (143.6°F). Gehring col. 2, l. 37–45; col. 3, ll. 4–8; col. 4, ll. 32–36. As the Examiner finds (Final Act. 7), in view of Gehring’s disclosure of “greater consumer trust” of “food additives of natural origin,” one of ordinary skill in the art would have been led to substitute a plant product containing “natural nitrate” as disclosed in Gehring for the sodium nitrite included in Ludwig’s treatment solution.

One of ordinary skill in the art reasonably would have expected that a plant product containing “natural nitrate” as disclosed in Gehring would successfully redden meat when used in Ludwig’s treatment solution, because Ludwig’s process involves massaging fresh meat with the treatment solution at a temperature (45°F to 60°F) similar to Gehring’s rest/ripening temperature of 35.6°F–68°F, and because fresh meat treated with the treatment solution containing a plant product including natural nitrate according to Ludwig’s process as modified by Gehring would require subsequent cooking (or heating) before consumption to a temperature sufficiently high to allow the meat to be consumed safely, such as a

temperature of greater than 143.6°F as disclosed in Gehring. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976) (“[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.”); *In re O’Farrell*, 853 F.2d 894, 903–04 (Fed. Cir. 1988) (“Obviousness does not require absolute predictability of success. . . . [A]ll that is required is a reasonable expectation of success.”).

We find no evidence on the record before us demonstrating that a plant product including natural nitrate as disclosed in Gehring would not successfully function for its intended purpose as a source of nitrite in Ludwig’s treatment solution to redden meat treated according to Ludwig’s process, and Appellant’s unsupported arguments do not constitute such evidence. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (“An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness.”); *Icon Health & Fitness, Inc. v. Strava, Inc.*, 849 F.3d 1034, 1043 (Fed. Cir. 2017) (“Attorney argument is not evidence” and cannot rebut other admitted evidence.).

We, accordingly, sustain the Examiner’s rejection of claims 2–6 under 35 U.S.C. § 103(a).

Rejection III

We turn next to the Examiner’s rejection of claims 9–14 and 21 under 35 U.S.C. § 103(a) as unpatentable over Ludwig in view of Toledo. Appellant presents arguments for independent claim 21 only, to which we accordingly limit our discussion. Appeal Br. 18; 37 C.F.R.

§ 41.37(c)(1)(iv).

Independent claim 21 differs from claim 1 by reciting in step (b) that the brine solution comprises a vinegar-derived food additive.

The Examiner finds that Ludwig does not disclose including a vinegar-derived ingredient in the aqueous treatment solution described in the reference, and the Examiner relies on Toledo's disclosure of a meat treatment composition including a vinegar-derived ingredient that "improves the flavor and juiciness of marinated meats," inhibits the growth of pathogenic microorganisms, and enhances water binding in meats. Final Act. 10 (citing Toledo Abstr., ¶ 20). In view of these disclosures in Toledo, the Examiner concludes that one of ordinary skill in the art would have modified Ludwig's treatment solution to include a vinegar-derived food additive as disclosed in Toledo to improve the flavor and juiciness of meat treated with the solution, inhibit the growth of microorganisms in the meat, and improve water retention in the meat. Final Act. 10.

Appellant argues that "neither Ludwig nor Toledo, taken alone or in combination, teach the processing of a meat with a vinegar-derived food additive using the three temperature process recited in claim 21." Appeal Br. 18. Appellant argues that the Examiner "fails to present any evidence that the vinegar mix of Toledo would be effective in the three temperature process recited in claim 21." *Id.*

As discussed above, however, Ludwig discloses a "three temperature" process for treating meat that involves, in part, contacting meat with an aqueous treatment solution at a "lower temperature" (first temperature), raising the temperature of the meat to a "relatively high" temperature of between 45°F to 60°F (second temperature), massaging the aqueous solution

into the meat at the relatively high temperature, cooling the meat to a temperature that is 15°F to 45°F below the relatively high temperature (third temperature), and maintaining the meat at the temperature below the relatively high temperature (third temperature) while continuing to massage the aqueous solution into the meat. Ludwig ¶¶ 18, 19, 31, 35–39.

Toledo discloses a marinade for raw meat that contains partially neutralized, concentrated distilled vinegar and has high water binding potential, antimicrobial properties, and improves the flavor and juiciness of meat treated with the marinade. Toledo Abstr., ¶¶ 18–20, 22.

One of ordinary skill in the art would have been led by these disclosures in Toledo to include the partially neutralized, concentrated distilled vinegar disclosed in Toledo in Ludwig’s treatment solution, to impart the benefits of the vinegar to meat treated according to Ludwig’s process. Contrary to Appellant’s arguments, the combined disclosures of Ludwig and Toledo, therefore, would have suggested a “three temperature” process for treating raw meat with a treatment solution that includes a vinegar-derived food additive.

The record before us is bereft of any evidence demonstrating that the advantageous effects imparted by the partially neutralized, concentrated distilled vinegar disclosed in Toledo are temperature-dependent. And we find no evidence on the record before us demonstrating that the partially neutralized, concentrated distilled vinegar disclosed in Toledo, when included in Ludwig’s treatment solution, would not function successfully to inhibit growth of microorganisms, enhance water retention, and improve the flavor and juiciness, of meat treated with the solution according to Ludwig’s “three temperature” process—to at least some extent. One of ordinary skill

in the art, therefore, reasonably would have expected that including the partially neutralized, concentrated distilled vinegar disclosed in Toledo in Ludwig's aqueous treatment solution would inhibit the growth of microorganisms in meat treated with the solution, enhance water retention in the meat, and improve the meat's flavor and juiciness. *O'Farrell*, 853 F.2d at 903-04.

We, accordingly, sustain the Examiner's rejection of claims 9-14 and 21 under 35 U.S.C. § 103(a).

CONCLUSION

Claims Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1, 7, 8, 17, 19, 20	103(a)	Ludwig	1, 7, 8, 17, 19, 20	
2-6	103(a)	Ludwig, Gehring	2-6	
9-14, 21	103(a)	Ludwig, Toledo	9-14, 21	
Overall Outcome			1-14, 17, 19-21	

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