UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte ELDON ROTH

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Appeal No. 2005-1672
Application No. 09/833,866

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ON BRIEF

_____

Before PAK, WALTZ 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, 3 through 20 and 22. Claims 21, 24 and 25, the only other claims pending in the above-identified application, were allowed by the examiner.

APPEALED SUBJECT MATTER

The subject matter on appeal is directed to ammonia-treated meat products and a process for treating meat-products with

ammonia. See the specification, page 1. By modifying the pH of the meat products with ammonia, the live microbe content in the meat products are said to be significantly reduced. ***Id.*** Further details of the appealed subject matter are recited in representative claims 1, 12, 13, 14 and 22[1] which are reproduced below:

1. A method for producing a pH enhanced comminuted meat composition, the method including the steps of:

   (a) increasing the moisture content of a comminuted meat composition and distributing the moisture throughout the comminuted meat composition to produce a moisture enhanced meat composition, the comminuted meat made up at least partially of small comminuted meat pieces; and

   (b) producing an ammonium hydroxide solution distributed throughout the comminuted meat composition.

12. A method of producing a pH enhanced comminuted meat composition, the method including the steps of:

[1]Pursuant to 37 CFR § 41.37(c)(1)(vii)(2004), we limit our discussion to representative claims 1, 12, 13, 14 and 22. The appellants have not separately argued the limitations of the other remaining claims on appeal. See the Brief and the Reply Brief in their entirety.

(a) adding water to a mass of comminuted meat, the comminuted meat being made up at least partially of small comminuted meat pieces;

(b) placing ammonia gas in contact with the meat composition; and

(c) applying mechanical action to the meat composition after placing ammonia gas in contact with the meat composition and after adding water to the meat composition to produce a moisture enhanced meat composition having the added water and an ammonium hydroxide solution distributed throughout the moisture enhanced composition.

13. A method of producing a pH enhanced comminuted meat composition, the method including the steps of:

(a) adding ammonium hydroxide solution to a mass of comminuted meat, the comminuted meat being made up at least partially of small comminuted meat pieces; and

(b) applying mechanical action to the comminuted meat after adding the ammonium hydroxide solution to distribute the ammonium hydroxide solution throughout the mass of comminuted meat.

14. A meat product produced by:

(a) increasing the moisture content of a mass of comminuted meat composition to produce a moisture enhanced meat composition, the comminuted meat being made up at least partially of small comminuted meat pieces and the moisture enhanced meat composition having the

increased moisture content being distributed throughout the composition;

(b) producing an ammonium hydroxide solution in the moisture enhanced comminuted meat composition;

(c) applying mechanical action to the moisture enhanced meat composition after producing the ammonium hydroxide solution therein; and then

(d) setting the moisture enhanced meat composition in a desired form by applying heat, or pressure, or both heat and pressure to the moisture enhanced meat composition.

22. A method for producing a pH enhanced comminuted meat composition, the method including the steps of:

(a) adding ammonia to a comminuted meat to produce an ammoniated meat composition, the comminuted meat made up at least partially of small comminuted meat pieces;

(b) adding water to the ammoniated meat composition; and

(c) applying mechanical action to the comminuted meat composition after adding ammonia thereto and after adding water thereto to distribute a resulting ammonium hydroxide solution throughout the comminuted meat.

THE PRIOR ART

The prior art references relied upon by the examiner in support the Section 102 and 103 rejections before us are:

Roth	5,871,795	Feb. 16, 1999
Nakayama et al. (Nakayama) (Published Japanese Kokai Patent Application)	64-39965	Feb. 10, 1989

THE REJECTIONS

The appealed claims stand rejected as follows[2]:

1) Claims 14 through 20 under 35 U.S.C. § 102(a) as anticipated by, or in the alternative under 35 U.S.C. § 103(a) as unpatentable over, the disclosure of Roth; and

2) Claims 1, 3 through 13 and 22 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Roth and Nakayama.

OPINION

We have carefully reviewed the claims, specification and prior art, including all of the arguments advanced by both the examiner and the appellant in support of their respective positions. This review has led us to conclude that the examiner's Sections 102(a) and 103(a) rejections are well

[2] See the Brief, page 3 and the Answer, pages 3-4.

founded. Accordingly, we affirm the examiner's rejections for essentially the reasons set forth in the Answer and below.

We turn first to the examiner's rejection of claims 14 through 20 under 35 U.S.C. § 102(a) as anticipated by, or in the alternative under 35 U.S.C. § 103(a) as unpatentable over, the disclosure of Roth. We observe that representative claim 14 is written in a product-by-process format. Thus, it is a product, not a method of its production, which must be analyzed for patentability. ***In re Thorpe***, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985)("The patentability of a product does not depend on its method of production . . . . If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process").

Here, Roth, like the appellant, discloses manipulating the pH of a meat product (e.g., ground or chopped, mixed or blended meat product) to kill microbes and improve the color during storage. See, e.g., column 1, lines 9-27 and column 3, lines 56-65. To obtain the desire pH, Roth requires that "[t]he pH increasing gas [be] held at the operating pressure for an operating period sufficient to allow the pH increasing gas to be ***absorbed*** into the meat product and effect the desired increase in

pH [emphasis ours]." See column 2, lines 54-57. Roth goes onto state (column 5, lines 38-53) that:

> NH_3 gas is the preferred pH increasing gas for use in the first step of the invention shown in FIG. **1**. When in contact with the meat product being processed, it is believed that the moisture ***in*** the meat product absorbs the NH_3 gas to form ***ammonium hydroxide*** NH_4OH. The free hydroxyl ions from the NH_4OH in the meat product produce the increased pH. The free NH_3 gas also provides the physical pressure effect desired in the pressurization, hold, and release cycle according to the invention. Alternatively to NH_3 gas, a suitable pH increasing ***liquid*** or solid may be ***atomized*** or otherwise mixed with an approved inert food processing carrier gas . . . . In this case the pH increasing material performs the pH increasing function while the carrier gas produces the desired physical pressure effects of damaging microbes in the pressurization, hold, release cycle. [Emphasis added.]

It can be inferred from this teaching in Roth that atomized ammonia hydroxide solution would be just as useful as anhydrous ammonia gas in increasing the pH of the meat product. This meat product, according to column 7, lines 34-44, of Roth, is subjected to

> [t]he excess treatment gas removal step described with reference to FIG. **1**(block **8**) [which] may be performed by applying a vacuum to container **20** with vacuum pump **82** . . . . Also, the container **20** may have associated with it a motor **86** for driving an agitator or blender mechanism (not shown) within the container. Blending or agitating the treated meat product in the container helps expose the meat product to the vacuum to ensure better removal of excess or free treatment gas.

Implicit in this teaching in Roth is that ammonium hydroxide is absorbed throughout the meat product prior to the blending and agitation. Moreover, this teaching supports the examiner's finding at page 3 of the Answer that "distribution of ammonium hydroxide solution throughout a mass of ground or contaminated meat" necessarily "occurs in Roth [at least] during the blending, agitating . . . of the meat in the presence of [excess] ammonium hydroxide." Subsequent this treatment, the meat may be frozen and/or chipped for packaging and shipment. See Roth, column 7, line 65 to column 8, line 5. Thus, in our view, the examiner has correctly found that Roth describes, or would have suggested, a meat product identical or substantially identical to the claimed meat product. We find that nothing in this record referred by the appellant shows that the claimed moisture adding step causes the claimed meat product to be patentably different from the meat product described or suggested by Roth.[3] As stated by our predecessor reviewing court in ***In re Best***, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977):

[3] This is especially true in this case since claim 14 does not preclude unclaimed additional steps, such as excess ammonium hydroxide or moisture removing steps.

> Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. [Footnote omitted.] Whether the rejection is based on "inherency" under 35 USC § 102, on "prima facie obviousness" under 35 USC § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products. ***See In re Brown***, 459 F.2d 531, 59 CCPA 1036, 173 USPQ 685 (1972).

On this record, the appellant has not come forward with evidence to rebut the examiner's ***prima facie*** case of unpatentability based on similarities of processes and product characteristics (reduced microbes and improved color for storage) involved. Accordingly, we affirm the examiner's decision rejecting claims 14 through 20 under Sections 102 and 103.

We turn next to the examiner's rejection of claims 1, 3 through 13 and 22 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Roth and Nakayama. Claims 1, 12, 13 and 22 are directed to methods of treating ground (comminuted) meats. Claim 1 requires a moisture adding step in which an aqueous ammonium hydroxide can be added or water can be added to form an aqueous ammonium hydroxide ***in situ*** (reacting added water with ammonia gas to form an aqueous ammonium hydroxide). Claims

12 and 13 limit the moisture adding step as either the ***in situ*** aqueous ammonium hydroxide formation steps or the aqueous ammonium hydroxide introductions step mentioned above. Claims 12 and 13, unlike claim 1, also require a step for applying mechanical action to the resulting mixture to further distribute the aqueous ammonium solution to the meats. Claim 22 requires adding solid ammonia followed by adding water to form an aqueous ammonium hydroxide ***in situ***.

The disclosure of Roth is discussed above. The appellant does not dispute that Roth teaches "that ammonia gas may be added to comminuted meat to raise the pH." See the Brief, page 8. Rather, the appellant only argues that Roth does not teach increasing the moisture content in the comminuted meat and that Nakayama does not suggest increasing the same in Roth as required by claims 1, 12 and 13. ***Id.*** We disagree.

As indicated above, Roth teaches (column 5, lines 38-53) that:

> NH_3 gas is the preferred pH increasing gas for use in the first step of the invention shown in FIG. **1**. When in contact with the meat product being processed, it is believed that the moisture ***in*** the meat product absorbs the NH_3 gas to form ***ammonium hydroxide*** NH_4OH. The free hydroxyl ions from the NH_4OH in the meat product produce the increased pH. The free NH_3 gas also provides the physical pressure effect desired in

> the pressurization, hold, and release cycle according to the invention. Alternatively to NH_3 gas, a suitable pH increasing ***liquid*** or solid may be ***atomized*** or otherwise mixed with an approved inert food processing carrier gas . . . . In this case the pH increasing material performs the pH increasing function while the carrier gas produces the desired physical pressure effects of damaging microbes in the pressurization, hold, release cycle. [Emphasis added.]

In other words, we determine that Roth as a whole would have suggested using an aqueous ammonia hydroxide or ammonia gas to treat the comminuted meat, thus meeting the claimed requirement for increasing the moisture content in the comminuted meat as required by claims 1 and 13. We determine that adding water to obtain the desired moisture content in the meat as required by claim 12 would have been well within the ambit of one of ordinary skill in the art since Roth teaches that the purpose of adding ammonia gas is to react it with moisture (water) to form a sufficient amount of an aqueous ammonium hydroxide to obtain a desired pH. ***See, e.g., In re Boesch***, 617 F.2d 272, 276, 205 USPQ 215, 219 (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 any event, as also indicated by the examiner (Answer, page 3), Nakayama, like Roth, teaches treating various fowl meats, including ground meat, with ammonia gas and/or an aqueous

ammonia solution to eliminate the meat odor associated therewith. See also Nakayama, page 3. The fowl meats can be subjected to the aqueous ammonia solution in the form of mist or spray or can be immersed in the aqueous ammonia solution. ***Id.*** As is apparent from column 1 of Roth, the fowl odor referred to in Nakayama is also related to a meat exposed to microbes. Given these teachings, we concur with the examiner that one of ordinary skill in the art would have been led to employ ammonia gas and water (moisture) to form an aqueous ammonia hydroxide solution ***in situ*** or directly introduce an aqueous ammonia solution in the manner taught by either Roth or Nakayama, with a reasonable expectation of successfully reducing microbes and fowl odors in the comminuted meat. ***See, e.g., In re Beattie***, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992)("As long as some motivation or suggestion to combine the references is provided by the prior art taken as a whole, the law does not require that the references be combined for the reasons contemplated by the inventor").

With respect to claim 22, we find that the passage of Roth referred to above implicitly teaches or suggests using solid ammonia gas (ammonia) to form an aqueous ammonia hydroxide

solution ***in situ.***[4] Thus, using solid ammonia, together with water, to form an aqueous ammonia hydroxide solution ***in situ*** for the purpose of increasing the pH of the comminuted meat would have been obvious to one of ordinary skill in the art. As indicated ***supra***, the amount of water added is dependent on the moisture already present in the meat and the amount of ammonia used to form an optimum amount of an aqueous ammonium hydroxide solution. ***Boesch, supra***.

Accordingly, we affirm the examiner's rejection of claims 1, 3 through 13 and 22 under 35 U.S.C. § 103(a).

CONCLUSION

In view of the foregoing, the decision of the examiner is affirmed.

[4] We also take official notice, if necessary, that it was well known at the time of the invention that an aqueous ammonia hydroxide solution can be formed by combining ammonia and water.

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

CHUNG K. PAK Administrative Patent Judge	)	
THOMAS A. WALTZ Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY T. SMITH Administrative Patent Judge	)	

CKP:hh

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