

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 42

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KEVIN C. SPENCER

Appeal No. 1997-0117
Application 08/291,741

HEARD: February 22, 2000

Before KIMLIN, WARREN and LIEBERMAN, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 39-64 and 67, all the claims remaining in the present application. Claim 67 is illustrative:

67. A process for preserving the color of red meat, which comprising [sic] contacting said meat with an effective amount of an atmosphere of either pure argon or a mixture consisting of ≥ 70 volume % of argon and a carrier gas selected from the group consisting of carbon dioxide, nitrogen, oxygen and mixtures thereof.

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In addition to the admitted prior art found at page 4 of appellant's specification, the examiner relies upon the following references as evidence of obviousness:

Segall	3,677,024	Jul. 18, 1972
Woodruff et al. (Woodruff)	4,522,835	Jun. 11, 1985
Ferrar et al. (Ferrar)	4,642,239	Feb. 10, 1987
Ruzek	4,812,320	Mar. 14, 1989
Mitchell	4,919,955	Apr. 24, 1990

Appellant's claimed invention is directed to a process for preserving the color of red meat. The process involves contacting the meat with an atmosphere of either pure argon or a mixture of argon and a carrier gas wherein the mixture comprises at least 70 volume % of argon.

Appealed claims 39-48, 54, 56-59 and 67 stand rejected under 35 U.S.C. § 103 as being unpatentable over either Woodruff or Ferrar in view of appellant's admitted prior art. Claims 49-53, 55 and 60-64 stand rejected under 35 U.S.C. § 103 as being unpatentable over the stated combination of references further in view of Mitchell and Ruzek. In addition, claims 39-41, 44-48, 54, 58, 59 and 67 stand rejected under 35 U.S.C. § 103 as being unpatentable over

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Segall in view of either of Ferrar or Woodruff.

We have thoroughly reviewed the respective positions advanced by appellant and the examiner. In so doing, we find

that appellant's evidence of nonobviousness outweighs the examiner's evidence of obviousness. Accordingly, we will not sustain the examiner's rejections.

Woodruff discloses a process of preserving the color of red meat which comprises subjecting the fresh meat to an atmosphere low in oxygen concentration to convert oxymyoglobin to reduced myoglobin, and subjecting the meat to a modified atmosphere containing a small amount of carbon monoxide, carbon dioxide and molecular nitrogen and/or other inert gases in order to convert the reduced myoglobin to carboxymyoglobin. Woodruff does not mention an atmosphere of argon.

Ferrar discloses a process of packaging fresh meat comprising vacuum treating the meat to produce a low oxygen partial pressure, since oxygen is highly deleterious to the meat's color (see abstract). Also, Ferrar discloses a controlled partial release of the vacuum with nitrogen or

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another inert gas such that the fresh meat is packaged in an anaerobic condition whereby it can be stored under vacuum or in an inert gas atmosphere (column 3, lines 44 et seq.).

Ferrar, like Woodruff, does not teach treating the meat with an argon atmosphere.

Segall discloses a process for storing meat without significant histological, biochemical or physiological deterioration which includes, *inter alia*, treating the meat with an inert gas. Helium is disclosed as particularly useful and Segall teaches that "[i]t is contemplated that other noble gases may be used, such as neon and argon" (column 2, lines 22 and 23).

To the extent, Woodruff, Ferrar and Segall, considered singularly or collectively, establish a *prima facie* case of obviousness for the claimed process of treating meat with an atmosphere containing at least 70 volume % of argon, we find that the Declaration of Kevin C. Spencer, the present applicant, effectively rebuts the *prima facie* case. The

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Declaration demonstrates that the treatment of meat with argon, alone or in admixture with a carrier gas comprising at least 70% argon, produces a considerable percent color improvement and a percent color stability improvement compared to a treatment with nitrogen, the specified inert of Woodruff and Ferrar, which effects no improvement. The Declaration also demonstrates that treatment with argon yields a marked improvement in color and color stability in comparison with helium, the exemplified atmosphere of Segall. In the words of the declarant, such improvement

"would not be expected by the artisan . . . [] these results are commercially significant" (page 4 of Declaration). The examiner, on the other hand, fails to set forth a rationale why the improved results of the Declaration would have been expected by one of ordinary skill in art.

We are not persuaded by the examiner's criticism that the Declaration does not provide a comparison with the treating atmosphere of Woodruff which comprises carbon dioxide as a carrier. The treating atmosphere of Woodruff can contain as little as 10% carbon dioxide with the balance being

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substantially all molecular nitrogen and/or other inert gases. The examiner has not set forth a factual basis for raising a valid concern that the inclusion of 10% carbon dioxide in the samples of the Declaration would materially affect the relative results.

One final point remains. Appealed claim 42 is improperly dependent upon claim 67, inasmuch as it defines "a mixture of about 90% liquid nitrogen and 10% liquid argon." Manifestly, claim 42 does not further limit independent claim 67 since claim 67 requires at least 70 volume % argon. We trust that appellant will rectify this matter upon return of this application to the examiner.

In conclusion, based on the foregoing, it is our judgment that appellant's evidence of nonobviousness outweighs the examiner's evidence of obviousness. Accordingly the examiner's decision rejecting the appealed claims is reversed.

REVERSED

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EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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CHARLES F. WARREN)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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PAUL LIEBERMAN)	
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