

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 37

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte KEVIN C. SPENCER

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Appeal No. 1997-0228  
Application No. 08/328,534

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HEARD: June 14, 2001

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Before KIMLIN, PAK, and DELMENDO, Administrative Patent Judges.  
DELMENDO, 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 42, 44 through 60, 62, and 64 through 82, which are all of the claims pending in the subject application.<sup>1</sup>

The subject matter on appeal relates to a method of

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precursor thereof by sparging an effective amount of a particular atmosphere consisting essentially of the recited noble gas(es) into the citrus juice or precursor provided in a containing means and maintaining a certain level of saturation for "substantially an entire duration that the citrus juice or precursor thereof is stored in containing means." Further details of this appealed subject matter are recited in representative claims 81, 44, 45, and 51 reproduced below:<sup>2</sup>

81. A method of improving the aroma, flavor or both, of a citrus juice or precursor thereof, which comprises:

a) introducing a citrus juice or precursor thereof in containing means;

b) sparging an effective amount of an atmosphere into the citrus juice or precursor thereof in order to saturate said citrus juice or precursor thereof to an extent of more than 50 volume % of full saturation with noble gas, at a temperature which is between about 0°C and 60°C and at a pressure lower than about 10 atmospheres, said atmosphere consisting essentially of a noble gas selected from the group consisting of argon, neon, krypton, xenon and mixtures thereof; and

c) maintaining the more than 50% volume of full saturation with said noble gas throughout the citrus juice or precursor thereof or said containing means therefor and for substantially an entire duration that said citrus juice or precursor thereof is stored in said containing means.

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44. The method according to Claim 81, wherein said citrus juice or precursor is saturated to more than 70% volume of full saturation.

45. The method according to Claim 44, wherein said citrus juice or precursor is saturated to more than 80% volume of full saturation.

51. The method according to Claim 81, wherein said atmosphere comprises 90% to 99% volume of argon, and 1% to 10% volume of xenon, or 1% to 10% volume of krypton or both.

As evidence of unpatentability, the examiner relies upon the following prior art references:

Bagdigian	2,569,217	Sep. 25, 1951
Segall	3,677,024	Jul. 18, 1972
Fath et al. (Fath)	5,128,160 (effective filing date Jul. 16, 1990)	Jul. 7, 1992
Georges (FR '669) (published FR patent document)	1,339,669	Sep. 2, 1963

In addition, the examiner relies on the appellant's admitted prior art as described in the present specification.

Claims 42, 44 through 60, 62, and 64 through 82 stand rejected under 35 U.S.C. § 103 as unpatentable over the combined teachings of FR '669, Segall, Fath, Bagdigian, and the admitted

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July 19, 1995, paper 17, page 3; Office action of January 27, 1995, paper 14, page 4; Office action of September 29, 1993, paper 6, pages 5-7.)

As a preliminary matter, we note the appellant's statement that "[c]laims 42, 44-60, 62 and 64-82 are grouped individually and each is to be considered individually, consistent with the separate arguments for patentability for each..." (Appeal brief, p. 3). However, the appellant's "separate arguments" (pp. 9-15) merely consist of pointing out what is covered by each of claims 42, 44 through 60, 64 through 80 and reciting a conclusory statement that the "aspect of the present invention is neither disclosed nor suggested" by the prior art. No analysis of the claim limitations vis-à-vis the actual teachings of the prior art references is provided, much less an explanation as to why each of claims 42, 44-60, 62 and 64-82 is separately patentable from claim 81. Nevertheless, we will consider claims 45 and 51 separately from claim 81 in view of the substantive arguments provided in the appeal brief at page 6. Accordingly, consistent with the provisions of 37 CFR § 1.192(c)(7) and (c)(8) (1995), we

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select claims 45, 51, and 81 and decide this appeal as to the examiner's ground of rejection on the basis of these claims only.

We affirm the aforementioned rejection for reasons which follow.

The present specification admits that it is well known that "oxygen can degrade many of the aroma and flavor components of" liquid foods, such as fruit juices or other beverages.

(Specification, page 8, line 24 to page 9, line 3.)

FR '669 describes a method for stabilizing "products that can be altered by air" during storage in containers.

(Translation, page 1.) According to FR '669, the method is suitable for preserving "biological products" such as an aqueous solution of vitamin C or oxidizable oils such as raw vegetable oils (e.g., grapeseed oil, sunflower oil, or corn oil). (Id. at pp. 1 and 4.) The reference also teaches as follows:

The invention involves the use of a rare gas as a protective atmosphere, regardless of the mechanism by which the effect of the stabilization is obtained, the protective action of rare gases is superior to those of other gases, such as nitrogen, may be due to the fact that they easily desorb the oxygen and humidity of the products to be preserved, and this would not have occurred or would be more difficult with other gases.

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4.) Although FR '669 does not indicate the percent saturation of argon in the liquid product, the reference discloses that the sparging of the rare gas into the liquid results in deaeration.

(Page 3.) In addition, FR '669 teaches:

In order to ensure their stabilization, the solutions which are distributed in conservation flasks are subjected to sparging with pure argon at an ambient temperature and at a moderate discharge in order to prevent intense agitation but which sufficient [sic] to ensure a regular injection of gas and intense and uniform oxidation [sic] of the liquid. The containers are then sealed in an argon atmosphere. [Id. at p. 4.]

Based on these teachings, we determine that one of ordinary skill in the art would have found it prima facie obvious to apply the preservation method (i.e., argon sparging) described in FR '669 to citrus juice, which was known in the art to be subject to the problem of oxidative degradation, with the reasonable expectation of substantially reducing or eliminating oxidative degradation of various components in the citrus juice. In addition, we agree with the examiner's determination (examiner's answer, page 5) that it would have been prima facie obvious for one of ordinary skill in the art to optimize the degree of argon saturation in FR '669 in order to maximize the stability of the product to

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within the skill of the art."); In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (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.").

With respect to appealed claim 51, FR '669 teaches that krypton and xenon are also suitable rare gases. (Page 4.) Hence, we are convinced that one of ordinary skill in the art would have found the requisite teaching, motivation, or suggestion to combine a suitable amount of argon with a suitable amount of either krypton or xenon, each of which is taught in the prior art to be useful for the same purpose (i.e., the preservation of oxidizable liquid products), in order to form a third gaseous composition to be used for the very same purpose. In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Thus, as in Kerkhoven, the idea of combining the two or more gases "flows logically from their having been individually taught in the prior art." Id.

We need not discuss Segall, Bagdigian, and Fath, because the

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rebut the prima facie case by convincing argument or evidence (e.g., unexpected results). In re Mayne, 104 F.3d 1339, 1342, 41 USPQ2d 1451, 1454 (Fed. Cir. 1997). Regarding unexpected results, these must be established by factual evidence; mere argument or conclusory statements in the specification do not suffice. In re Geisler, 116 F.3d 1465, 1470, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997) (quoting In re De Blauwe, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984)). Also, it is not enough for the appellant to show a difference in results between the claimed invention and the prior art. The difference must be shown to be a truly unexpected difference. In re Freeman, 474 F.2d 1318, 1324, 177 USPQ 139, 143 (CCPA 1973).

Referring to the declaration under 37 CFR § 1.132 filed on November 8, 1994, the appellant argues that "the atmospheres of the present invention afford surprisingly superior protection for orange juice." (Appeal brief, page 5.) However, the appellant does not adequately explain how the test results shown in the declaration are considered unexpected over the teachings of FR '669, which discloses that argon, when sparged (not blanketed)

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argon saturation, an entirely expected result in view of the teachings of FR '669. Moreover, the declaration evidence does not include a comparison of the claimed invention against the closest prior art, which is FR '669. De Blauwe, 736 F.2d at 705, 222 USPQ at 196 ("[A]n applicant relying on comparative tests to rebut a prima facie case of obviousness must compare his claimed invention to the closest prior art."); accord In re Merchant, 575 F.2d 865, 869, 197 USPQ 785, 788 (CCPA 1978).

The appellant further contends that the declaration evidence shows that the use of mixtures of noble gases as recited in appealed claim 51 provides unexpected results. (Appeal brief, page 6.) We do not agree. In analyzing the results of Table I of the declaration, we observe that the results for the gas mixtures (e.g., Ar:Kr 9:1 and Ar:Ne 9:1) are so close to those for argon, which is representative of FR '669, that no reasonable conclusion of unexpected results can be drawn.

For these reasons, we hold that the examiner has established a prima facie case of obviousness within the meaning of 35 U.S.C. § 103 against the subject matter of the appealed claims and that

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combined teachings of FR '669, Segall, Fath, Bagdigian, and the admitted prior art is affirmed.

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

AFFIRMED

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
CHUNG K. PAK	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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ROMULO H. DELMENDO	)	
Administrative Patent Judge	)	

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