

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

YOON JA KIM,)	
)	
Plaintiff,)	
)	No. 01 C 3895
v.)	
)	Magistrate Judge Susan E. Cox
THE EARTHGRAINS CO.,)	
k/n/a SARA LEE BAKERY GROUP,)	
INC.,)	
)	
Defendant.)	

MEMORANDUM OPINION AND ORDER

Defendant The Earthgrains Co., k/n/a Sara Lee Bakery Group Inc. ("defendant") has moved this Court for partial summary judgment against plaintiff Yoon Ja Kim ("plaintiff"), pursuant to Federal Rule of Civil Procedure 56(c). Defendant’s motion requests that the applicable damages period begin on March 31, 2009, the date when the Reexamination Certificate for plaintiff’s patent was issued. For the reasons set forth below, the Court grants defendant’s motion and enters partial summary judgment in favor of defendant [dkt 220].

I. Background

Unless stated otherwise, the following facts are undisputed and are taken from the Plaintiff’s Response to Defendant’s Local Rule 56.1 Statement of Facts.¹ On October 26, 1999, the United States Patent and Trademark Office (“USPTO”) issued U.S. Patent No. Re 36,355 (the

¹Citations to the record are as follows: Plaintiff’s Exhibits in Support of Response to Defendant’s Statement of Material Facts are PR Ex. __; Plaintiff’s Exhibits in Support of Statement of Additional Material Facts are cited as PSOF Ex. __; Defendants’ Exhibits in Support of Motion for Summary Judgment are cited at Def. Ex. __; and Plaintiff’s Exhibits in Support of Response to Defendants’ Motions for Summary Judgment are cited as Pl. Ex. __.

“original patent”) to plaintiff for a potassium bromate replacer.² Potassium bromate is used as an oxidizing agent in commercial breadmaking; it strengthens the dough and increases the volume of the finished bread, resulting in better-textured bread.³ However, potassium bromate has been banned in California, and a market for potassium bromate replacers has arisen.⁴ Plaintiff’s original patent contained several claims, each detailing a particular formula for a potassium bromate replacer based on ascorbic acid and another food acid selected from a list.⁵ Specifically, claim 5 of plaintiff’s original patent stated:

A potassium bromate replacer composition *consisting essentially of*, by weight: (a) about 0.001 to 0.03 parts ascorbic acid as an oxidant per 100 parts flour, (b) about 0.015 to 0.2 parts food acid per 100 parts flour, said food acid selected from the group consisting of acetic acid, citric acid, fumaric acid, lactic acid, malic acid, oxalic acid, phosphoric acid, succinic acid, tartaric acid, fruit juice, fruit juice concentrate, vinegar, wine, and mixtures thereof, and (c) flour.⁶

Claims 6-8 are dependent on claim 5 and added additional specifications to the formula.

Claim 10 of the original patent read as follows:

A potassium bromate replacer composition *consisting essentially of*, by weight: (a) about 0.001 to 0.03 parts ascorbic acid as an oxidant per 100 parts flour, (b) about 0.015 to 0.2 parts food acid per 100 parts flour, said food acid selected from the group consisting of acetic acid, citric acid, fumaric acid, lactic acid, malic acid, oxalic acid, phosphoric acid, succinic acid, tartaric acid, fruit juice, fruit juice concentrate, vinegar, wine and mixtures thereof, (c) about 0.5 parts yeast food per 100 parts flour, and (d) flour.⁷

In 2001 Kim filed separate patent infringement suits against Dawn Food Products, Inc.

²PR ¶ 10.

³U.S. Patent Re. 36,355 (filed May 14, 1996) col.1 1.22-40, Def. Ex. C 3.

⁴U.S. Patent Re. 36,355 (filed May 14, 1996) col.2 1.11-24, Def. Ex. C 3.

⁵U.S. Patent Re. 36,355 (filed May 14, 1996) col.8 1.47 - col.10 1.14, Def. Ex. C 6, 7.

⁶U.S. Patent Re. 36,355 (filed May 14, 1996) col.8 1.47-57, Def. Ex. C 6, 7 (emphasis added).

⁷U.S. Patent Re. 36,355 (filed May 14, 1996) col.10 1.1-14, Def. Ex. C 7 (emphasis added).

(“Dawn”), ConAgra Foods, Inc. (“ConAgra”), and defendant. In the suit against Dawn, the district court (Judge St. Eve) granted summary judgment to Dawn in 2004 after determining that Dawn’s breads did not contain ascorbic and other food acids in amounts that fell within the ranges of the original patent; the court did not examine the patent’s validity.⁸ In the suit against ConAgra, which went to trial in 2003, a jury did not find the original patent to be invalid and found that ConAgra’s Healthy Choice Seven Grain and Whole Grain breads infringed upon claim 10 of the patent; the district court (Judge Hart) vacated the jury finding of infringement for insufficient evidence but upheld the validity finding.⁹ ConAgra appealed the validity finding, but in 2006 the Federal Circuit affirmed that ConAgra had not proven the original patent to be invalid.¹⁰

In the case against defendant for use of plaintiff’s formulas in “Buttertop”, “D’Italiano”, and “Healthy Choice” breads, the district court (Judge Zagel) found in 2002 that the original patent was invalid because of prior art, specifically, the pre-filing composition of “Buttertop” bread.¹¹ The Federal Circuit reversed that ruling in 2003 after noting evidence that earlier versions of “Buttertop” bread contained potassium bromate and Sara Lee had failed to prove that the composition of “Buttertop” bread had been changed before the issuance of the original patent.¹² The Federal Circuit reasoned that because the original patent is for a potassium bromate replacer, a bread formula containing both the ingredients listed in the original patent and potassium bromate would not be using the patent ingredients as a potassium bromate replacer.¹³ The case was then remanded to this Court.

⁸*Kim v. Dawn Food Products, Inc.*, No. 01 C 1906, 2004 WL 2658068 (N.D. Ill. 2004).

⁹*Kim v. ConAgra Foods, Inc.*, No. 01 C 2467, 2005 WL 1311597 (N.D. Ill. 2005).

¹⁰*Kim v. ConAgra Foods, Inc.*, 465 F.3d 1312 (Fed. Cir. 2006).

¹¹*Kim v. Earthgrains Co.*, No. 01 C 3895, 2002 WL 1949235 (N.D. Ill. 2002).

¹²*Kim v. Earthgrains Co.*, 60 Fed. Appx. 270 (Fed. Cir. 2003).

¹³*Id.* at 274.

On August 17, 2005, while its appeal to the Federal Circuit was pending, ConAgra requested an *ex parte* reexamination of the original patent.¹⁴ In its formal request, ConAgra argued that prior art, including U.S. patent No. 2,149,682 (the “Jorgenson patent”) and U.S. patent No. 5,338,552 (the “Nasu patent”), rendered claim 5, its dependent claims, and claim 10 unpatentable.¹⁵ The Jorgenson patent is for a method of improving bread strength by adding 1 to 5 liters of lemon juice for every 100 kilograms of flour. ConAgra asserted that the resulting concentrations of ascorbic acid and citric acid overlapped with claims 5 and 10's specifications for ratios of ascorbic acid, another food acid, and flour.¹⁶ It also noted that the Nasu patent called for adding ascorbic acid and another food acid to bread dough in ratios similar to those listed in claims 5 and 10 of plaintiff's original patent.¹⁷ Examiner Stephen J. Stein (“Examiner”) agreed that the Jorgenson and Nasu patents rendered claim 5 unpatentable but rejected other patents ConAgra had suggested as prior art.¹⁸

Plaintiff filed several appeals with the USPTO to challenge Examiner's decision. To argue that the Jorgenson patent was not invalidating prior art, plaintiff recalculated the acid content of lemon juice and found that while the amounts of ascorbic acid and citric acid were within claim 5's range, the lemon juice also contained enough malic acid to raise the total non-ascorbic acid levels in Jorgenson's formula above those in plaintiff's patent.¹⁹ She also noted that the Nasu patent called for the ascorbic acid and other food acid to be put into the bread dough at different times, which did

¹⁴Request for *ex parte* reexamination transmittal form, August 17, 2005, PSOF Ex. 1-2.

¹⁵Request for reexamination, May 14, 1996, Def. Ex. D 7.

¹⁶*Id.* at 8, 9.

¹⁷*Id.* at 11.

¹⁸Office action in *ex parte* reexamination, July 5, 2006, Def. Ex. F 3-6.

¹⁹Appeal Brief, May 19, 2008, Def. Ex. P 15, 19.

not make the ascorbic acid into a slow-acting oxidant and, thus, did not anticipate her invention.²⁰

On December 24, 2008, plaintiff and Examiner conducted a telephone interview during which plaintiff consented to changing the transitional phrase in claims 5 and 10 from “consisting essentially of” to “consisting of.”²¹ Plaintiff also consented to incorporate claim 6 into both claims by adding the language “wherein said food acid is present in an effective amount that slows down oxidation of ascorbic acid to dehydroascorbic acid during a manufacturing process of yeast-leavened products” to both claims, and she agreed to delete the separate claim 6.²² Examiner’s notes show he believed that these amendments were necessary to exclude the additional food acids found in the Jorgenson patent and the additional components of bread dough found in the Nasu patent.²³ Examiner then issued an *ex parte* Reexamination Certificate on March 31, 2009.²⁴

With the patent now declared valid by the USPTO, plaintiff’s case against defendant was finally able to proceed. On December 14, 2009, however, because of the change in the patent language, defendant filed the present motion requesting a limited damages period.

II. Legal Standard

On a motion for summary judgment, disputed facts must be viewed in the light most favorable to the nonmoving party.²⁵ However, when there is no way the record as a whole could lead a rational trier of fact to find for the nonmoving party, the court should grant summary judgment.²⁶ Thus, to prevail on a motion for summary judgment, a party must present evidence that demonstrates

²⁰Def. Ex. P at 22.

²¹*Ex parte* reexamination interview summary, December 24, 2008, Def. Ex. Q 3.

²²*Ex parte* reexamination interview summary, December 24, 2008, Def. Ex. Q 3.

²³Notice of intent to issue *ex parte* reexamination certificate, *December* 30, 2008, Def. Ex. R 7.

²⁴*Ex parte* reexamination certificate, March 31, 2009, Def. Ex. S 3.

²⁵*Ricci v. DeStefano*, 129 S. Ct. 2658, 2677 (2009), *citing* Fed. R. Civ. P. 56(c).

²⁶*Ricci*, 129 S. Ct. at 2677.

that no material facts are at issue in the case.²⁷ An issue of fact is material when “the evidence is such that a reasonable jury could return a verdict for the nonmoving party.”²⁸

If a party has the burden of proving an essential element in trial, that party also has the burden of making a showing sufficient to establish the existence of that element on a motion for summary judgment.²⁹ Plaintiff has the burden of proving patent infringement at trial and thus has the burden of proving the possibility of patent infringement to avoid summary judgment.³⁰ Furthermore, the patent-holder has the burden to establish the reason for amendments made during patent prosecution.³¹ If a substantive change is made to a patent claim during reexamination, the patent owner can only recover damages from the date the Reexamination Certificate was issued.³² To determine whether or not substantive changes have been made, the Court must determine whether or not the scope of the claim has changed.³³ It is insufficient to show merely that the patent language has been changed.³⁴

Transitional phrases, including “comprising,” “consisting essentially of,” and “consisting of” define the limits of a claim.³⁵ “Consisting essentially of” is commonly used to signal a partially open claim in a patent; that is, the invention must include the listed ingredients and may also include unlisted ingredients which do not materially affect the basic and novel properties of the invention, even if additional ingredients are excluded from illustrative examples.³⁶ An ingredient materially

²⁷*Celotex Corp. v. Catrett*, 477 U.S. 317, 323-24 (1986).

²⁸*Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986).

²⁹477 U.S. at 322.

³⁰*Applied Medical Resources Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 (Fed. Cir. 2006).

³¹*Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 33 (1997).

³²*Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1346 (Fed. Cir. 1998).

³³*Laitram*, 163 F.3d at 1346.

³⁴*Id.*

³⁵*PPG Industries v. Guardian Industries Corp.*, 156 F.3d 1351, 1354 (Fed. Cir. 1998).

³⁶*Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1343-44 (Fed. Cir. 2009) (rehearing on unrelated issues granted in part September 30, 2009).

affects basic and novel characteristics of an invention if the ingredient's effect is "of consequence to those of ordinary skill in the art."³⁷ In contrast, "consisting of" is used to signal a closed claim; the invention is limited to the elements listed in the claim as well as elements unrelated to the invention and unavoidable impurities.³⁸

III. Analysis

Defendant alleges that the March 31, 2009 change in transitional phrase from "consisting essentially of" to "consisting of" narrowed the scope of claims 5 and 10 and was, thus, a substantive change. If this is true, the applicable damages period should start on March 31, 2009.³⁹ Plaintiff, however, argues that the change from "consisting essentially of" to "consisting of" did not narrow the patent's claim but instead clarified the original patent. She argues, based on her own experiments, that a person of ordinary skill in the art of breadmaking would not recognize a change in the scope of the claims. Plaintiff also argues that Examiner's changes to the patent were unnecessary to make the claims valid.

As noted, the transitional phrases in claims 5 and 10 were changed from "consisting essentially of" to "consisting of." This means that the class of additional elements which may be added to the inventions in claim 5 or claim 10 has been changed from "elements which do not materially affect the basic and novel properties of the invention" to "elements which are unrelated to the invention or are unavoidable impurities."⁴⁰ Plaintiff asserts that these classes are identical and cites her research, which found that adding water (the "additional element" at issue in *Nasu*),

³⁷*PPG*, 156 F.3d at 1355.

³⁸*Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331 (Fed. Cir. 2004) (rehearing *en banc* denied); *Ex parte Davis*; 80 U.S.P.Q. 448, 450 (Pat. Off. Bd. App. 1949).

³⁹163 F.3d at 1346.

⁴⁰*Ecolab*, 569 F.3d at 1343-44; *PPG*, 156 F.3d at 1355; *Norian*, 363 F.3d at 1331.

azodicarbonamide (ADA), and various other ingredients, did not affect the functioning of her formula.⁴¹ However, she does not offer sufficient evidence to support a finding that the two classes are the same. In other words, plaintiff has not shown that any element barred under her current “consisting of” claims would have been barred under her previous “consisting essentially of” claims.

Furthermore, the Federal Circuit has previously ruled that elements that do not materially affect the basic and novel properties of an invention may still be related to the invention. In *Ecolab, Inc. v. FMC Corp.*, FMC Corporation (“FMC”) claimed that Ecolab, Incorporated (“Ecolab”) infringed upon claims of FMC’s method patent for sanitizing poultry.⁴² The claims all contained the phrase “contacting the fowl with an aqueous peracetic acid solution, which consists essentially of a sanitizing concentration of at least a 100 ppm peracetic acid.”⁴³ Ecolab’s poultry sanitizing solution contained two other antimicrobial acids as well as peracetic acid; the three acids had a synergistic effect on each other.⁴⁴ A jury found that Ecolab had infringed upon the patent.⁴⁵ In response, Ecolab motioned for judgment as a matter of law and argued that “consisting essentially of” limited the invention to solutions which contained peracetic acid as the sole antimicrobial agent, especially because all examples in the patent used peracetic acid as the sole antimicrobial.⁴⁶ The Federal Circuit found this argument unpersuasive and affirmed the district court’s dismissal of Ecolab’s motion.⁴⁷

The Federal Circuit’s construction of “consisting essentially of” in *Ecolab* implies that

⁴¹Declaration of Yoon Ja Kim in support of opposition to defendant’s motion, January 8, 2010, P Ex. 1: 9, 10, 18.

⁴²569 F.3d at 1342.

⁴³*Id.*

⁴⁴569 F.3d at 1342.

⁴⁵*Id.*

⁴⁶569 F.3d at 1342-43.

⁴⁷*Id.* at 1344.

a formula which falls under a “consisting essentially of” claim may contain additional “active” ingredients not listed in the claim, as long as the additional active ingredients do not materially alter the “basic and novel” characteristics of the invention. *Ecolab* also suggests that additional active ingredients which improve the performance of the basic claim formula, but do not otherwise change its function, do not materially alter the “basic and novel” characteristics of the invention. Taken together, this means that in the present case, claims 5 and 10 in plaintiff’s original patent may have covered potassium bromate replacer formulas that contained other non-potassium-bromate bread strengthening agents as well as ascorbic acid, food acid, and flour (as well as yeast food for claim 10 formulas) as long as the other ingredients did not change or reduce the formula’s function. However, these hypothetical formulas containing other bread strengthening agents would not fall under a “consisting of” claim unless the bread strengthening agents were totally unrelated to the invention or were unavoidable impurities of the listed ingredients. A bread strengthener, which improves the invention’s function or further improves bread strength or volume, is not unrelated to the invention’s qualities. It, rather, improves on the invention. Furthermore, plaintiff has not argued that bread strengthening agents are impurities commonly found in commercially available ascorbic acid, food acid, flour, or yeast food. Thus, there are potential formulas for bread strengtheners that meet the requirements of the original claims but not the requirements of the amended claims. This discrepancy indicates that plaintiff’s claims have been narrowed.

Plaintiff argues that “consisting of” may have a broader meaning than commonly thought. Plaintiff claims that *Norian Corp. v. Stryker Corp*⁴⁸, in which “consisting of” did not exclude a spatula from a dental repair kit, implies that additional ingredients may be added to a

⁴⁸363 F.3d at 1331.

“consisting of” claim. However, *Norian* explicitly states that “[c]onsisting of, as used in claim 8 limits the kit to the claimed chemicals and no other chemicals.”⁴⁹ The Federal Circuit did not make exceptions for chemicals that had no material effect on the formula.⁵⁰ This implies that a “consisting of” claim that is a chemical formula cannot contain additional chemicals. Thus, plaintiff’s claims 5 and 10, as presently written, cannot contain additional chemical ingredients, including additional bread strengtheners.

Plaintiff also argues that *Conoco, Inc. v. Energy & Environmental International, L.C.* allows for further expansion of the phrase “consisting of” to include additional chemicals.⁵¹ In *Conoco*, the Federal Circuit affirmed a district court ruling that a water-alcohol mixture also containing MIBK, a common additive to industrial alcohols, was within the scope of the claim component “a suspending material selected from the group consisting of water and water-alcohol mixtures.”⁵² However, MIBK is regularly added to industrial alcohols in order to exempt it from liquor taxes, and persons of ordinary skill in the field would recognize that commercially sold industrial alcohol often contains MIBK.⁵³ This fits within the accepted meaning of “consisting of” allowing for small impurities in the listed ingredients, although it clarifies the meaning by establishing that artificially-added impurities are also allowed if a person of ordinary skill in the art would be aware that the listed ingredients often contained such impurities. Plaintiff has not asserted what, if any, impurities or additives are present in commercially sold ascorbic acid, food acid sources, flour, or yeast food beyond the non-acidic components of the food acid sources listed in the

⁴⁹*Id.*

⁵⁰*Id.*

⁵¹460 F.3d 1349, 1360-61 (Fed. Cir. 2006) (rehearing *en banc* denied).

⁵²460 F.3d at 1360-61.

⁵³*Id.*

claim. The phrase “consisting of” is simply not broad enough under current case law to encompass the scope of plaintiff’s previous claims which used “consisting essentially of.”

Therefore, plaintiff has not established that the scope of claims 5 and 10 remained unchanged when the claim was amended on March 31, 2009. Because she has failed to establish that her original patent is substantially identical to her reissued patent, the Court grants summary judgment in favor of defendant.

IV. Conclusion

For the foregoing reasons the Court grants Defendant’s Motion for Partial Summary Judgment on Applicable Damages Period [dkt 220].

IT IS SO ORDERED.

ENTERED: February 18, 2010



SUSAN E. COX
U.S. Magistrate Judge