

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

YOON JA KIM,
Plaintiff-Appellant,

v.

**THE EARTHGRAINS COMPANY
(NOW KNOWN AS SARA LEE BAKERY GROUP,
INC.),**
Defendant-Appellee,

2011-1242

Appeal from the United States District Court for the Northern District of Illinois in Case No. 01-CV-3895, Magistrate Judge Susan E. Cox.

Decided: December 9, 2011

YOON JA KIM, Park Ridge, Illinois, pro se.

CRAIG C. MARTIN, Jenner & Block, LLP, of Chicago, Illinois, for defendant-appellee. With him on the brief were STEVEN R. TRYBUS and SARA TONNIES HORTON; and ELAINE J. GOLDENBERG, of Washington, DC.

Before LOURIE, BRYSON, and MOORE, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Yoon Ja Kim appeals from the district court's judgment of noninfringement in favor of The Earthgrains Company, now known as Sara Lee Bakery Group, Inc. ("Sara Lee"). In this appeal, Kim challenges, among other issues, the district court's claim construction, its conclusion that Kim failed to raise a genuine issue of material fact on the issue of infringement, and its determination of the applicable damages period. Because the district court did not err in its decision, we *affirm*.

BACKGROUND

I.

This patent case relates to oxidizing agents used in bread dough. Traditionally, bread makers used potassium bromate as an oxidizing agent to strengthen bread dough and increase the volume of the finished bread product. The use of potassium bromate, however, was associated with certain health risks, and the Food and Drug Administration encouraged the baking industry to seek suitable alternatives.

Kim, a food chemist, believed that a combination of ascorbic acid and a "food acid" would serve as a suitable alternative to potassium bromate in the bread making process, and applied for a patent on that composition, which the U.S. Patent & Trademark Office ("PTO") issued in 1996. Three years later, after completing reissue proceedings, the PTO issued the patent in suit, U.S. Patent Re. 36,355 ("the '355 patent").

The '355 patent relates to a composition, referred to in the patent as a "potassium bromate replacer," for use as a substitute for potassium bromate. Specifically, the '355

patent upon issuance claimed a “potassium bromate replacer composition consisting essentially of” a number of ingredients by weight. Claim 5 of the ’355 patent, reproduced below, is exemplary:

5. 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.

’355 patent, col.8 ll.47–57 (emphasis added). Each claim of the ’355 patent contained the “consisting essentially of” limitation upon issuance.

Kim thereafter asserted the ’355 patent in litigation. Upon request by one of the alleged infringers, the PTO reexamined the ’355 patent. *Kim v. Earthgrains Co.*, No. 1:01-CV-3895, 2010 WL 625220, at *1 (N.D. Ill. Feb. 18, 2010) (“*Intervening Rights Order*”). During the reexamination, the PTO examiner found that the asserted claims were not patentable in light of two prior art references. *Id.* at *2. In response, Kim amended the asserted claims in two ways. First, she replaced the “consisting essentially of” transitional phrase with “consisting of.” *Id.* In addition, Kim narrowed the claimed “food acid” to those

food acids that are “present in an effective amount that slows down oxidation of ascorbic acid to dehydroascorbic acid during a manufacturing process of yeast-leavened products.” *Id.* The PTO allowed the amended claims, and the examiner’s accompanying remarks indicate that the amendments were necessary to overcome the prior art. *Id.* Shortly thereafter, the PTO issued the reexamination certificate on March 31, 2009. *Id.*

II.

Kim filed suit against Sara Lee in 2001, alleging that a variety of breads sold by Sara Lee contained potassium bromate replacer compounds that infringed a number of the ’355 patent’s claims. In 2002, the district court concluded on summary judgment that the asserted claims were anticipated, a decision that we reversed on appeal. *See Kim v. Earthgrains Co.*, 60 F.App’x 270 (Fed. Cir. 2003). The parties then litigated the case for over seven years on remand. In the course of the litigation, the district court made a number of rulings that Kim now challenges on appeal.

First, the district court determined on summary judgment that intervening rights applied under 35 U.S.C. § 252 and § 307(b) because Kim substantively changed the scope of the ’355 patent’s claims during the reexamination by replacing “consisting essentially of” with the more narrow “consisting of” transitional phrase. *Intervening Rights Order*, 2010 WL 625220, at *4–*5. Accordingly, the district court concluded that Kim was not entitled to damages for alleged infringement that occurred prior to March 31, 2009 when the PTO issued the reexamination certificate. *Id.* at *5.

Second, with regard to the six products that Sara Lee made, used, offered for sale, or sold after March 31, 2009, the district court concluded on summary judgment that

those products did not infringe the asserted claims. *Kim v. Earthgrains Co.*, 766 F. Supp. 2d 866, 876–77 (N.D. Ill. 2011) (“*Summary Judgment Order*”). In so concluding, the court construed numerous claim limitations, specifically “potassium bromate replacer composition, consisting of”; “ascorbic acid”; “said food acid is present in an effective amount”; “said food acid selected from the group consisting of acetic acid . . . [and] vinegar”; and “flour.” *Id.* at 871–73.

After construing the claims, the district court concluded that there was no genuine issue of material fact that the accused Sara Lee products do not infringe for two reasons. First, the district court concluded that Kim failed to proffer sufficient evidence that the accused potassium bromate replacers contained “ascorbic acid,” as the parties agreed that term should be construed, in the claimed “about 0.001 to 0.03 parts . . . per 100 parts flour” concentration. *Id.* at 875–76. Second, the district court concluded that there was no genuine issue of material fact that the “food acid” in the alleged potassium bromate replacer in five of the six accused breads exceeded the “about 0.015 to 0.02 parts per 100 parts flour” range recited in the asserted claims. *Id.* at 876–77.

The district court thereafter entered a final judgment against Kim, which Kim timely appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

Kim appeals the district court’s grant of summary judgment regarding intervening rights and noninfringement, as well as the district court’s underlying claim construction. We review a district court’s decision on summary judgment *de novo*, reapplying the same standard applied by the district court. *Iovate Health Scis., Inc. v. Bio-Engineered Supplements & Nutrition, Inc.*, 586

F.3d 1376, 1380 (Fed. Cir. 2009). Summary judgment is appropriate only “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” FED. R. CIV. P. 56(a).

I.

On appeal, Kim asserts that the district court erred in determining that the amendments of the asserted claims triggered intervening rights and precluded Kim’s recovery of damages for infringement that occurred prior to the issuance of the reexamination certificate. A patentee of a reexamined patent is entitled to infringement damages, *inter alia*, for the period between the date of issuance of the original claims and the date of issuance of the reexamined claims only if the reexamined claims are “identical” to, i.e., “without substantive change” from, the original claims. *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1346 (Fed. Cir. 1998). If the patentee made substantive changes to the original claims, the patentee is entitled to infringement damages only for the period following the issuance of the reexamination certificate. *Id.* Because this inquiry requires us to interpret the scope of the claims as they existed pre- and post-reexamination, we review *de novo* a district court’s conclusion whether the claims that emerged from reexamination are substantively the same as the original claims. *Id.* at 1346–47; *Cybor v. FAS Tech., Inc.*, 138 F.3d 1448, 1451 (Fed. Cir. 1998) (en banc).

Kim argues that the scope of the claims did not change when she replaced the “consisting essentially of” transitional phrase with “consisting of” because the claims still cover the same inventive subject matter. This argument is unsound. Generally, the transitional phrases “consisting of” and “consisting essentially of” designate

claims that are different in scope. The phrase “consisting of” is a “closed” transition phrase that is “understood to exclude any elements, steps, or ingredients not specified in the claim.” *AFG Indus., Inc. v. Cardinal IG Co.*, 239 F.3d 1239, 1244–45 (Fed. Cir. 2001). In contrast, the phrase “consisting essentially of” indicates that “the invention necessarily includes the listed ingredients,” but also that the claim is “open to unlisted ingredients that do not materially affect the basic and novel properties of the invention.” *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1354 (Fed. Cir. 1998). Thus, a “consisting essentially of” claim is generally broader than a “consisting of” claim.

Kim fails to offer any cogent reason why the phrases “consisting of” and “consisting essentially of,” in her patent, are of identical scope. Why, if the claims are of identical scope, did she amend them? Nothing in the intrinsic record indicates that these terms, contrary to general convention, are identical in substance. Indeed, the reexamination record supports the district court’s contrary conclusion—Kim deleted the word “essentially” to obtain allowance in response to the PTO’s finding that the prior art rendered the “consisting essentially of” claims unpatentable. *See Intervening Rights Order*, 2010 WL 625220, at *2.

In addition, Kim’s deletion of the word “essentially” was not the only change that she made to the claims during the reexamination proceeding. As detailed above, Kim also narrowed the claimed “food acid” to those food acids that are “present in an effective amount that slows down oxidation of ascorbic acid to dehydroascorbic acid during a manufacturing process of yeast-leavened products.” *Id.* On appeal, Kim fails to address this added limitation, which also appears to be a substantive change in the scope of the asserted claims. Indeed, the exam-

iner's notes indicate that Kim's addition of this limitation was also required for the claims to overcome the prior art. *Intervening Rights Order*, 2010 WL 625220, at *2. In sum, the district court did not err in concluding that Kim was not entitled to damages for alleged infringement occurring prior to March 31, 2009 when the PTO issued the reexamination certificate for the '355 patent.

II.

Kim also appeals the district court's determination that there was no genuine issue of material fact that the accused potassium bromate replacers in the six breads made, used, offered for sale, or sold after issuance of the reexamination certificate do not infringe the asserted claims. A determination of infringement involves two steps: First, the court determines the scope and meaning of the asserted patent claims. The fact-finder then compares the properly construed claims to the allegedly infringing device or substance to determine whether all of the claim limitations are present, either literally or by a substantial equivalent. *Cybor*, 138 F.3d at 1454. The first step, claim construction, is a question of law, reviewed *de novo*. *Id.* (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*)). The second step, infringement is a question of fact, on which the patentee bears the burden of proof. *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998). Accordingly, a court may determine infringement on summary judgment "when no reasonable jury could find that every limitation recited in the properly construed claim either is or is not found in the accused device." *Id.*

Kim challenges each of the district court's claim constructions as well as the district court's conclusion that Kim failed to raise a genuine issue of material fact on the issue of infringement. Because we conclude that the

district court correctly concluded that Kim failed to raise a genuine dispute of material fact that the accused potassium bromate replacers contained the claimed amount of “ascorbic acid” by weight, we decline to address her arguments.

In the district court, the parties agreed that the construction of “ascorbic acid” is “ascorbic acid – also known as vitamin C or L-ascorbic acid – is a water soluble vitamin that is found in fruits and vegetables and is reversibly oxidized to dehydroascorbic acid [DHA].” *Summary Judgment Order*, 766 F. Supp. 2d at 875–76. The parties’ construction included the chemical formula for ascorbic acid, $C_6H_8O_6$. *Id.* at 876. Inherent in this agreed-upon construction, as the district court concluded, is that the amount of “ascorbic acid” in the claimed mixture does not include DHA. *Id.*

Kim argues on appeal that the manufacturer’s specification for a tablet sold by Sara Lee’s suppliers is sufficient to raise a genuine issue of material fact that the ascorbic acid within the accused potassium bromate replacers falls within the “about 0.001 to 0.03 parts ascorbic acid as an oxidant per 100 parts flour” range in the asserted claims. As the district court concluded, however, it is undisputed that the ascorbic acid in the tablets is itself oxidized prior to combining with the other ingredients that Kim alleges constitute the claimed potassium bromate replacer in the accused breads. *Id.* The parties also do not dispute that through oxidation, ascorbic acid is transformed into DHA, and potentially diketogulonic acid, changing the amount of ascorbic acid that exists in a given mixture. *Id.* Thus, as the district court concluded, “although the amount of ascorbic acid, which is present prior to the dissolution of the tablets in the water, is known, it is not known how much ascorbic acid continues to be present once those

tablets are dissolved and the conversion of the ascorbic acid begins.” *Id.*

Kim fails to point to any record evidence that the amount of ascorbic acid, after the tablet is dissolved in water and combined with flour and the “food acid,” falls within the claimed range. In her brief and declaration, Kim demonstrates that the concentration of ascorbic acid in the tablet can be converted from parts per million to parts per 100 of flour. But that calculation does not sufficiently indicate the relative weight of the ascorbic acid when it is ultimately combined with flour and the accused “food acid,” as in the claim. Thus, the district court did not err in concluding that Kim failed to raise a genuine issue of material fact on the issue of infringement.

CONCLUSION

We have considered Kim’s remaining arguments and conclude that they are without merit. For the foregoing reasons, the order of the district court is

AFFIRMED