

United States Court of Appeals for the Federal Circuit

05-1172

NORIAN CORPORATION,

Plaintiff-Appellant,

v.

STRYKER CORPORATION,

Defendant-Appellee.

Brian M. Poissant, Jones Day, of New York, New York, argued for plaintiff-appellant. With him on the brief were Daniel L. Malone and Eric C. Stops.

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Appealed from: United States District Court for the Northern District of California

Judge William H. Alsup

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NORIAN CORPORATION,

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DECIDED: December 6, 2005

Before NEWMAN, RADER, and BRYSON, Circuit Judges.

BRYSON, Circuit Judge.

This patent case comes before us for a second time. On the first appeal, we reversed the district court's grant of summary judgment of noninfringement, which we held was based on an unduly restrictive claim construction. Norian Corp. v. Stryker Corp., 363 F.3d 1321 (Fed. Cir. 2004). On remand, the district court again entered summary judgment of noninfringement based on its construction of a different claim limitation. Norian Corp. v. Stryker Corp., C.A. No. 01-00016 (WHA) (N.D. Cal. Dec. 3, 2004). We affirm.

The patent in suit, U.S. Pat. No. 6,002,065 ("the '065 patent"), is owned by appellant Norian Corporation. As the district court explained, the patent is directed to kits "for preparing rapidly setting calcium phosphate compositions to be used as 'bone cements' in medical or dental procedures." The asserted claims of the '065 patent are claims 8-10. Claim 8 provides as follows:

A kit for preparing a calcium phosphate mineral, said kit consisting of:
at least one calcium source and at least one phosphoric acid source free of uncombined water as dry ingredients; and
a solution consisting of water and a sodium phosphate, where the concentration of said sodium phosphate in said water ranges from 0.01 to 2.0 M and said solution has a pH in the range of about 6 to 11.

Dependent claim 9 recites the kit of claim 8 wherein the sodium phosphate is present in the water at a concentration ranging from about 0.05 to 0.5 M. Dependent claim 10 recites the kit of claim 8 wherein the solution has a pH in the range from about 7 to 9.

The issue before the district court was very narrow. It was undisputed that the accused kit sold by Stryker consisted of a vial of powdered material containing sources of calcium and phosphoric acid, a spatula, and a syringe filled with a 0.25 M sodium phosphate solution. The solution was made from two different sodium phosphates: monobasic sodium phosphate monohydrate and dibasic sodium phosphate heptahydrate. The question posed to the district court was whether Stryker's sodium phosphate solution was "a solution consisting of water and a sodium phosphate" within the meaning of that portion of claim 8. That question turned on whether the district court construed the claim term "a sodium phosphate" to include a solution prepared from one or more sodium phosphates, or whether the term was limited to a solution

prepared from only a single sodium phosphate. The district court concluded that the claim term required that the solution be made from only a single sodium phosphate. Because it was undisputed that Stryker's solution was made from more than one sodium phosphate, the court ruled that Stryker's solution did not infringe Norian's patent. Norian appeals, contending that the district court's claim construction was too narrow, and that the term "solution consisting of water and a sodium phosphate" should be construed to include solutions made from multiple sodium phosphates and should not be limited to solutions made from only a single sodium phosphate.

II

It is undisputed that there are multiple types of sodium phosphates. The '065 patent refers to several of them: monobasic sodium phosphate, which contains one sodium atom, two hydrogen atoms, and one phosphate group; dibasic sodium phosphate, which contains two sodium atoms, one hydrogen atom, and one phosphate group; and trisodium phosphate, which contains three sodium atoms and one phosphate group. Each of the sodium phosphates can be associated with different numbers of water molecules.

Norian argues that its claims read on any solution made from a single sodium phosphate as well as any solution made from a combination of different sodium phosphates. The claim term "a sodium phosphate," according to Norian, should be understood to embrace a mixture of multiple types of sodium phosphates as well as a single sodium phosphate. That construction makes sense, according to Norian, because once the various sodium phosphates are put into a water solution, they

dissociate into ions, and the same ions are present in the resulting solution regardless of which type or types of sodium phosphates were used as the starting materials.

The district court rejected Norian's argument on several grounds. First, the court noted that the asserted claims use the restrictive term "consisting of" to define the contents of the claimed solution. In that context, the court explained, the term "a" must be interpreted to mean that the solution consists of water and only a single solute, i.e., a single type of sodium phosphate, not a mixture of different sodium phosphates. The court found support for that interpretation in the specification, which contains repeated references to solutions made from a single sodium phosphate, but contains no reference to making the solution from more than one sodium phosphate. In addition, the court noted that claim 8 uses the phrase "at least one" in the first limitation, which refers to sources of calcium or phosphoric acid, but does not use that phrase in the second limitation, which refers to the ingredients of the solution. The court pointed to the use of the term "a" rather than the phrase "at least one" as indicating that only a single type of sodium phosphate is used in the claimed solution. Finally, the court ruled that the prosecution history of the '065 patent shows that the patentee surrendered the claim scope that was encompassed by the phrase "a sodium phosphate solution" in the predecessor to claim 8 when the patentee amended that language to read "a solution consisting of water and a sodium phosphate."

We agree with the district court's construction of the claim language. The patent contains multiple references to various different sodium phosphates. In that context, the reference in the claim to "a sodium phosphate" is most naturally understood as a reference to one of the different sodium phosphates. As the district court pointed out,

the language used to claim the solution in claim 8 is different from the formulation used in the same claim to describe the sources of calcium and phosphoric acid, where the claim refers to “at least one calcium source and at least one phosphoric acid source.” If the patentee had meant to claim the use of at least one type of sodium phosphate in the recited solution, it would have been simple to use the same language in the second portion of the claim that was used in the first.

Even aside from the departure from the “at least one” phrase used in the first limitation, the word “a” is conspicuous in the phrase “a sodium phosphate.” Although the word “a” generally means “one or more” in open-ended claims containing the transitional phrase “comprising,” KCJ Corp. v. Kinetic Concepts, Inc., 223 F.3d 1351, 1356 (Fed. Cir. 2000), that general rule does not apply when the specification or the prosecution history shows that the term was used in its singular sense. See, e.g., Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 977-79 (Fed. Cir. 1999) (noting that “our cases emphasize that ‘a’ or ‘an’ can mean ‘one’ or ‘more than one,’ depending on the context in which the article is used,” and holding that the phrase “comprising . . . an upstanding feed tube” is limited to a single such feed tube based on the prosecution history); AbTox, Inc. v. Exitron Corp., 122 F.3d 1019, 1023-27 (Fed. Cir. 1997) (limiting the phrase “comprising . . . a metallic gas-confining chamber” to a single such chamber based on context gleaned from the specification). In particular, this court has interpreted the word “a” in its singular sense when, as in this case, it has been used in conjunction with the closed transitional phrase “consisting of.” See Abbott Labs. v. Baxter Pharm. Prods., Inc., 334 F.3d 1274, 1281 (Fed. Cir. 2003) (“[A]lthough ‘a’ without more generally could mean one or more in an open-ended patent claim, ‘a’ with

‘consisting of’ in this case indicates only one member of a Markush group.”). Thus, the claim language “consisting of . . . a sodium phosphate,” on its own, suggests the use of a single sodium phosphate.

That interpretation is consistent with the specification, as the district court ruled. In particular, example 3 of the specification includes a chart listing the different setting times that are associated with different solutions. Each of the listed solutions contains a single solute, which is either a type of sodium phosphate or a type of sodium carbonate. While the scope of a claim is not necessarily limited to the examples disclosed in the specification, nothing in the ’065 patent specification points away from the district court’s construction limiting claim 8 to single-solute solutions. Rather, each of the solutions described in the specification uses only a single solute, and the specification makes no reference to using a mixture of multiple solutes in a single solution.

Norian has argued that the specification contains references to solutions made from multiple types of sodium phosphates. In reissue proceedings before the Patent and Trademark Office, Norian argued that example 3 mentions a solution made from a mixture of trisodium phosphate dodecahydrate and dibasic sodium phosphate heptahydrate. ’065 patent col. 10, ll. 46-50. However, as the PTO pointed out, that solution is not the solution recited in claim 8, but instead is a “colloid control” used in connection with the claimed solutions described in example 3. Norian also argues that example 2 supports its claim construction through its reference to “Sigma Diagnostics 1.0 M Phosphate Buffer,” an “off the shelf” buffer solution. ’065 patent, col. 9, ll. 52-59. Norian contends that off-the-shelf buffer solutions are made from mixtures of multiple types of sodium phosphates. However, the trial court concluded based on the evidence

of record that Sigma's phosphate buffer solution was made from potassium phosphates, not sodium phosphates, and that the use of the term "phosphate buffer" does not imply that the buffer solution was made from multiple forms of sodium phosphates, or even any sodium phosphates at all. Thus, nowhere in the specification does the patentee refer, either explicitly or implicitly, to making the claimed solution from a mixture of multiple sodium phosphates.

The district court was also correct to rely on the prosecution history, which reflects a series of patentability rejections, followed by narrowing amendments and clarifying explanations from the prosecuting attorney. The prosecution history shows that through the series of amendments, Norian surrendered significant scope for what became claim 8. In response to one series of rejections, Norian narrowed the claim by changing the transitional phrase in the claim's preamble from "comprising" to "consisting essentially of" and then ultimately to "consisting of." In response to another rejection, Norian amended the critical claim language by replacing the words "a sodium phosphate solution" with the words "a solution consisting of water and a sodium phosphate." The prosecuting attorney advised the examiner that the amendment "limit[ed] the claimed kit to one in which the solution is made of water and a single solute, where the solute is either a sodium phosphate or a sodium carbonate, which solute is completely dissolved in the water" (emphasis added).

If there were any doubt that the reference to "a sodium phosphate" meant a single type of sodium phosphate, the prosecuting attorney directed the examiner to the specification's tables for examples of the single-solute solutions to which the amended claim was limited. As the prosecuting attorney noted, the tables disclose "solutions of

different sodium phosphates": one solution is made from monobasic sodium phosphate, another from dibasic sodium phosphate, and a third from trisodium phosphate. But none of the solutions is made from a mixture of different sodium phosphates. In other words, the specification contemplates the use of various forms of sodium phosphate, but used individually, not simultaneously in the same solution. As the prosecuting attorney explained, the claim was limited "with the incorporation of the additional limitation limiting the solution to one that consists of water and a sodium phosphate."

Other references in the prosecution history underscore the restrictive scope that was accorded to the claim language. Thus, the prosecuting attorney explained that "the solution is limited to one that is made of water and a solute selected from a sodium phosphate or sodium carbonate," and that "the claimed kits of the present application are limited to kits in which the setting liquid is a solution of water and a solute, where the solute is either a sodium phosphate or a sodium carbonate." The district court properly construed that language to limit the scope of the claim at issue in this case to a single solute in the water solution, i.e., to a single type of sodium phosphate.

Norian makes essentially three arguments in response to the district court's claim construction. First, Norian argues that after any sodium phosphate salt goes into solution, it does not maintain its solid, compound form, and thus it ceases to be identifiable as, for example, monobasic sodium phosphate monohydrate or dibasic sodium phosphate heptahydrate. Instead, it dissolves into dissociated sodium ions and phosphate ions in water. Therefore, according to Norian, the reference to "a sodium phosphate" in a water solution can only mean a solution containing sodium ions and

phosphate ions, which solution will be produced when any one or more types of sodium phosphates are added to water.

The problem with that argument is that it runs afoul of the language and the prosecution history of the '065 patent. In the claim language, the specification, and the prosecution history, the patentee described the claimed solution by reference to the substances used to make it—solutesthat include a variety of different types of sodium phosphates. The patentee could have chosen to claim the solution as “a sodium phosphate solution,” as was recited in an earlier version of the claims, or as a solution consisting of “at least one sodium phosphate,” which would have tracked the language used in the first limitation of claim 8. Instead, the patentee departed from those formulations and chose to recite a solution consisting of water and “a sodium phosphate.” In context, that language denotes a solution made from water and a single solute drawn from among the various types of sodium phosphates.

Norian’s second argument is that the prosecution history cannot be read as broadly as the district court read it. Norian explains that the amendment in question (i.e., amending the language from “a sodium phosphate solution” to “a solution consisting of water and a sodium phosphate”) was made in response to a prior art patent to Iwamoto, which disclosed a colloidal setting solution, rather than a pure solution containing no suspended particles. Because the sole purpose of the amendment was to avoid the effect of the Iwamoto reference, Norian argues, the prosecution history should not be interpreted as disclaiming pure solutions that are made from more than a single solute.

The problem with that argument is that there is no principle of patent law that the scope of a surrender of subject matter during prosecution is limited to what is absolutely necessary to avoid a prior art reference that was the basis for an examiner's rejection. To the contrary, it frequently happens that patentees surrender more through amendment than may have been absolutely necessary to avoid particular prior art. In such cases, we have held the patentees to the scope of what they ultimately claim, and we have not allowed them to assert that claims should be interpreted as if they had surrendered only what they had to. See, e.g., Fantasy Sports Props., Inc. v. Sportsline.com, Inc., 287 F.3d 1108, 1114-15 (Fed. Cir. 2002) (patentee "cannot now be heard to argue" a broad construction of the term "bonus points" because patentee acquiesced in the examiner's narrow interpretation to distinguish the claims from prior art, even though under the broad construction the invention may have been patentably distinct from the prior art); Elkay Mfg. Co., 192 F.3d at 979 (patentee relinquished a construction of claim language that could include separate air and liquid feed tubes, because patentee distinguished a prior art reference by arguing that the reference taught the use of separate liquid and air feed tubes; court found it "irrelevant . . . whether [patentee] had to relinquish an interpretation of the feed tube limitation that could cover more than one flow path for liquid and air"). Here, in the course of amending, the patentee expressly spoke to the meaning of the amended claim, noting that it was limited to a single solute. We therefore agree with the district court that Norian surrendered all sodium phosphate solutions made from more than a single solute, i.e., a single type of sodium phosphate.

Norian's third argument is that by defining the solution of the asserted claims in terms of the ingredients used to make the solution, rather than in terms of the ions found in the solution after it was made, the court has improperly converted what was meant to be a product claim into a product-by-process claim, without applying the legal principles applicable to such claims. We disagree. All that the district court has done is to conclude that the patentee characterized the solution in terms of the components put into it, which the evidence before the court (including the specification) showed to be a conventional means of describing a solution. Because the patentee chose to describe the solution in that fashion, the claims remained product claims, but their scope was limited to the designated ingredients from which the claimed solution was made.

Ultimately, Norian's arguments distill to the basic contention that a person of skill in the art would understand that any "sodium phosphate solution" will contain sodium ions and phosphate ions, no matter whether it is made from one type or multiple types of sodium phosphate. While that may be so, it does not change the clear effect of the prosecution history, the specification, and the claim language. Rheox, Inc. v. Entact, Inc., 276 F.3d 1319, 1320-21 (Fed. Cir. 2002) (holding that the term "calcium orthophosphate," as used in the claim and in light of the prosecution history, did not cover monocalcium orthophosphate, even though a person of skill in the art would recognize that the term generally refers to a family of compounds that includes monocalcium orthophosphate). Norian did not simply claim a "sodium phosphate solution"; nor did Norian broadly claim a solution containing sodium and phosphate ions. Instead, Norian limited the solution in claim 8 to one using a single type of sodium phosphate. Although Norian might have claimed the solution more broadly, it did not,

and we are not now free to interpret the claim in a way that is at odds with the claim language and other intrinsic evidence.

Finally, Norian argues that even if the district court was correct in its claim construction and literal infringement was not established, the court still should not have foreclosed its effort to prove infringement under the doctrine of equivalents. Norian, however, amended the pertinent claim language in a way that, as the district court construed it, disclaimed solutions made from multiple types of sodium phosphates. If the district court was correct in that characterization of the prosecution history—and we believe that it was—Norian is not entitled to prevail on a doctrine of equivalents theory. Instead, under the doctrine of prosecution history estoppel, a narrowing of claim scope during prosecution creates a presumption that the patentee has surrendered, for purposes of the doctrine of equivalents, all subject matter falling between the scope of the original claim and the scope of the claim as amended. See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 741 (2002).

Norian does not suggest that this case falls within one of the exceptions to the rule of prosecution history estoppel set forth by the Supreme Court in Festo. See Festo, 535 U.S. at 740-41. Instead, Norian's argument is that Festo is inapplicable altogether because Norian never surrendered the subject matter in dispute. As indicated above, we have rejected Norian's interpretation of the prosecution history, and we have concluded, contrary to Norian's argument, that the patentee disclaimed solutions made from more than one form of sodium phosphate. As such, Festo is applicable to Norian's argument under the doctrine of equivalents, and in the absence of any suggestion of why the principles of Festo do not bar Norian from recourse to that doctrine to establish

infringement, we hold that Norian cannot avoid summary judgment of noninfringement on that ground. Accordingly, we uphold the district court's judgment in all respects.

AFFIRMED.