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Federal Circuit Patent Bulletin: *Kaneka Corp. v. Xiamen Kingdomway Grp. Co.*

June 11, 2015

"As in the written description context, word-for-word alignment of disclosed embodiments . . . with claim language is unnecessary when the meaning of a claim term can be ascertained from the intrinsic record."

On June 10, 2015, in *Kaneka Corp. v. Xiamen Kingdomway Grp. Co.*, the U.S. Court of Appeals for the Federal Circuit (Newman, Reyna,* Hughes) affirmed-in-part, vacated-in-part, and remanded the district court's summary judgment that Xiamen did not infringe U.S. Patent No. 7,910,340, which related to processes for producing oxidized and reduced coenzyme Q10 that may be used as a dietary supplement. The Federal Circuit stated:

In construing the term "sealed tank," the district court adopted "in its entirety" the reasoning of the [International Trade] Commission in the related proceeding that involved the same claim term. In that proceeding, the Commission consulted a dictionary definition that defined "seal" as "a tight and perfect closure (as against the passage of gas or water)" because the term "sealed" is not defined in the specification. An expert testifying before the Commission agreed with this meaning, explaining that the plain meaning of "sealed" is "airtight." On that basis, the district court construed the term "sealed tank" to mean "a tank that is closed to prevent the entry or exit of materials."

[T]he district court's construction is inconsistent with the intrinsic record. Claim construction begins with the language of the claims. When interpreting claim language, courts consult the intrinsic record, which includes the specification and prosecution history. The specification is "the single best guide to the meaning of a disputed term." Extrinsic evidence, such as dictionary definitions, for example, may be useful when construing claim terms, "so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents."

The district court's reliance on the Commission's dictionary definition and related testimony conflicts with the intrinsic record. Figure 1 and Example 8 suggest that the "sealed tank" should be sealed to the atmosphere, but not necessarily to other materials, such as solvents. In the industrial scale process of Example 8, a solution of disrupted (ruptured) cells containing reduced coenzyme Q10 is "sealed with nitrogen gas," i.e., sealed under an inert gas atmosphere such that solution contents are not exposed to the atmosphere, and continuously extracted in a manner that allows solvent to flow into and out of the extraction tanks depicted in

Figure 1. Though Example 8 refers to extracting reduced coenzyme Q10, the specification describes how to similarly extract oxidized coenzyme Q10. By depicting solvent flowing into and out of the extraction tanks, the specification indicates that the "sealed tank" is not sealed to prevent entry or exit of all materials.

In addition, the district court's construction of "sealed tank" excludes Figure 1 and Example 8, which are the only examples of an industrial scale process, as the other examples describe lab-scale processes. A claim construction that excludes a preferred embodiment is "rarely, if ever, correct." A construction that excludes all disclosed embodiments, such as the district court's construction of the term "sealed tank," is especially disfavored. . . .

Defendants argue that "sealed" must be construed according to the dictionary definition because the written description never uses the term "sealed"—the patentee added the term "sealed" to the claims during prosecution. Defendants also highlight that Figure 1 does not label the tanks as "sealed." We disagree that "sealed" must be construed using a dictionary. As in the written description context, word-for-word alignment of disclosed embodiments (such as the extraction tanks depicted in Figure 1) with claim language is unnecessary when the meaning of a claim term can be ascertained from the intrinsic record. Accordingly, we hold that the term "sealed tank," means "a tank that prevents exposure of the tank's contents to the atmosphere."

The district court construed "oxidizing" in claims 1 and 22 to mean "actively converting all or substantially all of the reduced coenzyme Q10 obtained from the disruption step to oxidized coenzyme Q10 in a step before beginning the extraction step," while "oxidizing" in claims 11 and 33 was construed to mean "actively converting all or substantially all of the extracted reduced coenzyme Q10 obtained from the disruption step to oxidized coenzyme Q10 in a separate step after the extraction step has been performed." . . .

We agree that oxidation requires an active step. A process is defined as "an act, or a series of acts." Here, because the claims affirmatively recite the step of "oxidizing," "oxidizing" cannot be interpreted as doing nothing, or to simply allow oxidation to occur on its own. Nor can the other recited claim steps, such as culturing or disrupting, suffice as the active step resulting in oxidation. If those other steps qualify as the oxidation step, the patentee's inclusion of a separate oxidation step would have no significance.

The oxidation step requires action, but it does not require the use of an oxidizing agent. Though the preferred embodiment uses an oxidizing agent, we must be cautious not to import preferred limitations into the claims. Dependent claims 25, 26, 37, and 38 also recite an oxidizing agent, but it would be improper to import a claim limitation from a dependent claim into an independent claim. Thus, an oxidizing agent is not required to carry out the "oxidizing" step.

We also agree that some oxidation must occur before the extraction step in claim 22 or after the extraction step in claim 33. Where the steps of a method claim actually recite an order, we ordinarily construe the claim to require order. A method claim can also be construed to require that steps be performed in order where the claim implicitly requires order, for example, if the language of a claimed step refers to the completed results of the prior step. We hold that the oxidation step in claims 22 and 33 refers to the product of the previous

step, and, therefore, at least some action resulting in oxidation must be applied to the product of the disruption step in claim 22, and the product of the extraction step in claim 33.

We disagree that the claimed order excludes passive oxidation during other process steps. The claims' preamble term "comprises" indicates that additional oxidation steps or results are not excluded. Requiring active oxidation during the oxidation step preserves the claimed order, but does not exclude passive oxidation during other steps.

We also disagree with the district court's conclusion and Defendants' arguments on appeal suggesting that the claimed order requires that each step occur independently or separately. In claim 22, some action resulting in oxidization must be applied to the product of the disruption step. This does not necessarily mean that the disruption step has to be complete before the oxidation step begins. The claims do not exclude a continuous process, in which later steps are initiated as soon as at least some product from the previous step forms, while previous steps are still ongoing. The written description contemplates continuous process steps. The claims do not exclude a process in which every claim step is occurring simultaneously. By the same logic, the extraction step recited in claim 33 does not have to be complete before the oxidation step begins as long as the oxidation step is applied to at least some extracted product. In other words, the claims require order but do not require discrete steps.