

United States District Court,
D. Hawaii.

TUNA PROCESSORS, INC,
Plaintiff.

v.

HAWAII INTERNATIONAL SEAFOOD, INC,
Defendant/Counterclaim Plaintiff.

and

William R. Kowalski,
Additional Counterclaim Plaintiff.

v.

Tuna Processors, Inc,
Counterclaim Defendant.

William R. Kowalski and Hawaii International Seafood, Inc,
Plaintiffs.

v.

Mommy Gina Tuna Resources, King Tuna Inc., and Joaquin Lu,
Defendants.

William R. Kowalski and Hawaii International Seafood, Inc,
Plaintiffs.

v.

Integral Seafood LLC, and Citra Mina Corporation,
Defendants.

William R. Kowalski and Hawaii International Seafood, Inc,
Plaintiffs.

v.

Richard Friend, and Seafriend,
Defendants.

CIV. Nos. 05-00517 BMK, 05-00679 BMK, 05-00182 BMK, 05-00787 BMK

Oct. 17, 2007.

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HONOLULU, HI, CARL D. CROWELL, CROWELL ING LLP, SALEM, OR, for Plaintiff.

ALLISON M. MIZUO, MARTIN E. HSIA, MILTON M. YASUNAGA, CADES SCHUTTE,
HONOLULU, HI, for Defendants.

BARRY M. KURREN, United States Magistrate Judge.

Plaintiff Tuna Processors, Inc. has filed a patent infringement action against Defendant Hawaii International Seafood, Inc. Tuna Processors, Inc. owns U.S. Patent 5,484,619, titled "Method for Curing Fish and meat by Extra-Low Temperature Smoking" and originally issued to Kanemitsu Yamaoka on January 16, 1996 (hereinafter "Yamaoka Patent"). Hawaii International Seafood, Inc. owns U.S. Patent 5,972,401, titled "Process for Manufacturing Tasteless Super-Purified Smoke for Treating Seafood to be Frozen and Thawed," originally awarded to Hawaii International Seafood, Inc.'s President, Counterclaim Plaintiff William R. Kowalski ("Kowalski"), on October 26, 1999 (hereinafter "Kowalski Patent").

Hawaii International Seafood has also filed infringement actions against Defendants Mommy Gina Tuna Resources, King Tuna, Inc., Joaquin Lu, Seafriend, Richard Friend, Citra Mina Corporation, and Integral Seafood LLC in three separate suits in this Court. At issue in all of this litigation is the meaning of certain claims in the Yamaoka and Kowalski patents. The Defendants in HISI's infringement actions joined TPI in the claims construction briefing; they are referred to collectively as "TPI," while Hawaii Seafood International and Kowalski are referred to collectively as "HISI."

On August 31, 2007, a *Markman* hearing was held to construe the claims of these two patents. For the following reasons, the Court construes the claims of these two patents as follows. FN1

FN1. At the hearing, HISI sought to introduce a document titled "New/Supplemental Authorities from Kowalski." TPI objected to this document on the grounds that it had not been provided with a copy prior to the hearing and that at least one of the authorities was a confidential arbitration decision. Because of the tardiness of these supplemental authorities, because TPI was not provided with sufficient notice of them, and because of the apparently confidential nature of at least one of these authorities, the Court will not consider this document. The Court will rely only on the motions and memoranda properly filed by the parties, the arguments of counsel, and on Dr. Hagadone's testimony at the hearing.

The Court also notes that HISI submitted both an opposition and an amended opposition to TPI's claim construction brief. The opposition exceeded the page limitations imposed by the Local Rules; the amended opposition corrected this problem. The Court will consider only HISI's amended opposition in construing the claims of these patents.

STANDARD OF REVIEW

The claims of a patent define its scope. Phillips v. AWH, 415 F.3d 1303, 1312 (Fed.Cir.2005). The construction of these claims is a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed.Cir.1995), *aff'd*, 517 U.S. 370, 391 (1996). Claims are to be construed according to their ordinary custom and meaning as understood by a "a person of ordinary skill in the art in question at the time of the invention." Phillips v.. AWH, 415 F.3d 1303, 1312 (Fed.Cir.2005). The language of the claims themselves is the first place courts must look in construing patents' claims. *Riverwood Int'l Corp. v. RA. Jones & Co.*, 324 F.3d 1346, 1347 (Fed.Cir.2003). Where the claim language is unclear, the court may look to the specifications and patent prosecution history to help ascertain the meaning of the claims. *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed .Cir.2005); *see also Eastman Kodak Co. v. Goodyear Tire & Rubber Co .*, 114 F.3d 1547, 1552 (Fed.Cir.1997) (stating that "a construing court does not accord the specification, prosecution history, and other relevant evidence the same weight as the claims themselves, but consults these sources to give the necessary context to the claim language").

If the meaning of the claim is still ambiguous, the court may then take into account extrinsic evidence. Phillips, 415 F.3d at 1317. Extrinsic evidence consists of all evidence external to the patent and file history, including dictionaries, expert testimony, learned treatises, and prior art. Markman, 52 F.3d at 979-80. Regardless of a party's original intention, "courts may not redraft claims, whether to make them operable or to sustain their validity." Chef America, Inc. v. Lamb Weston, Inc., 358 F.3d 1371, 1374 (Fed.Cir.2004).

DISCUSSION

I. THE YAMAOKA PATENT

The Yamaoka Patent contains two claims. The first of these two claims is an independent claim, while the second is a dependent claim. Only the first, independent claim is at issue in this litigation. The language of that first claim reads:

What is claimed is:

1. A method for curing raw tuna meat by extra-low temperature smoking comprising the steps of:
 - burning a smoking material at 250 (deg.) to 400 (deg.) C. and passing the produced smoke through a filter to remove mainly tar therefrom;
 - cooling the smoke passed through the filter in a cooling unit to between 0 (deg.) and 5 (deg.) C. while retaining ingredients exerting highly preservative and sterilizing effects; and
 - smoking the tuna meat at extra-low temperatures by exposure to the smoke cooled to between 0 (deg.) and 5 (deg.) C.

(Yamaoka Patent, Col. 7-8.)

A. "*Burning a Smoking Material at 250 (deg.) to 400 (deg.) C*"

TPI first requests that "burning a smoking material at 250 (deg.) to 400 (deg.) C" be interpreted as claiming "the production of smoke at a beneficial temperature through the burning of a smoking material unless such smoking material cannot produce any smoke at temperatures of 400 (deg.) C or less, or the equivalent thereof." (TPI Brief 41.) In particular, TPI argues that this claimed temperature range of 250 (deg.) to 400 (deg.) C pertains to the temperature of the smoking material itself. It contends that any given material can "burn" only at one specific temperature, just as the only temperature at which water boils is 100 (deg.) C. The specific burning temperature of wood, according to TPI's expert testimony and treatises, varies from 200 (deg.) to 500 (deg.) C depending on the type of wood or wood product. TPI contends that adopting its proposed construction would mean that "unless a smoking material was used that did not combust or smoke at 400 (deg.) C or less, the resulting gas produced would contain, at least in part, gas produced that literally infringes the Yamaoka claim range." (TPI Brief 16).

HISI, on the other hand, argues that the phrase "burning a smoking material at 250 (deg.) to 400 (deg.)" means that the smoking material is to be burned in a medium heated to between 250 (deg.) and 400 (deg.). They base their arguments on the syntax of the claim, the language of the specifications, the prior statements of TPI officers, and expert testimony on the practice and feasibility of measuring the temperature of smoke-producing materials.

The Court will first examine the language and syntax of the claim itself. See *Eastman Kodak*, 114 F.3d at 1552. Here, the syntax of the claims indicates that the 250 (deg.) to 400 (deg.) temperature range likely refers to the temperature of the medium, not the temperature of the material. In *Eastman Kodak*, the Federal Circuit held that where the word "at" modified the transitive verbs "crystallizing," "polycondensing," and "passing" in a process patent, it "refer [red] to the process temperature of the heating medium, rather than the temperature of the polymer itself." 114 F.3d at 1553; *see also* *Chef America*, 358 F.3d at 1374 (distinguishing between "heating to" a certain temperature and "heating at" a certain temperature). This is very similar to the case here, where "at" modifies the transitive verb "burning," and instructs the person doing the burning to perform the process in a particular way, namely at 250 (deg.) to 400 (deg.) C.

The Court recognizes, however, that just as in *Eastman Kodak*, "[t]he claim language alone ... does not settle the claim interpretation issue." 114 F.3d at 1554. The interpretation proposed by TPI, while less likely than HISI's interpretation, is not implausible. Thus, the Court turns to the specifications of the patent for additional guidance.

Unfortunately, the specifications of the Yamaoka Patent are also ambiguous. Some of the language in the specifications seems to confirm HISI's position that the stated temperature range refers to the temperature of the medium and not the material. The description of the preferred embodiment of the patent, for example, describes how "[a] temperature sensor-controller is fitted to the smoke generating chamber to direct and control the temperature therein." (Yamaoka Patent, Col. 5, at 17-20). This indicates that it is the temperature of the smoke generating chamber that is to be controlled, not the temperature of the smoking material itself.

At the same time, however, the specifications also state that the "thermostat-controlled heater" installed on the bottom of the combustion chamber "controls the production of smoke by measuring the combustion temperature." (Yamaoka Patent, Col. 4, at 21-24). Given the location of the heater directly beneath the smoking material and the phrase "combustion temperature," this specification seems to indicate that it is the temperature of the smoking material, and not the temperature of the medium, that is to be regulated by the Yamaoka Patent. Other language in the specifications is unhelpful, and can be read to support either of these two interpretations.

Because some ambiguity still remains after examining the intrinsic evidence, the Court will now turn to the extrinsic evidence for additional guidance. The extrinsic evidence in this case proves decisive. It shows (1) that people of ordinary skill in the art believed that the Yamaoka patent's temperature range referred to the temperature of the medium, not the material; and (2) that the temperature of the smoking material is not typically measured, nor is it easy to do so. Given this unrefuted evidence, the Court concludes that the 250 (deg.) to 400 (deg.) C temperature limitation of the Yamaoka Patent refers to the temperature of the medium, not the temperature of the smoking material.

First, TPI officers' own past interpretation of the claim language indicates that people of ordinary skill in the art interpreted the Yamaoka patent's claimed temperature range as referring to the temperature of the heating apparatus rather than the temperature of the smoking material. While attempting to obtain patent insurance in 2000, Richard Friend, Vice President of TPI, and someone with years of experience in the industry, stated in reference to "the Yamaoka smoke machine" that the "problem with the original design was that it took a long period of time to reach the desired temperature" and that "[a] system that ... could combust wood at a constant high temperature was strongly desired." (HISI Am. Opp., Ex. 8). The "desired temperature" is not the temperature of the smoking material, but the temperature of the smoke machine itself.

Similarly, in a 2003 letter urging the Philippines Bureau of Patents to reject Kowalski's patent application, Friend stated that this new machine "enabled commercialization of the Yamaoka patent[] ... by applying heat at high temperatures (360 (deg.)-400 (deg.) C) to thermally decompose the sawdust and thereby generate smoke." (Defs.' Ex. 10.) Again, the temperature that Friend emphasizes here as a unique feature of the Yamaoka Patent is not the temperature of the combustion itself, but the temperature that the device is "applying" to that smoking material. These statements show that at least one person skilled in the art actually believed that the temperatures referenced in the Yamaoka process referred to the temperatures of the combustion chamber, and not the temperature of the wood or sawdust.

Second, HISI provides expert testimony that measuring the temperature of the smoking material itself is not the actual practice of people in the industry, and moreover, may not even be technologically feasible. In his expert report, Dr. Joseph Maga states that "members of the food smoking industry do not measure the actual temperatures of the sawdust or wood in their production of smoke for treating food commercially." (HISI Am. Opp., Ex. 13, para. 13.) Rather, he believes that "the temperatures stated in the Yamaoka patent's claim would be read by commercial producers of smoke for treating food as the temperature at which the heating unit is to be operated, as opposed to the actual temperatures of the sawdust." (HISI Am. Opp., Ex. 13, para. 12.) In addition, TPI's expert, Dr. Kumazawa, admitted in his deposition that "sawdust temperature is very difficult to measure" (HISI Am. Opp., Ex. 12, at 34:8-9.) Another of TPI's experts, Dr. Hagadone, similarly indicated in his deposition that the sawdust temperature would be difficult to measure in a Yamaoka smoke machine, although he thought that perhaps it could be done "if you had some kind of transmitter device, like a Martian land[er]." (HISI Am. Opp., Ex. 11, at 175:10-11.) This sort of transmitter device, however, is nowhere mentioned in the Yamaoka Patent, leading to the conclusion that the temperature limitation claimed in the patent refers instead to the temperature of the medium. Accordingly, the Court concludes that "a person of ordinary skill in the art in question at the time of the invention," Phillips v. AWH, 415 F.3d 1303, 1312 (Fed.Cir.2005), would have interpreted the Yamaoka Patent's temperature limitation to refer to the temperature of the heating medium, and not the temperature of the smoking material.

TPI also requests that the Court construe the Yamaoka Patent's literally claimed temperature range of 250 (deg.) to 400 (deg.) as extending beyond the stated numerical boundaries to include any "beneficial temperature," (TPI Brief 41). While TPI contends that it is not estopped from asserting this broader range by its prosecution history, it does not provide any affirmative reason as to why "250 (deg.) to 400 (deg.)" should be construed as "beneficial temperature." The language of the claimed numerical range is plain and unambiguous. The Court therefore rejects TPI's proposed claim construction and finds that "burning a smoking material at 250 (deg.) to 400 (deg.) C" means burning a smoking material in a chamber or other medium heated to a temperature between 250 (deg.) and 400 (deg.) C.

B. "Passing the Produced Smoke Through a Filter to Remove Mainly the Tar Therefrom "

TPI and HISI also disagree about the meaning of the phrase "passing the produced smoke through a filter to remove mainly the tar therefrom." TPI contends that this phrase should be construed to include any amount of filtering, "so long as some tar is removed ." (TPI Brief 41.) More specifically, it argues that the language of this claim is broad enough to cover even filtering processes that render the smoke tasteless, such as the process described by the Kowalski Patent.

HISI, on the other hand, contends that this phrase protects only processes designed to remove the larger particles from the smoke, such as tar. It argues that the Yamaoka Patent does not claim a filtration process

which removes the smaller flavor-giving particles from the smoke in addition to the larger tar particles. To the contrary, HISI argues, the Yamaoka Patent claims a process which imparts some flavoring to the fish that is not originally present in the fish. This flavoring can only be imparted, it argues, by allowing some of the smaller particles to pass through the filter.

The Court agrees with HISI that the language of the claim itself indicates that the Yamaoka process is designed specifically to remove tar from the smoke. The smoke is not passed through a filter, which happens to have the incidental effect of removing the tar, but is instead to be "passed through a filter *to remove*" the tar- *i.e.*, for the specific purpose of removing the tar from the smoke. The language of the claim does not appear to encompass a process that is intended to remove not only the tar, but also the smaller flavor-giving particles. Some ambiguity remains, however, because of the word "mainly." Therefore, the Court once again turns to the specifications of the Yamaoka Patent for additional guidance.

Here, the specifications confirm that the Yamaoka Patent does not claim filtration processes designed to remove other substances from the smoke in addition to the tar. The Yamaoka Patent initially summarizes the invention as follows:

With a major part of the tar thus filtered off, the remaining smoke exerts preservative, sterilizing and color-keeping actions on substantially fresh fish and meat without imparting any disagreeable odor, taste or color thereto. *Instead, the smoke imparts agreeable taste and smell to the processed fish and meat while keeping them in a substantially fresh condition.*

(Yamaoka Patent, Col 3, at 20-26 ("emphasis added").) This language shows that not only does the Yamaoka Patent contemplate preserving fish without imparting disagreeable taste, but it also includes the addition of some type of taste or smell not naturally present in the fish. This taste and smell can only be imparted through particles not filtered out during the filtration process. While TPI is correct that the Yamaoka Patent's specifications discuss ways in which "[t]he level of aromatic smell characteristics of smoked products can be easily raised [(and presumably also lowered)] by varying the kind and quantity of the filtering materials," (Yamaoka Patent, Col. 7, at 4-6), the Yamaoka specifications always assume that some level of taste or aroma will be present at the end of the filtering process.

Accordingly, the Court determines the Yamaoka Patent claims a process for filtering smoke to the extent that the smoke produced by the filtration is still able to impart a noticeable and "agreeable" taste and smell to the fish. The Yamaoka Patent does not claim a process specifically intended to filter flavor-giving particles out of the smoke.

C. "Exposure to the Smoke Cooled to Between 0 (deg.) and 5 (deg.) C."

Additionally, TPI and HISI disagree about the meaning of the Yamaoka Patent's claim to the process of "smoking the tuna meat at extra-low temperatures by exposure to the smoke cooled to between 0 (deg.) and 5 (deg.)." HISI argues that this phrase should be construed so as to limit the Yamaoka Patent to processes in which the smoke is first cooled, and then the tuna is exposed to the already-cooled smoke. It argues that the Yamaoka Patent does not extend to cover a process by which the tuna is exposed to smoke, and then both the tuna and the smoke are simultaneously cooled to between 0 (deg.) and 5 (deg.) C. TPI argues, however, that its claim should not be so limited and that the Yamaoka process does not require that the smoke be cooled prior to its exposure to the tuna.

TPI's position is contradicted by the plain language of the claim itself. First, the use of the definite article "the" in "*the smoke* cooled to between 0 (deg.) and 5 (deg.) C" indicates that it is some particular smoke, not smoke in general, which is being referred to in this step. The only plausible referent for "*the smoke* cooled to between 0 (deg.) and 5 (deg.) C" is the smoke discussed in the preceding step of the claim, which describes "cooling the smoke passed through the filter in a cooling unit to between 0 (deg.) and 5 (deg.) C." Claims can require that their steps be performed in a certain order where "the sequential nature of the claim steps is apparent from the plain meaning of the claim language and nothing in the written description suggests otherwise." *Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1342 (Fed.Cir.2001). That is the case here. Smoke is cooled to between 0 (deg.) and 5 (deg.) in one step; the subsequent step then describes how "*the smoke* cooled to between 0 (deg.) and 5 (deg.)" is exposed to the fish.

Moreover, even disregarding the presence of the definite article "the," the use of "cooled" to modify "smoke" indicates that the smoke has already been cooled before the fish is exposed to the smoke. In other words, even if the claim had been written as "exposure to a smoke cooled to between 0 (deg.) and 5 (deg.) C," it would still describe only a process in which the smoke has already been cooled prior to exposure. "Cooled" is a participial adjective that modifies the word "smoke." It is formed from the past participle of cool, which is "cooled," and then used as an adjective rather than a verb. Because it is derived from the *past* participle, rather than the present participle, the use of "cooled" as an adjective indicates that the action has already taken place or already been completed. Here, that means that the smoke has already been cooled to a specific temperature, namely, to between 0 (deg.) and 5 (deg.) C.

D. Limitation to Tuna

The literal language of the Yamaoka patent claims only a process for "curing raw tuna meat" (Ex. 1, Col.7). HISI requests that the claim be limited to tuna, and not be extended to other fish or meats. TPI "does not dispute that Claim 1 of the Yamaoka '619 patent is limited to tuna." (TPI Reply 8.) The Court concurs that the Yamaoka Patent claims only a process for curing tuna, and not any other kind of fish or meat.

II. THE KOWALSKI PATENT

In contrast to the Yamaoka Patent, which has only two claims, the Kowalski Patent makes 73 distinct claims. The Court has only been asked to construe two of these 73 claims, namely, Claim 1 and Claim 67. Claim 1 of the Kowalski Patent claims:

1. A process for treating meat comprising:

heating organic material to generate smoke having a gaseous vapor phase;

super purifying said smoke to reduce taste imparting components below thresholds for imparting smoke odor and taste, whereby a substantially tasteless super-purified smoke is created; and

treating meat having a freezing point with said tasteless super-purified smoke.

(Kowalski Patent, Col. 22 -23, at 65.) Claim 67 of the Kowalski Patent claims:

67. A process for treating food comprising:

heating organic material to generate smoke;

filtering components that impart smoke flavor from said

Smoke to below limits for imparting smoke flavoring to food; and

exposing said filtered smoke to food without imparting a smoke flavor to said food.

(Kowalski Patent, Col. 28, at 11-18.)

A. " Heating Organic Materials To Generate Smoke "

Both Claim 1 and Claim 67 claim the process of "heating organic material to generate smoke." The parties disagree about the meaning of two words in this phrase, namely, "heating" and "organic."

1. " Heating "

HISI requests that "heating" not be limited to any particular temperature range in Claims 1 and 67. (HISI Brief 18.) TPI, on the other hand, requests that "heating" be "limited to the temperature 510 (deg.) centigrade or less." (TPI Opp. 13.) TPI bases this construction on the specifications of the patent, which state that the "manufacturing process" includes combusting wood sawdust "at temperatures in an operable temperature range of 400 to 950 degrees Fahrenheit (204 to 510 degrees Centigrade)." (Kowalski Patent, Col. 11, at 44-49.) TPI argues that HISI's claim is limited by what the Kowalski Patent has defined as the operable range of the invention.

While claims need not be limited to their preferred embodiments, "claims may be no broader than the supporting disclosure" made in the specifications. *Gentry Gallery v. Berkline Corp.*, 134 F.3d 1473, 1479 (Fed.Cir.1998) (finding a claim invalid where it extended beyond the scope of what was disclosed in the patent's specifications); *see also Cooper Cameron Corp. v. Kvaerner Oilfield Prods., Inc.*, 291 F.3d 1317, 1323 (Fed.Cir.2002) (stating that "a broad claim is invalid when the entirety of the specification clearly indicates that the invention is of a much narrower scope").

Here, it is not only the preferred embodiment of the patent, but nearly every section of the specification that discloses an operable temperature range of 204 (deg.) to 510 (deg.) C for the Kowalski Patent. First, after discussing the formation of deleterious compounds in the "Background Art" section of the patent, Kowalski states that "[t]o minimize formation of these compounds and to conform to empirical data from our laboratory tests, an operable combustion temperature range of 400 to 950 degrees Fahrenheit (204 to 510 degrees Centrigade), a preferred range of 500 to 800 degrees Fahrenheit ... [is] established for the process described herein ." (Kowalski Patent Col. 6-7.) Second, as mentioned above, the "Summary of the Invention" section of the patent states that the "manufacturing process" includes combusting wood sawdust "at temperatures in an operable temperature range of 400 to 950 degrees Fahrenheit (204 to 510 degrees Centigrade)." (Kowalski Patent, Col. 11, at 44-49.) Third, the "Best Mode" section specifies that the sawdust "is combusted by heating the cylinders with the natural gas burner to an operable temperature range of 400 to 950 degrees Fahrenheit (204 to 510 degrees centigrade)." (Kowalski Patent, Col. 16, at 39-41.)

Here, then, just as in *Gentry*, the "entirety of the specification clearly indicates that the invention is of a much narrower scope," *Cooper Cameron Corp.*, 291 F.3d at 1323, than what is claimed in Claims 1 and 67. The specifications do not support the broad claim language of "heating"; accordingly these claims are deemed invalid on this ground. *See Gentry Gallery*, 134 F.3d at 1479.

2. " Organic Material "

Both Claim 1 and Claim 67 also use the phrase "organic material." HISI requests that "organic material" be interpreted to mean "carbon containing materials (including wood, wood sawdust, and charcoal)." (HISI Brief 18). TPI, on the other hand, argues that "organic" should be limited to things that are "of, relating to, or derived from living organisms," such as wood, wood sawdust, leaves, bagasse from sugar cane, pineapple husks, and rice hulls. FN2 (TPI Brief 14-15.)

FN2. TPI also requests that "organic" be limited to materials which can burn at temperatures of 510 (deg.) C or less. TPI argues that charcoal should be excluded because it burns above 510 (deg.) centigrade. TPI's temperature arguments, however, have already been addressed above.

Both the broad definition of "organic" proposed by HISI and the narrower definition of "organic" advanced by TPI appear equally valid and equally plausible. The claims themselves provide no insight into the intended meaning of "organic." The specifications, however, do describe the types of burning material utilized in this process, albeit without explicitly defining the term "organic." The patent states that "[t]ypical wood fuels for smoking contain primarily a hydrocarbon composition of *hydrogen and carbon along with other elements*" (Kowalski Patent, Col. 7, at 4-5 (emphasis added).) This language, focusing on the chemical component of smoking materials, and in particular, the presence of carbon, as opposed to focusing on the materials' relation to living organisms, indicates that Kowalski did not intend to limit his patent to the narrower definition of "organic." The Court therefore finds that "organic material," as used in the Kowalski Patent, means carbon containing materials, including wood, wood sawdust, and charcoal.

B. " Filtering Components That Impart Smoke Flavor From Said Smoke to Below Limits for Imparting Smoke Flavoring to Food."

Part of Claim 67 is the claim of "filtering components that impart smoke flavor from said smoke to below limits for imparting smoke flavoring to food." (Kowalski Patent, Col. 22-23.) HISI and TPI disagree about the meaning of two parts of this phrase: "filtering" and "below limits for imparting smoke flavoring to food."

1. " Filtering "

HISI contends that "filtering" includes "not just the use of filters, but also settling of taste causing components by cooling and/or storage over time, or aging of the smoke so as to allow time for the taste causing components to settle or weaken in strength." (HISI Brief 19.) TPI argues, however, that the specifications of the Kowalski patent distinguish "filtering" from cooling and settling, and so "filtering," as used in Claim 67, cannot be read to encompass these other terms. TPI points to the statement in the specifications that "[c]omplete super purification of smoke can be accomplished using one method, or a combination of methods, in current practice, including filtering, separating, distilling, scrubbing, cooling, freezing, inertial impact, centrifugal force, or settling." (Kowalski Patent, Col. 12, at 13-17.) TPI argues that because "filtering," "cooling," and "settling" are each listed as distinct means of achieving "super-purification," the word "filtering" cannot be read to include cooling and settling when used in Claim 67.

In response, HISI points to other places in the specifications where cooling and settling *are* included within the definition of filtering. These include the Kowalski Patent's discussion of prior art techniques that include

"cooling" and "settling" as types of "filtering methods," FN3 (Kowalski Patent, Col. 8, at 24-26), as well as its explanation that "allowing the phenols, and any other remaining carcinogens, in the smoke to settle, or 'age' ... is the final backup filtering step in the process," (Kowalski Patent, Col. 14, at 19-23). Moreover, the Kowalski Patent's preferred embodiment discloses a process in which the smoke is "partially filtered by the ice " through cooling and condensation (Kowalski Patent, Col. 18, at 33-34), and is then eventually put through a final "settling step of aging the smoke" (Kowalski Patent, Col. 19, at 43).

FN3. This discussion, in its entirety, reads as follows.

The amounts of tar, soot, ash, char and other microscopic particulates have been *filtered and minimized* by many methods in current practice including tar settling systems, baffling systems, and washing systems in the line from the smoke generator to the smoking chamber. In addition, *cooling* and storage reduces the concentrations of phenolic particulate through *settling*. Some of these *filtering methods*

(Kowalski Patent, Col. 8, at 19-26 (emphasis added).)

There is little doubt that the Kowalski Patent discloses settling and cooling processes to remove certain particles from smoke; the issue is whether the word "filtering," as used in Claim 67, encompasses these processes. The Court finds that it does. While the specifications do occasionally use "filtering" in its narrow sense, they more often use it in a broader sense that does include both cooling and settling processes. This is particularly so when the specifications are read as a whole, in context, from beginning to end. The overview of different filtering processes discussed in the "Background Art" section of the specifications recognizes cooling and settling as two types of filtering. And while filtering is initially used in its narrow sense early in the "Summary of the Invention" section, the later parts of the summary make it clear that "filtering" is a much broader term. (See Kowalski Patent, Col. 14, at 19-23.) Thus, viewed in their entirety, the Kowalski specifications demonstrate that "filtering" is a broadly-defined process including not only passing a gas or liquid through a porous material, but also the cooling and settling of the smoke.

2. "Below Limits for Imparting Smoke Flavoring to Food"

In addition, HISI and TPI disagree over the meaning in Claim 67 of the phrase "below limits for imparting smoke flavoring to food." TPI requests that the "limits for imparting smoke flavoring to food" be defined as "having phenolic fractions less than 2.3 ppm for vapor and 1.4 ppm for particulate." (TPI Brief 17 (emphasis removed).) TPI bases this request on Table 3 in the Background Art section of the Kowalski Patent, which identifies 2.3 ppm and 1.4 ppm as the taste recognition thresholds for the vapor and particulate phases, respectively, of wood smoke. (Kowalski Patent, Col. 11, at 1-20.) HISI responds that this table is merely part of the background art, and cannot be drawn upon to limit the claims of the Kowalski Patent. HISI argues that "Claim 67 is a perfectly good claim without any numbers, and the lack of numbers serves a legitimate purpose." (HISI Reply 10.)

The Court here agrees with HISI that the numerical ranges described in the background art may not be read into this particular limitation. The specifications of the Kowalski Patent do not disclose a numeric limitation for "smoke flavoring" in either the smoke or the food with which the smoke is treated. The table listing the "Odor and Taste Recognition Thresholds (ppm) and Most Desirable Concentrations (ppm) of the Phenolic

Fraction Isolated From the Vapor and Particulate Phases of Wood Smoke" (Kowalski Patent, Col. 11, at 1-19) is neither referenced nor commented upon at any other point in the specifications.

Furthermore, while an operable numeric range for tasteless smoke was given for the preferred embodiment of the Kowalski Patent, this was a range which was "determined empirically" for that particular embodiment of the patent. (Kowalski Patent, Col. 17, at 14-36.) The process claimed by the Kowalski Patent and disclosed in its specifications, however, is substantially broader; namely, the treatment of smoke "such that the phenols in both particulate and gaseous vapor phases are reduced to concentrations below recognition thresholds for odor and taste that impart a smoked flavor to the treated food. (Kowalski Patent, Col. 12, at 3-6.) Unlike the "heating" limitation discussed above, where the specifications uniformly disclosed a narrow operable temperature range of between 204 (deg.) and 510 (deg.) C., here the specifications disclose a range that is not numerically defined, and further disclose one particular embodiment for which numerical ranges have been determined. The claim here does not exceed the specifications of the patent, and the Court declines to add any numerical boundaries to the phrase "below limits for imparting smoke flavoring to food."

C. " Super-Purifying Said Smoke to Reduce Taste Imparting Components Below Thresholds for Imparting Smoke Odor and Taste "

The language of Claim 67, discussed above, is quite similar to the language of Claim 1, which claims "super-purifying said smoke to reduce taste imparting components below thresholds for imparting smoke odor and taste." (Kowalski Patent, Col. 28, at 11-18.) TPI raises similar claim construction arguments here as it raised for Claim 67, once again requesting that numerical values listed in Table 3 be ascribed to the process of "super-purifying" the smoke "below thresholds for imparting smoke odor and taste." (TPI Brief 20). For the reasons discussed above, the Court finds that "super-purifying said smoke to reduce taste imparting components below thresholds for imparting smoke odor and taste" is supported by the disclosures made in the specifications. It will not be numerically limited by the Court.

D. " Whereby a Substantially Tasteless Super-Purified Smoke Is Created; and "Treating Meat Having Freezing Point with Said Tasteless Super-Purified Smoke."

Finally, HISI and TPI dispute the meaning and use of "said tasteless" in relation to "substantially tasteless" in Claim 1. TPI argues that the simultaneous use of "substantially tasteless" and "said tasteless" is "an improper double inclusion of the element." (TPI Response 22.) TPI believes that a person of reasonable skill in the art would not be able to distinguish between "substantially tasteless" and "said tasteless." On this basis, TPI argues, Claim 1 should be ruled indefinite. HISI, on the other hand, that "substantially tasteless smoke" is not a limitation, but a label for what results at the end of the process, and that "said tasteless smoke" is merely an obvious shorthand reference for that product.

The Court agrees with HISI's analysis, and finds neither ambiguity nor indefiniteness in this portion of Claim 1. The use of "said" makes it clear that "said tasteless super-purified smoke" refers to the "substantially tasteless super-purified smoke" that is a result of the processes previously described in the Kowalski Patent.

CONCLUSION

For the foregoing reasons, the claims of the Yamaoka Patent are construed so that: (1) the temperature limitation in the phrase "burning a smoking material at 250 (deg.) to 400 (deg.) C." applies to the

temperature of the medium, not of the material being burned; (2) the step of "passing the produced smoke through a filter to remove mainly the tar therefrom" includes only filtration processes that allow some of the smaller, non-tar, flavor-giving particles to pass through the filter, such that some smoke flavor remains; (3) the limitation of "exposure to the smoke cooled to between 0 (deg.) and 5 (deg.) C." requires that the smoke already be at a temperature of between 0 (deg.) and 5 (deg.) C before the fish is exposed to the smoke; and (4) the patent only applies to tuna, and not to other foods.

Similarly, for the reasons described above, the claims of the Kowalski Patent are construed so that: (1) the "heating" limitation of Claims 1 and 67 is deemed invalid on the grounds that the specifications disclose only a process that is capable of operating effectively between 204 (deg.) C and 510 (deg.)C; (2) the "organic materials" limitation of Claims 1 and 67 includes all carbon containing materials, including wood, wood sawdust, and charcoal; (3) the "filtering" step of Claim 67 encompasses both the cooling and settling processes described in the specifications; (4) the "below limits for imparting smoke flavoring to food" language of Claim 67 is not numerically limited; (5) the step of "super-purifying said smoke to reduce taste imparting components below thresholds for imparting smoke odor and taste" in Claim 1 is similarly not numerically limited; (6) in Claim 1, "said tasteless super-purified smoke" refers to the previously labeled "substantially tasteless super-purified smoke."

IT IS SO ORDERED.

D.Hawai'i,2007.

Tuna Processors, Inc. v. Hawaii Intern. Seafood, Inc.

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