

United States District Court,
W.D. Michigan, Southern Division.

WHIRLPOOL CORPORATION and Whirlpool Patents Company,
Plaintiffs and Counterdefendants.

v.
LG ELECTRONICS, INC. and LG Electronics U.S.A., Inc,
Defendants and Counterplaintiffs.

No. 4:03-CV-113

Aug. 2, 2004.

Background: Patentee brought action alleging infringement of claims of patents pertaining to washing and rinsing methods used in automatic washing machines. Parties filed proposals for construction of disputed claim terms.

Holdings: The District Court, Quist, J., held that:

- (1) phrase "directing a recirculating spray onto fabric in said wash chamber" did not preclude the fabric from also tumbling through a pool of detergent solution in the wash chamber;
- (2) phrase "a concentration level" permitted varying concentration levels;
- (3) phrase "mixed prior to" did not require mixing to occur in any particular location such as a separate mixing tank; and
- (4) "fresh water" did not mean clear water without any additives or wash residue.

Claims construed.

5,219,370, 5,233,718. Construed.

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OPINION RE CLAIM CONSTRUCTION

QUIST, District Judge.

Plaintiffs, Whirlpool Corporation and Whirlpool Patents Company ("Whirlpool"), charge Defendants, LG Electronics, Inc. and LG Electronics U.S.A., Inc. ("LG"), with infringing at least claims 1-4, 8-11, and 15-

17 of U.S. Patent No. 5,219,370 ("the '370 patent") and at least claims 1, 5, 6, 8, 11, and 12 of U.S. Patent No. 5,233,718 ("the '718 patent"). The patents pertain to washing and rinsing methods used in automatic washing machines. Before the Court are the parties' proposals for construction of disputed claim terms in the '370 and '718 patents as required pursuant to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed.Cir.1995) (en banc), *aff'd*, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). On July 15, 2004, the Court conducted a *Markman* hearing. Having received the parties' briefs and various exhibits and heard the arguments of counsel, the Court now makes the following findings and conclusions regarding the construction of the disputed patent claim terms.

I. Standard of Review

Before a fact finder can determine whether there has been an infringement of a patent, the Court must first construe the patent claims alleged to be infringed to ascertain their meaning and scope. *See Markman*, 52 F.3d at 976. This step of the process is called claim construction. Claim construction is a matter of law, exclusively within the Court's province, while infringement is an issue of fact. *Id.* at 979.

[1] In the Supreme Court's *Markman* decision, and in numerous decisions from the Federal Circuit, certain principles of patent claim construction have emerged to guide this Court. The Supreme Court has emphasized that the purpose of patent claims is to apprise the public of what is protected by a particular patent. *See Markman*, 517 U.S. at 373, 116 S.Ct. at 1387 ("[A] patent must describe the exact scope of the invention and its manufacture to 'secure to [the patentee] all to which he is entitled, [and] to apprise the public of what is still open to them.' ") (quoting *McClain v. Ortmayer*, 141 U.S. 419, 424, 12 S.Ct. 76, 77, 35 L.Ed. 800 (1891)). In other words, the claims in the patent provide the "metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention." *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed.Cir.1989). Although construction of patent claims is similar to construction of any written document, and general principles of construction are used, special considerations apply to patent claim construction based on the need for the public and other inventors to know as precisely as possible the scope of the patentee's claims. Thus, the Court looks primarily to matters in the public record when construing patent claims.

Exactly what constitutes the "public record" has been described in various Federal Circuit decisions. As stated in *Burke, Inc. v. Bruno Independent Living Aids, Inc.*, 183 F.3d 1334 (Fed.Cir.1999), "This court has held that the language of the claims, the specification and the prosecution history are principally involved in construing patent claims because these constitute the public record." *Id.* at 1340. The patent claims, specifications, and prosecution history are known as intrinsic evidence and should be the primary forms of evidence upon which the Court relies for purposes of claim construction. *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1324-25 (Fed.Cir.2002) (citing *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996)) (stating that such evidence is "the most significant source of the legally operative meaning of the disputed claim language"). In addition, "prior art cited in a patent or cited in the prosecution history of the patent constitutes intrinsic evidence." *Kumar v. Ovonic Battery Co., Inc.*, 351 F.3d 1364, 1368 (Fed.Cir.2003).

[2] To determine the meaning of the claim terms, the Court must begin with the words of the claims themselves. *Teleflex*, 299 F.3d at 1324. "[T]he language of the claim frames and ultimately resolves all issues of claim interpretation." *Abtox, Inc. v. Exitron Corp.*, 122 F.3d 1019, 1023 (Fed.Cir.1997). Courts look first to the dictionary definition of a contested term to determine its meaning. *Kumar*, 351 F.3d at 1367. Unless the specifications or prosecution history indicate otherwise, claim terms should be given the ordinary

meaning that a person of ordinary skill in the art would ascribe to them. *Teleflex*, 299 F.3d at 1325; *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1204-1205 (Fed.Cir.2002). Courts must always first attempt to discern the ordinary and customary meaning of the claim words themselves before consulting the written description and prosecution history. *Id.* at 1205. Generally, the specifications and prosecution history in the intrinsic record may not further limit the claims beyond the limitations contained in the claims themselves. *Teleflex*, 299 F.3d at 1326 (citing *Markman*, 52 F.3d at 979, and cautioning that "claims must be read in view of the specification, ... but limitations from the specification are not to be read into the claims"). Courts may not simply import characteristics of a disclosed or preferred embodiment into the meaning of claim terms. *Texas Digital Sys.*, 308 F.3d at 1204.

[3] [4] [5] Courts must, however, examine claim terms within the context of the specifications to determine whether it appears that the inventor intended to impart novel meanings to the claim terms by deviating from ordinary definitions. *Teleflex*, 299 F.3d at 1324. If the claim language is unclear on its face, then the Court may consider the specifications and the prosecution history to resolve the lack of clarity. *Id.* at 1324-25; *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed.Cir.2001). "[T]he intrinsic record may show that the specification uses the words in a manner clearly inconsistent with the ordinary meaning reflected, for example, in a dictionary definition. In such a case, the inconsistent dictionary definition must be rejected." *Texas Digital Sys.*, 308 F.3d at 1204. The presumption in favor of a dictionary definition will be overcome where the patentee, acting as his or her own lexicographer, has clearly set forth an explicit definition of the term different from its ordinary meaning. *Id.* The presumption will also be rebutted if the inventor has disavowed or disclaimed scope of coverage by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of the claim. *Id.* In addition, claims may be limited by disclaimers or disavowals the inventor represented to the Patent and Trademark Office ("PTO") during the patent application process demonstrating an intent to deviate from the term's ordinary and accustomed meaning. *See Teleflex*, 299 F.3d at 1326 ("[P]rosecution history ... limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.") (internal quotation marks and citation omitted); *see also Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1368 (Fed.Cir.2001). However, even though the claims are interpreted "in view of" the specification and prosecution history, the "focus must be on the claims." *Teleflex*, 299 F.3d at 1326; *see also Interactive Gift*, 256 F.3d at 1323 ("In construing claims, the analytical focus must begin and remain centered in the language of the claims themselves.").

In addition to intrinsic evidence, the Court may, when necessary, look to extrinsic evidence to construe patent claims. Extrinsic evidence consists of treatises, expert testimony, inventor testimony, and prior art not cited in the prosecution history, and may be used to assist with claim construction when the intrinsic evidence is insufficient to establish the clear meaning of the asserted claim, so long as the extrinsic evidence does not contradict the claim language. *See Vitronics*, 90 F.3d at 1582-84; *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed.Cir.2003).

II. Discussion

A. Claims

1. '370 Patent

The claims asserted under the '370 patent are as follows:

Claim 1: A method of washing fabric in a washer having a wash chamber rotatable about a horizontal axis comprising the steps:

- rotating said wash chamber about its horizontal axis with fabric therein at a spin speed to effect less than a one gravity centrifugal force on said fabric such that said fabric will tumble in said wash chamber;
- directing a recirculating spray of concentrated detergent solution having a concentration level in the range of 0.5 to 12% detergent by weight onto said fabric for a first period of time as said fabric is tumbling in said wash chamber;
- after said first period of time, diluting said concentrated detergent solution to a lesser detergent concentration level, no less than 0.28 % by weight, and spinning said wash chamber to effect less than a one gravity centrifugal force on said fabric such that said fabric will again tumble in said wash chamber;
- directing a recirculating spray of said lesser concentrated detergent solution onto said fabric for a second period of time as said fabric is tumbling in said wash chamber; and
- draining said lesser concentrated detergent solution from said wash chamber subsequent to said second period of time.

Claim 2: A method of washing fabric according to claim 1, wherein said concentrated detergent solution is mixed prior to being directed onto such fabric.

Claim 3: A method of washing fabric according to claim 1, wherein said detergent solution is diluted after said first period of time by adding fresh water to said detergent solution.

Claim 4: A method of washing fabric according to claim 1, wherein prior to draining said lesser concentrated detergent solution from said wash chamber, fresh water is added to cool such fabric.

Claim 8: A method of washing fabric in a washer having a wash chamber rotatable about a horizontal axis comprising the steps:

- loading fabric to be washed into the wash chamber of said washer;
- rotating said wash chamber about its horizontal axis with fabric therein at a spin speed to effect less than a one gravity centrifugal force on said fabric such that said fabric will tumble in said wash chamber;
- introducing concentrated detergent solution having a concentration level in the range of 0.5 to 12% detergent by weight onto said fabric as said fabric is tumbling in said wash chamber;
- sensing an amount of concentrated detergent solution being released from said tumbling fabric and terminating the introduction of concentrated detergent solution into said wash chamber just after said fabric has reached a full saturation level at said spin speed;
- directing a recirculating spray of concentrated detergent solution onto said fabric for a first period of time as said fabric is tumbling in said wash chamber;

-after said first period of time, diluting said concentrated detergent solution with water to a lesser detergent level, no less than 0.28% by weight, and spinning said wash chamber to effect less than a one gravity centrifugal force on said fabric such that said fabric will again tumble in said wash chamber;

-directing a recirculating spray of said lesser concentrated detergent solution onto said fabric for a second period of time as said fabric is tumbling in said wash chamber; and

-draining said lesser concentrated detergent solution from said wash chamber subsequent to said second period of time.

Claim 9: A method of washing fabric according to claim 8, wherein said concentrated detergent solution is mixed prior to being directed onto said fabric.

Claim 10: A method of washing fabric according to claim 8, wherein said detergent solution is diluted after said first period of time by adding fresh water to said detergent solution.

Claim 11: A method of washing fabric according to claim 8, wherein prior to draining said lesser concentrated detergent solution from said wash chamber, fresh water is added to cool said fabric.

Claim 15: A method of washing fabric in a washer having a wash chamber rotatable about a horizontal axis comprising the steps:

-loading fabric to be washed into the wash chamber of said washer;

-rotating said wash chamber about its horizontal axis with fabric therein at a spin speed to effect less than a one gravity centrifugal force on said fabric such that said fabric will tumble in said wash chamber;

-introducing concentrated detergent solution having a concentration level in the range of 0.5 to 12% detergent by weight onto said fabric as said fabric is tumbling in said wash chamber;

-sensing an amount of concentrated detergent solution being released from said tumbling fabric and terminating the introduction of concentrated detergent solution into said wash chamber just after said fabric has reached a full saturation level at said spin speed;

-directing a recirculating spray of concentrated detergent solution onto said fabric for a first period of time as said fabric is tumbling in said wash chamber;

-after said first period of time, diluting said concentrated detergent solution with water to a lesser detergent concentration level, no less than 0.28% by weight, and spinning said wash chamber to effect less than a one gravity centrifugal force on said fabric such that said fabric will again tumble in said wash chamber;

-directing a recirculating spray of said lesser concentrated detergent solution onto said fabric for a second period of time as said fabric is tumbling in said wash chamber;

-draining said lesser concentrated detergent solution from said wash chamber subsequent to said second period of time;

-rinsing said fabric by adding water to wash chamber; and

-spinning said wash chamber to effect removal of said rinse water.

Claim 16: A method of washing fabric according to claim 15, wherein said concentrated detergent solution is mixed prior to being directed onto said fabric.

Claim 17: A method of washing fabric according to claim 15, wherein said rinse water is recirculated through said fabric while said fabric is caused to tumble in said wash chamber for a third period of time.

2. '718 Patent

The claims asserted under the '718 patent are as follows:

Claim 1: A method of rinsing fabric in a washer having a wash chamber rotatable about a horizontal axis comprising the steps:

(a) loading fabric to be washed into the wash chamber of said washer;

(b) washing said fabric in a concentrated detergent solution of at least 0.5 % detergent by weight while rotating said wash chamber about said horizontal axis for a first period of time;

(c) draining said concentrated detergent solution from said wash chamber subsequent to said first period of time while spinning said wash chamber at a speed to effect more than a one gravity centrifugal force on said fabric such that said fabric will not tumble within said wash chamber as it spins;

(d) rinsing said fabric by spraying water directly onto said fabric and recirculating water to said wash chamber by spraying said recirculating water directly onto said fabric while spinning said wash chamber at a speed to effect less than a one gravity centrifugal force on said fabric such that said fabric will tumble within said wash chamber as it spins;

(e) draining said wash chamber of said rinse water while spinning said wash chamber at a speed to effect more than a one gravity centrifugal force on said fabric such that said fabric will not tumble within said wash chamber as it spins; and

(f) repeating steps (d) and (e) a predetermined number of times.

Claim 5: A method of rinsing fabric in a washer according to claim 1 wherein fabric softener is mixed with said water in the last of said rinsing steps.

Claim 6: A method of rinsing fabric washed in a concentrated detergent solution in a washer having a wash chamber rotatable about a horizontal axis comprising the steps of:

(a) rinsing said fabric by adding water by spraying water directly onto said fabric and recirculating water by spraying water directly onto said fabric to and within said wash chamber while spinning said wash chamber at a speed to effect less than a one gravity centrifugal force on said fabric such that said fabric will tumble

within said wash chamber as it spins;

(b) draining said wash chamber of said rinse water; and

(c) repeating steps (a) and (b) a predetermined number of times.

Claim 8: A method of rinsing fabric in a washer according to claim 6 wherein there [sic] no more than 12 of said rinsing and draining steps.

Claim 11: A method of rinsing fabric in a washer according to claim 6 wherein fabric softener is mixed with said water in the last of said rinsing steps.

Claim 12: The method of claim 6 wherein said step of draining further comprises spinning said wash chamber at a speed to effect more than a one gravity centrifugal force on said fabric such that said fabric will not tumble within said wash chamber as it spins.

B. Construction of Disputed Claim Terms

The two patents contain a total of seventeen claims (listed above), but many of the terms or phrases in dispute are used in the same or essentially the same way in multiple claims. The Court has attempted to consolidate the disputed terms and phrases into the categories discussed below.

1. Horizontal Axis

[6] The construction of the term "*horizontal axis*" is in dispute. The term appears in the following context: "a wash chamber rotatable about a *horizontal axis*" and "rotating said wash chamber about its *horizontal axis* ... such that said fabric will tumble in said wash chamber." ('370 patent, claims 1, 8, 15; '718 patent, claims 1, 6.)

Whirlpool argues that this terminology should be construed as follows: "These claim elements mean that the washer has a wash chamber that is rotated about an axis that is oriented primarily or predominantly parallel to the horizon such that the fabric will tumble when the wash chamber is rotated at a speed effecting less than one gravity of centrifugal force on the fabric. This limitation encompasses a wash chamber whose axis may be angled slightly (e.g., at 10 degrees), provided that the fabric will tumble when the wash chamber is rotated at a speed effecting less than one gravity of centrifugal force on the fabric."

LG argues for the following construction of this terminology: "A wash chamber rotatable about a horizontal (i.e., not angled or tilted) axis of the wash chamber ... to cause fabric to tumble in the wash chamber."

The dispute here is over whether the term horizontal axis in the claims means that the washer's axis of rotation be predominantly or substantially horizontal, as Whirlpool contends, or strictly and absolutely horizontal, as LG would require. The Federal Circuit has held that the ordinary and accustomed meaning of a disputed claim term is presumed to be the correct one unless a different meaning is clearly set forth in the intrinsic materials, that is, the patent specification or prosecution history. *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1362-63 (Fed.Cir.1999). Dictionary definitions provide evidence of a claim term's ordinary meaning. *Abbott Labs. v. Syntron Bioresearch, Inc.*, 334 F.3d 1343, 1350 (Fed.Cir.2003).

Whirlpool submits a dictionary definition that it says makes clear that the term horizontal axis requires only

a direction that is predominantly horizontal and includes an axis that is angled or tilted slightly, such as at a 10 degree angle. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY (horizontal can mean "of, relating to, or situated near the horizon," or "placed or operating chiefly along a plane parallel to the horizon"). The Court also notes a definition of horizontal in the OXFORD ENGLISH DICTIONARY: "applied to various mechanical contrivances, or artificial structures, of which the whole or the main part lies in a horizontal direction."

LG offers various dictionary definitions supporting its strict construction of the term horizontal axis as not encompassing a wash chamber rotating about any axis that is not at a right angle to the vertical line, such as one rotating on a tilted axis. *See* THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (horizontal means "in the plane of the horizon" or "at right angles to a vertical line"); *id.* (axis means a "straight line about which a body or geometric object rotates or may be conceived to rotate"); WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY (horizontal means "parallel to the horizon: being on a level" or "measured or contained in a plane of the horizon"). Referring to one of Whirlpool's proffered definitions, LG argues that even an object operating "chiefly" along a plane parallel to the horizon must be on that plane a majority of the time, whereas a tilted axis is *never* operating along a plane parallel to the horizon.

The Court concludes that the dictionary definitions do not conclusively favor either side's view of the plain and ordinary meaning of the term horizontal. Some definitions favor LG's strict interpretation, while others tend to comport with Whirlpool's looser construction. In accordance with the Federal Circuit's direction, this Court concludes that the ordinary meaning of horizontal based on dictionary definitions encompasses both alternatives. *See* Inverness Med. Switzerland GmbH v. Warner Lambert Co., 309 F.3d 1373, 1378-79 (Fed.Cir.2002) ("Here there are two possibly pertinent definitions.... In such situations, a word that has an ordinary meaning encompassing two relevant alternatives may be construed to encompass both alternatives."); Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1203 (Fed.Cir.2002) ("If more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings.").

[7] In the face of multiple dictionary definitions, intrinsic evidence "is the most reliable guide to help the court determine which of the possible meanings of the terms in question was intended by the inventor to particularly point out and distinctly claim the invention." Texas Digital, 308 F.3d at 1203. The intrinsic evidence in this case confirms that the term horizontal axis should be construed as Whirlpool suggests. Prior art cited in the patent specification or the prosecution history constitutes intrinsic evidence. Kumar, 351 F.3d at 1368. During prosecution of the patents in suit, the applicants cited and described U.S. Patent Nos. 4,489,455, (Whirlpool Br. Ex. 4), and 4,489,574, (Whirlpool Br. Ex. 5), (collectively, "the Spendel patents"), as prior art disclosing horizontal axis washing machines. (370 patent, col. 1, lines 29-34.) The Spendel patents describe two types of washing machines, top loading and front loading: "The conventional method of washing textiles in an automatic home-type washing machine in the United States is carried out in either a top loading or front loading machine. The difference between the two machines is that in a top loader the wash basket is rotatable around a substantially vertical axis and in a front loader the wash basket is rotatable around a *substantially horizontal axis*." (Whirlpool Br. Ex. 4., col. 1., lines 27-34; Ex. 5, col. 1, lines 26-33.) (emphasis added) The applicants also cited Australian Patent No. 209,436 to Johnston ("the Johnston patent"), (Whirlpool Br. Ex. 7), as prior art disclosing a "horizontal axis washing machine." The Johnston patent discloses a "tumbler type washer" in which a basket rotates "about a generally horizontal axis" or, in other words, "an axis inclined substantially from the vertical." (Whirlpool Ex. 7, at 12.) These examples of prior art discussed in the prosecution history show that the term horizontal axis, when used to

describe front loading washing machines, includes wash baskets with a generally or substantially horizontal orientation. LG argues that Whirlpool could have used qualifiers such as "generally" or "substantially" in its claims, but the Court finds that these terms were unnecessary when they were already subsumed within the ordinary meaning of the word horizontal.

LG points out that during the prosecution, Whirlpool stated that "many attempts, as demonstrated in the patent art, have been made to obtain the advantages of both horizontal and vertical axis machines through the use of a tilted axis." (Response to Second Office Action at 8889, LG Br. Ex. 7.) But Whirlpool also stated that "these references are directed to two different types of processes, a horizontal wash process and a vertical wash process, which one of ordinary skill in the art would not find obvious to combine." (*Id.* at 8888.) More importantly, Whirlpool never distinguished the prior art tilted-axis machine on the basis of an exactly horizontal axis, nor did Whirlpool limit the term horizontal axis to mean absolutely perpendicular to vertical. *See* *Schwing GmbH v. Putzmeister Aktiengesellschaft*, 305 F.3d 1318, 1324 (Fed.Cir.2002) ("Although prosecution history can be a useful tool for interpreting claim terms, it cannot be used to limit the scope of a claim unless the applicant took a position before the PTO that would lead a competitor to believe that the applicant had disavowed coverage of the relevant subject matter."); *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1091 (Fed.Cir.2003) (explaining that claim terms should not be limited unless the "patentee intended to deviate from a term's ordinary and customary meaning or ... the patentee disclaimed or disavowed subject matter, narrowing the scope of the claim's terms," which requires that the patentee either "has clearly set forth a definition of the term different from its ordinary and customary meaning," or has used "words or expressions of manifest exclusion or restriction."). The Court finds nothing in the intrinsic evidence that would put the public on notice that Whirlpool sought to limit the meaning of horizontal from its broader ordinary and customary meaning.

Perhaps most importantly, ascertaining the meaning of horizontal axis requires reading the claim terms in context: "rotating said wash chamber about its *horizontal axis* with fabric therein at a spin speed to effect less than a one gravity centrifugal force on said fabric *such that said fabric will tumble* in said wash chamber." (emphasis added) This sentence as a whole, along with the prosecution history's discussion of the differences between horizontal and vertical machines, reveals that the distinguishing characteristic of a horizontal machine is that the fabric tumbles when it rotates at less than one gravity. Tumbling will occur regardless of whether the axis of rotation is perfectly horizontal or somewhat inclined, in contrast to a vertical or generally vertical machine, where the clothes stay on the bottom.

Accordingly, the Court adopts Whirlpool's proposed construction of the term horizontal axis.

2. Directing a Recirculating Spray ... Onto Fabric ... In Said Wash Chamber

[8] The construction of the phrase "*directing a recirculating spray ... onto fabric ... in said wash chamber*" is in dispute. This phrase appears in the following contexts: "*directing a recirculating spray* of concentrated detergent solution having a concentration level in the range of 0.5 to 12 % detergent by weight *onto said fabric* for a first period of time as said fabric is tumbling *in said wash chamber*" and "*directing a recirculating spray* of said lesser concentrated detergent solution *onto said fabric* for a second period of time as said fabric is tumbling." ('370 patent, claims 1, 8, 15.)

Whirlpool argues for the following construction: "This limitation does not preclude other actions on the fabric from also taking place in the wash chamber during the first period of time, i.e., it does not preclude the fabric from also tumbling through a pool of detergent solution in the wash chamber."

LG seeks the following construction: "Directing a recirculating spray onto fabric in a wash chamber that does not contain a pool of detergent solution."

The parties do not dispute the definitions of the words in this claim limitation. Rather, the issue of disagreement is whether the claims preclude the presence of a detergent solution pooled in the bottom portion of the wash chamber. LG argues that the claim language excludes a process whereby fabric tumbles through a pool of detergent solution (and therefore its process, which includes fabric tumbling through a pool, cannot infringe). To this, Whirlpool responds that just because the claim speaks of spraying recirculating solution while the fabric is tumbling in the wash chamber does not mean that the claim limitation precludes other actions on the fabric—such as tumbling through a pool of detergent solution—from also taking place during the same period of time.

[9] It is well established that open ended method claims can cover methods that include additional, unrecited, unclaimed steps. *See, e.g.,* Medichem, S.A. v. Rolabo, S.L., 353 F.3d 928, 933 (Fed.Cir.2003) ("The transition 'comprising' in a method claim indicates that the claim is open-ended and allows for additional steps.") (internal quotation marks and citation omitted). Where, as here, the claim limitation is written in an open ended format using the words "comprising a recirculating spray," an accused method can perform additional steps and still infringe. Given this language in the claim, the claim cannot be avoided simply by the addition of another step to the process.

LG acknowledges these principles but argues that during patent prosecution, Whirlpool disavowed a claim scope that would include clothes tumbling through a pool of detergent solution. Thus, LG contends, Whirlpool is no longer entitled to a construction of the claim that would include such a method, even if the claim itself would seem to endorse the construction Whirlpool seeks.

[10] Claim construction can depart from the plain meaning of a claim if there is a clear disavowal of claim scope in the specification. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1326 (Fed.Cir.2002). "Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed.Cir.2001); *Cultor Corp. v. A.E. Staley Mfg. Co.*, 224 F.3d 1328, 1331 (Fed.Cir.2000) ("Claims are not correctly construed to cover what was expressly disclaimed."). However, a "basic claim construction canon is that one may not read a limitation into a claim from the written description." *RF Delaware, Inc. v. Pacific Keystone Techs., Inc.*, 326 F.3d 1255, 1264 (Fed.Cir.2003). In order to overcome the "heavy presumption" afforded to the plain meaning of claim terms, the specification must evidence a clear disclaimer or a manifest exclusion. *See, e.g.,* *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906-907 (Fed.Cir.2004). "Absent a clear disclaimer of particular subject matter, the fact that the inventor may have anticipated that the invention would be used in a particular way does not mean that the scope of the patent is limited to that context." *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1355 (Fed.Cir.2003).

[11] In addition to the specification, a disclaimer or disavowal may arise from the prosecution history. *See* *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452 (Fed.Cir.1985) ("the prosecution history ... limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance").

In this case, LG contends that Whirlpool expressly disparaged and disclaimed the washing method of tumbling fabric in a pool of detergent solution because that process inhibited efficient use of water and energy. First, LG points to the background portion of the '370 patent, which announces that one of the objects of the claimed wash method was to approximate " 'traditional' cleaning levels, yet reduc[e] the energy and water usage." ('370 patent, col. 1, lines 67-68.) Some of those "traditional" methods from which the '370 patent purports to differ involved a fabric load that was "tumbled in the presence of the wash fluid for a given period of time" or where a "tumbling agitation of the clothes" occurs in a tub either half full of water and concentrated detergent or full of water and diluted detergent. (*Id.* at col. 1, lines 29-50.) However, these objects or goals of the invention do not necessarily limit the claims: "The court's task is not to limit claim language to exclude particular devices because they do not serve a perceived 'purpose' of the invention.... An invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that invention be limited to encompass all of them." *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370-71 (Fed.Cir.2003) (vacating district court's claim construction for limiting claims "in light of the perceived purpose served by the invention"); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 958 (Fed.Cir.1983) ("requiring that all claims must set forth inventions satisfying all objectives [stated in the patent] would make no sense"). On the other hand, *E-Pass Technologies* acknowledged that "[w]here claim language is ambiguous, the purpose of the invention described in the specification may, of course, sometimes be useful in resolving the ambiguity." 343 F.3d at 1370 n. 4 (citing *Apple Computer, Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 25 (Fed.Cir.2000)).

Next, LG maintains that the preferred embodiment of the '370 patent further reveals Whirlpool's disclaimer of tumbling clothes in a pool of solution. The preferred embodiment states: "Water level control is critical. Too much detergent solution added will create an over sudsing condition by allowing the spinning basket to contact detergent solution in the bottom of the tub. The preferred method of control is to maintain a minimum level of detergent liquor in the bottom of the tub through the water level sensor." ('370 patent, col. 6, lines. 8-11.) The preferred embodiment continues: "Accumulation of concentrated detergent liquor in areas other than the orifice to the pump, such as between the tub and the basket, increases the risk of the spinning/tumbling basket contacting the liquor and mechanically aerating it to the point which negatively affects recirculated spray flow patterns and remaining detergent liquor throughout the recirculation plumbing." ('370 patent, col. 7, lines 52-59.)

These passages could be understood to suggest that the preferred embodiment comprises a method whereby the fabric does not tumble through a pool of detergent solution. But the Court does not read the preferred embodiment to state a clear disclaimer or manifest exclusion of a claim scope permitting clothes to tumble through a pool of detergent solution. As the patent states, the method of water level control in the preferred embodiment is only "[t]he preferred method of control." ('370 patent, col. 6, lines 11-12.) Nowhere does the '370 patent expressly disavow tumbling fabric through a pool. What is more, the Federal Circuit has clarified that describing an embodiment-even a preferred embodiment-does not create a claim limitation. *See, e.g.*, *RF Delaware, Inc.*, 326 F.3d at 1263-64 (explaining that "claims are not necessarily and not usually limited in scope simply to the preferred embodiment" and emphasizing that "[a] basic claim construction canon is that one may not read a limitation into a claim from the written description"); *Teleflex*, 299 F.3d at 1326 ("Ficosa argues that where only one embodiment is disclosed in the specification, claim terms are limited to the embodiment disclosed....A review of [Federal Circuit cases] demonstrates that our precedent establishes no such rule."); *Id.* at 1327 (explaining that an accused infringer cannot overcome the "heavy presumption" that a claim term takes on its ordinary meaning simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed.Cir.2004) ("this court has expressly rejected the

contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment").

LG next cites the discussion of prior art in the prosecution history as evidence that Whirlpool disclaimed the pooling method. "Explicit arguments made during prosecution to overcome prior art can lead to narrow claim interpretations.... By distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover." *Lampi Corp. v. American Power Prods., Inc.*, 228 F.3d 1365, 1374 (Fed.Cir.2000) (internal quotation marks and citation omitted). In *Lampi*, the court found a claim limitation because during prosecution, "the patentee made unambiguous statements relinquishing" a method. *Id.*

Whirlpool's response to inquiries from the patent examiner explained how its invention differed from the prior art, asserting that "[t]he present invention is directed to a novel, water saving method of washing clothes" and "[t]he present invention attempts to optimize the mechanical effects of a small wash liquid without imparting damaging mechanical action between the clothes." (Response to Second Office Action at 3, 4, Whirlpool Br. Ex. 12.) The "rinse method" of the '718 patent was likewise "intended to minimize the amount of water and mechanical energy used as well as limiting the duration of the rinse cycle." (Amendment at 9006, LG Br. Ex. 8.)

LG discusses how Whirlpool sought to distinguish its invention from the prior art Johnston and Brenner patents. Whirlpool claimed that its wash process was "radically different from" the processes taught by these patents. (Response to First Office Action, at 1.) Whirlpool characterized the Johnston system as teaching the "use of a horizontal axis washer, tumbling clothes and repeatedly dropping them in a pool of detergent solution by adding additional water and subsequently tumbling the clothes through this diluted wash liquor." (*Id.* at 2.) Its invention differed from Johnson, Whirlpool argued, because "Johnson nowhere suggests the spraying of the detergent solution onto the clothes, in either the concentrated wash or the dilute wash step, let alone in both, as claimed in all of the claims of the present invention." (*Id.*) Whirlpool then described Brenner as teaching the "use of [a] vertical axis washer, spinning clothes while spraying the concentrated wash liquor at and through the clothes, and agitating the clothes in a pool of diluted wash liquor." (*Id.*) Its invention differed from Brenner, Whirlpool said, because "Brenner nowhere teaches or suggests that this process is applicable to a horizontal axis washer. Brenner nowhere teaches or suggests spraying concentrated wash onto tumbling clothes, as required by each of the claims pending in the present invention. Brenner nowhere teaches or suggests spraying diluted wash liquor into tumbling clothes, as is also required by each of the claims." (*Id.*) Whirlpool summarized that its invention was a "novel method of washing clothes in a horizontal axis washer wherein a concentrated detergent wash solution is sprayed onto tumbling clothes, this solution is then diluted, and then the diluted solution is sprayed onto tumbling clothes." (*Id.* at 1.) Whirlpool claimed that its invention differed from Johnston and Brenner because neither of those two patents "suggests either of the spraying steps of the present application, let alone the combination of these two spraying steps." (*Id.* at 2.) It is evident from these statements that Whirlpool viewed the distinguishing feature of its invention to be its spraying process.

The Court can find nothing in Whirlpool's communications with the patent examiner that disclaims a wash process whereby fabric tumbles through a pool of detergent solution. Whirlpool mentioned that Johnson and Brenner involved moving clothes through a pool of solution, but said that its invention differed from those patents, not because it excluded a pool, but because it involved spraying detergent solution on the clothing. The only language that even comes close to supporting LG's position is Whirlpool's statement that its invention "attempts to optimize the mechanical effect of a small amount of wash liquor without imparting damaging mechanical action between the clothes." (Response to Second Office Action at 4, Whirlpool Br.

Ex. 12.) That vague statement, whatever it means, certainly lacks the clarity required for a disavowal or disclaimer of allowing fabric to tumble through a pool of solution.

LG argues that this case resembles *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc.*, 242 F.3d 1337 (Fed.Cir.2001), where the Federal Circuit found a disclaimer of claim coverage based on language in the patent specification. First, SciMed cautioned that although courts may not read a limitation from the written description into the claims, the claims nonetheless must be read "in view of" and "in light of" the specification. *Id.* at 1340-41. Among other things, the specification in SciMed discussed disadvantages of prior art inventions and expressly stated that the definition of the structure in the specification, which did not include those disadvantageous features, comprised "all embodiments of the present invention contemplated and disclosed herein." *Id.* at 1342-43. The court therefore read the specification as "lead[ing] to the inescapable conclusion" that the patentee intended to limit the claim. *Id.* at 1342. In fact, the court found it "difficult to imagine how the patents could have been clearer" in making the disclaimer. *Id.* at 1344. The court held that when "the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent." *Id.* at 1341.

As explained above, no similarly clear disclaimer or manifest exclusion of tumbling through a pool of solution is evident in the specification or prosecution history of this case. *See Teleflex*, 299 F.3d at 1327 (claim construction can only depart from the plain meaning of the claim terms through "words or expressions of manifest exclusion or restriction that represent a clear disavowal of claim scope"); *see also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed.Cir.2004) (declining to apply SciMed because the patents at issue lacked a "clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction' ") (internal quotation marks and citation omitted); *Honeywell, Inc. v. Victor Co. of Japan, Ltd.*, 298 F.3d 1317, 1325-26 (Fed.Cir.2002) (declining to apply SciMed and holding that absent a clear disclaimer of claim scope, disadvantages of the prior art, as discussed by the specifications of any patents-in-suit, cannot limit claim scope).

Accordingly, the Court sides with Whirlpool and construes the phrase "directing a recirculating spray ... onto fabric ... in said wash chamber" as not precluding the fabric from also tumbling through a pool of detergent solution in the wash chamber.

3. A Concentration Level

[12] The construction of the phrase "*a concentration level*" is in dispute. This language appears in the following contexts: "directing a recirculating spray of concentrated detergent solution having *a concentration level* in the range of 0.5 to 12 % detergent by weight onto said fabric for a first period of time as said fabric is tumbling in said wash chamber"; "directing a recirculating spray of *said lesser concentrated* detergent solution onto said fabric for a second period of time"; and "a concentrateddetergent solution." ('370 patent, claims 1, 8, 15; '718 patent, claim 1.)

Whirlpool argues that the wording "having a concentration level in the range of 0.5 to 12 % detergent by weight" should be construed as follows: "This claim limitation means that the detergent solution may have a varying concentration level, i.e., in the range of 0.5 to 12 % by weight, during the first time period. The concentration level of the detergent solution may also, but is not required to, remain at a fixed level." Further, the phrase "said lesser concentrated detergent solution" should be construed to mean: "The detergent concentration level may vary or remain at a fixed level during the second period of time, but must

remain no less than 0.28 % detergent by weight."

LG argues for the following construction: "Concentrated detergent having a fixed concentration level in the range of 0.5 to 12% by weight" and "concentrated detergent solution having a fixed, lesser detergent concentration level."

The dispute pertains to whether the indefinite article "a" modifying "concentration level" means the solution concentration must be at a fixed level, or whether it may vary within the stated boundaries. Whirlpool contends that construing "a" as non-limiting and permitting a range of concentration levels accords with the ordinary meaning of the word, simple English sentence structure, and applicable precedent. According to the Federal Circuit: " 'This court has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.' Unless the claim is specific as to the number of elements, the article 'a' receives a singular interpretation only in rare circumstances when the patentee evinces a clear intent to so limit the article.' " *Scanner Techs. Corp. v. ICOS Vision Sys. Corp.*, 365 F.3d 1299, 1304 (Fed.Cir.2004) (quoting *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed.Cir.2000)). The preamble to the claim in which this disputed phrase appears contains the open ended word "comprising," but the phrase itself uses the word "having" (i.e., " *having* a concentration level"). The Federal Circuit has held that "having" may at times be construed as an open ended term as well. *See, e.g.*, *Lampi Corp. v. Am. Power Prods. Inc.*, 228 F.3d 1365, 1376 (Fed.Cir.2000); *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1573 (Fed.Cir.1997); *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1348 (Fed.Cir.2001) (explaining that the transition word "having" can make a claim open, although the term does not convey the open-ended meaning as strongly as "comprising" and thus should be considered in context). Nothing in the '370 patent, Whirlpool argues, evinces an intent to limit "a" to a singular interpretation. Whirlpool also notes that the specification discusses adding fresh water to the detergent solution during a wash cycle, ('370 patent, col. 6, lines 58-64: "Once the mixing tank 80 is emptied, fresh water is added through the detergent water valve 40, 42 and 76 as required by the water level sensor 140"), which necessarily means that the detergent concentration level varies.

LG counters that the indefinite article "a" should be construed to refer to detergent solutions with some fixed concentration level. The intrinsic evidence, LG contends, requires restricting this claim term to a single level. *See KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed.Cir.2000) ("[W]hen claim language or context suggest an ambiguity in application of the general meaning of an article, this court undertakes an examination of the written description and the prosecution history to ascertain whether to limit the meaning of 'a' or 'an.' "). The Federal Circuit looked to the claim language, specification, and prosecution to determine that the term "a metallic gas-confining chamber" had to be construed as limited to a single chamber in *Abtox, Inc. v. Exitron Corp.*, 122 F.3d 1019, 1023-24 (Fed.Cir.1997), *modified in part*, 131 F.3d 1009, 1010 (Fed.Cir.1997). The court relied on the fact that the specification contained repeated references to "said chamber." LG points out that in this case, the claim at various points discusses "said concentrated detergent solution" and "said lesser concentrated detergent solution." Based on *Abtox*, LG contends, the use of the word "said" in this case requires construing the claim to mean a single, fixed concentration level. The Court rejects this reasoning because "said" clearly modifies the term "solution," not "concentration level." In fact, the claims nowhere use the phrase "said concentration level."

LG next argues although "a" can mean "one or more," it can also receive a singular interpretation when the patentee evinces a clear intent to so limit the article. *Scanner Techs. Corp. v. ICOS Vision Sys. Corp.*, 365 F.3d 1299, 1304 (Fed.Cir.2004). The public record in this case, LG contends, reflects such an intent. LG

says that the disclosed preferred embodiment uses only single, fixed concentration levels. However, the mixing tank embodiment is merely one embodiment, and the Court may not read a limitation onto the claim from the written description. *RF Delaware, Inc. v. Pacific Keystone Techs., Inc.*, 326 F.3d 1255, 1263 (Fed.Cir.2003); *see also* *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed.Cir.2004) (claims will not be limited to the preferred embodiment absent "words or expressions of manifest exclusion or restriction" representing a clear intent to disavow claim scope). Moreover, as discussed above, the patent in fact appears to embrace varying concentration levels through the addition of fresh water.

LG goes on to point out that Whirlpool's communications with the patent office recited "a" concentrated solution, which again LG says means a fixed concentration level. The Court has already rejected this limited construction of the word "a." Finally, LG maintains that Whirlpool could have drafted the claims with words such as "variable" or "varying" but did not because it meant for the claim to cover only fixed concentration levels. Once again, this misses the point; the claim is drafted with open-ended language in order to allow for a range of concentration levels. *Cf. Insituform Techs., Inc. v. Cat Contracting, Inc.*, 99 F.3d 1098, 1106 (Fed.Cir.1996) (restricting "a" to a singular interpretation because "the claim is specific as to the number of elements (one cup) and adding elements eliminates an inherent feature (discontinuous vacuum) of the claim").

Accordingly, the Court adopts Whirlpool's construction of the phrase "a concentration level" as permitting varying concentration levels because there is no evidence of clear intent to limit the article.

4. Period of Time

[13] The construction of the phrase "*period of time*" is in dispute. It appears in the following contexts: "directing a recirculating spray of concentrated detergent solution having a concentration level in the range of 0.5 to 12 % detergent by weight onto said fabric for a first *period of time*"; "after said first *period of time*, diluting said concentrated detergent solution to a lesser detergent concentration level, no less than 0.28 % by weight, and spinning said wash chamber to effect less than a one gravity centrifugal force on said fabric that said fabric will again tumble"; "after said first *period of time*"; "directing a recirculating spray of said lesser concentrated detergent onto said fabric for a second *period of time*"; "for a third *period of time*." ('370 patent, claims 1, 8, 15, 17; '718 patent, claim 1.)

Whirlpool seeks the following construction: "The first period of time may vary and is not limited to any predetermined or specified length of time. The end of the first time period is marked by a termination of the recirculating spray and the tumbling of the fabric." "The second period of time may vary and is not limited to any predetermined or specified length of time." "The third period of time comes after the first and second periods of time. Nothing in this term requires the third time period to be of a particular or specified length of time." Whirlpool would construe the term to encompass both fixed or predetermined lengths of time, as well as varying or unspecified lengths of time.

LG argues for the following construction: "for a first predetermined period of time (i.e., predetermined concentrated wash period)"; "after the first predetermined period of time (i.e., predetermined concentrated wash period)"; "for a second predetermined period of time (i.e., predetermined diluted wash period)"; and "for a third predetermined period of time."

The dispute centers on whether "period of time" means only a predetermined length of time, as LG argues, or can encompass both predetermined and variable lengths of time, as Whirlpool argues. Dictionary

definitions of the word "period" support Whirlpool's position that the term is open ended. *See* NEW SHORTER OXFORD ENGLISH DICTIONARY ("period" is "a course or extent of time"); AMERICAN HERITAGE DICTIONARY ("period" is "an interval of time characterized by the occurrence of a certain condition or event"). These definitions contain no requirement for a predetermined or fixed length of time. Furthermore, the Court discerns nothing in the phrases "first period of time," "second period of time," and "third period of time" that requires the periods to be of particular or specified lengths. The words "first," "second," and "third" appear to serve no function beyond distinguishing one step from the other. *See* 3M Innovative Props. Co. v. Avery Dennison Corp., 350 F.3d 1365, 1371 (Fed.Cir.2003) ("In the context of claim 1, the use of the terms 'first ... pattern' and 'second ... pattern' is equivalent to a reference to 'pattern A' and 'pattern B,' and should not in and of itself impose a serial or temporal limitation onto claim 1.").

The '370 patent specification, LG argues, requires construing "period" to mean a predetermined time. In LG's view, the specification unambiguously discloses an automatic control system that chronologically cycles through preset or preselected steps whereby the recirculating spray of concentrated detergent solution is directed onto the fabric. The specification describes "a machine having a *presettable* sequential control means for operating a washer through a *preselected* program of automatic washing, rinsing, and extracting operations" ('370 patent, col. 2, lines 58-61) (emphasis added); the patent explains that the washing steps occur as "a predetermined period" or "designated time" ('370 patent, col. 6, lines 52-57, 67-68; col. 8, lines 26-30). Also, the specification speaks of "some predetermined period of time specified by the cycle type." ('370 patent, col. 6, lines 52-53.) In the diluted wash step, "[t]he type and length of tumbling action varies with the cycle desired"; for example, "maximum time may be selected for maximum soil removal, while lesser times offer less fluid flow and fabric flexing for delicates, silks, wools, sweaters, and other fine washables." ('370 patent, col. 8, lines 27-30.) Thus, LG maintains, the specification indicates that the first, second, and third periods of time are predetermined periods dictated by the user's needs. LG also argues that during the patent prosecution, the examiner's discussion of the Johnston patent revealed the examiner's understanding of "period of time" to mean a predetermined period of time. (Australian Patent 209,436 at 6, LG Br. Ex. 106 (discussing a "first period of time" and a "second period of time" and explaining that "[t]he agitation and scrubbing of the fabrics in the low level, highly concentrated solution is carried out for about five minutes or until the segment 59 engages the contact finger 72."))

The Court agrees with LG that the specification indicates that the time periods' lengths depend upon the user's choices. For example, if the user selects maximum soil removal, then the period will be one preset length; if the user selects delicates, then the period will be preset for a shorter length. It is true, as Whirlpool notes, that the period of time varies with the cycle type, but once the cycle type is selected, the time is fixed. The preferred embodiment, however, is only one example of the claimed invention. As the Court has stressed elsewhere in this Opinion, the claims are not to be limited to the preferred embodiment in the absence of "words or expressions of manifest exclusion or restriction" representing a clear intent to disavow the claim's scope, none of which appear in the intrinsic evidence of this patent. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed.Cir.2004). Just because Whirlpool's preferred embodiment appears to feature preset time periods does not mean that the claims are necessarily so limited. In addition, the word "predetermined" appears in the claims themselves only in claims 1 and 6 of the '718 patent, which both describe "repeating steps (d) and (e) a predetermined number of times." This language pertains to the number of times the recirculation process is repeated, not the length of any "period," and thus has no bearing on the construction of the term "period."

Accordingly, the Court adopts Whirlpool's construction of the phrase "period of time" to include both fixed, predetermined lengths and open, unspecified lengths.

5. Diluting and Will Again Tumble

[14] The construction of the phrase "*diluting ... and spinning ... such that said fabric will again tumble*" is in dispute. It appears in the following context: "after said first period of time, *diluting* said concentrated detergent solution to a lesser detergent concentration level, no less than 0.28 % by weight, *and spinning* said wash chamber to effect less than a one gravity centrifugal force on said fabric *such that said fabric will again tumble.*" ('370 patent, claims 1, 8, 15.)

Whirlpool argues for the following construction: "This claim step means that after the first period of time, the detergent solution is diluted to a lower detergent concentration level of at least 0.28 % by weight. Also, after the first period of time, the wash chamber must again be spun at a speed effecting less than one gravity of centrifugal force on the fabric such that the fabric 'will again tumble' in the wash chamber. This diluting claim step occurs at some point following the first period of time; therefore this step must occur after the recirculating spray and the tumbling action have stopped (i.e., actions which characterize the first period of time)."

LG argues for the following construction: "After the first predetermined period of time (i.e., predetermined concentrated wash period), diluting the concentrated detergent solution to a fixed, lesser detergent concentration level, no less than 0.28 % by weight, and spinning the wash chamber ... to cause the fabric to tumble in a wash chamber. Dilution of the concentrated detergent solution is initiated as the result of the completion of the predetermined concentrated wash period (i.e., not as a result of maintaining a predetermined liquid level in the wash chamber)."

The issue in dispute is whether the claim requires the tumbling action to stop between two steps. Whirlpool argues that the recirculating spray and tumbling action occurs in a first step, then stops during the dilution, and then resumes again in a second step. LG maintains that the claims permit the recirculating spray and tumbling action to continue uninterrupted, with no intermittent termination of wash chamber rotation. The Court can find nothing in the plain language of the claims requiring the tumbling to stop and start again. Whirlpool's dictionary definitions do not require the construction it seeks. The word "after" defined as "behind in place or order" or "at a later time than" contains no requirement for an interruption between two actions-it only requires that the one follow the other. *See AMERICAN HERITAGE DICTIONARY*. Likewise, "again" defined as "once more; anew" does not require an interruption. *See AMERICAN HERITAGE DICTIONARY*. The claim states that "after the first period of time," the fabric will "again tumble," which can be understood to mean that when the first period ends and the next step ensues, the fabric continues tumbling without having stopped. FN1 Neither does the word "then" separating two steps necessarily require a break in an action; a first step can occur, and then another step following it, without the tumbling action ceasing and restarting. FN2

FN1. Fabric can alternate between tumbling and not tumbling without a stop in the chamber's spinning. Fabric tumbles when the rotation is at less than 1 gravity, while it sticks to the outside of the chamber when rotating at more than 1 gravity due to centrifugal force.

FN2. Whirlpool illustrates its construction of the word "then" with the following example: "He stayed up late watching the movie, then went to bed." The person in Whirlpool's example watches a movie, stops, and then does something else. But the word "then" can readily be used in a context involving no stopping and

starting, but rather an uninterrupted transition. For example, "He drove at 65 miles per hour, then drove at 55 miles per hour."

Whirlpool argues, and the Court agrees, that the prosecution history discloses a process involving distinct steps. In response to the examiner, Whirlpool characterized its invention as involving "two distinct spraying steps," first, "a concentrated spray and tumble step," and second, "a diluted spray and tumble step." (Response to Second Office Action at 3, Whirlpool Br. Ex. 12.) This description evinces that the difference between the two steps is that in the first step the spray is concentrated, whereas in the second step the spray is diluted. Nothing in this description, however, suggests that the tumbling must stop and restart between the steps, even if the chamber spins at different speeds at various times.

Accordingly, the Court adopts LG's construction that "diluting and tumbling again after the first period of time" does not require the tumbling to stop between steps. The claim includes a scenario where clothes continuously tumble without interruption.

6. Mixed Prior To

[15] The construction of the phrase "*mixed prior to*" is in dispute. It appears in the following context: "said concentrated detergent solution is *mixed prior to* being directed onto said fabric." ('370 patent, claims 2, 9, 16.)

Whirlpool seeks the following construction: "This claim element means that detergent and water are combined to form the concentrated detergent solution before the resulting solution is sprayed onto the fabric. There is no limitation or restriction as to the location where the mixing occurs, i.e., the mixing is not required to occur in a mixing tank or a zone separate from the fabric and the wash chamber."

LG seeks the following construction: "The concentrated detergent solution having a fixed concentration level in the range of 0.5 to 12 % by weight is mixed in a zone separate from the fabric and the wash chamber prior to being directed onto the fabric in the wash chamber."

The dispute turns on whether the claim limits not only when the mixing occurs, but where. The plain, ordinary meaning of the claim language supports Whirlpool's position. The claim speaks of mixing the detergent solution prior to directing it onto the fabric; it says nothing about where the mixing must occur, whether it be inside the wash chamber or in a mixing tank or other separate location. Moreover, neither the ordinary meaning nor any dictionary definitions of "mix" embrace a locational requirement.

In spite of the unambiguous meaning of the terms, LG argues that the patent specification discloses a requirement for the mixing to occur in a mixing tank. The Court rejects this argument for several reasons. First, although one embodiment discloses a mixing tank, that is not the only embodiment. ('370 patent, col. 3, lines 31-34 ("A mixing tank 80, as shown in FIG. 3, forms a zone for receiving and storing a concentrated solution of detergent during a wash cycle, and is used in *some* embodiments of the invention.") (emphasis added)) Second, the mixing tank embodiment is not the preferred embodiment. ('370 patent, col. 6, lines 35-36 ("In the preferred embodiment of the invention a mixing tank is not utilized.")) The fact that the word "mix" is used to describe events both inside and outside of a mixing tank shows that "mixing" can happen in both places.

Accordingly, the Court adopts Whirlpool's construction that the claim does not require mixing to occur in any particular location such as a separate mixing tank.

7. Introducing Onto

[16] The meaning of the term "*introducing ... onto*" is in dispute. It appears in the following context: "*introducing* concentrated detergent solution having a concentration level in the range of 0.5 to 12 % by weight *onto* said fabric as said fabric is tumbling." (370 patent, claims 8, 15.)

Whirlpool seeks the following construction: "This claim step means that concentrated detergent solution in the range of 0.5 to 12 % by weight is introduced into the wash chamber by directing the concentrated detergent solution onto (i.e., on top of) the fabric as the fabric is tumbling in the wash chamber."

LG argues for the following construction: "Introducing concentrated detergent solution ... onto the fabric in a wash chamber that does not contain a pool of detergent solution as the fabric is tumbling in the wash chamber. Introducing onto said fabric is not limited to introducing solution to only the top of the fabric."

The dispute is whether "introducing solution onto fabric" requires that the solution originate at a point vertically above the fabric. Whirlpool argues that the ordinary meaning of "onto" means "on top of, upon," AMERICAN HERITAGE DICTIONARY and thus the claim requires that the solution be introduced from above the clothes. LG counters that a definition of "upon" is "used to indicate contact with or extent over (a surface) regardless of position," which suggests that the contact may occur from any direction. AMERICAN HERITAGE DICTIONARY. The Court finds the dictionary definitions ambiguous and that the ordinary meaning of "onto" does not require movement from top to bottom. For example, someone painting his living room ceiling would be "introducing" paint "onto" the ceiling, but of course would do so from bottom to top. Thus, the Court construes the terminology to encompass contact from any direction. *See Inverness Med. Switzerland v. Warner Lambert Co.*, 309 F.3d 1373, 1379 (Fed.Cir.2002) ("[A] word that has an ordinary meaning encompassing two relevant alternatives may be construed to encompass both alternatives.").

Accordingly, the Court adopts LG's proposed construction of "directing ... solution ... onto said fabric."

8. Sensing

[17] The meaning of the term "*sensing*" is in dispute. It appears in the following context: "*sensing* an amount of concentrated detergent being released from said tumbling fabric." (370 patent, claims 8, 15.)

Whirlpool argues for the following construction: "This claim step means that the washer detects the level or amount of detergent solution in the washer, and perceives a particular level or amount of detergent solution as an indication that the fabric is (or is not) fully saturated with detergent solution. Sensing may occur regardless of whether there is pooling of detergent solution in the wash chamber."

LG argues for the following construction: "Sensing an amount of concentrated detergent solution that is released from the tumbling fabric (i.e., not sensing the level of a pool of detergent solution in the wash chamber as the fabric tumbles)."

The dispute is not about the meaning of the term "sensing," but rather what is being sensed. According to LG, the word "sensing" must be understood in its context in the claim, which discusses "sensing an amount

of concentrated solution *being released from said tumbling fabric.*" (emphasis added) In LG's device, the detergent solution is located in a pool that reaches above the lower portion of the spin drum containing the clothes. Thus, the fabric never "releases" solution, making it impossible to "sense" the "amount of ... solution being released." This system, LG argues, contrasts with Whirlpool's disclosed systems which keep the water level below the wash chamber and enable the machine to "sense" the amount of solution that drips down (i.e., is "released") from the clothes into the pool.

Whirlpool argues that LG is attempting to read a negative limitation into the claim based upon how a Whirlpool machine may work, when no such limitation arises from the claim itself. *See* RF Delaware, Inc. v. Pacific Keystone Techs., Inc., 326 F.3d 1255, 1263 (Fed.Cir.2003) (a basic claim construction canon is that one may not read an unstated limitation into a claim).

The Court disagrees with Whirlpool because regardless of the specification, prosecution history, or how Whirlpool's machines may operate, the claim language supports only LG's construction. The claim does not, as Whirlpool would now have it, describe sensing an amount of solution *in the wash chamber*. Rather, it requires sensing the amount of solution *released from the fabric*. It defies both the ordinary meaning of "release" and common sense to suggest that clothes sitting in a pool of solution can at the same time "release" an amount of solution that can then be "sensed." The only logical view of the claim is that it requires a method whereby the clothes are elevated above the pool of solution, the level of which can be measured (i.e., "sensed") to determine how much solution drips down from (i.e., is "released" from) the clothes. Whirlpool's proposed construction would impermissibly read the phrase "released from said tumbling fabric" out of the claim. *See* Apple Computer, Inc. v. Articulate Sys., Inc., 234 F.3d 14, 25 (Fed.Cir.2000) (rejecting interpretation of language in a claim so broadly as to read the limitation out of the claim).

Accordingly, the Court adopts LG's proposed construction of the phrase "sensing an amount of concentrated detergent being released from said tumbling fabric."

9. Terminating ... Just After ... Full Saturation

[18] The meaning of the word "terminating" is in dispute. It appears in the following context: " *terminating* the introduction of concentrated detergent solution into said wash chamber just after said fabric has reached a full saturation level at said spin speed." ('370 patent, claims 8, 15.)

Whirlpool seeks the following construction: "This claim step means that the introduction of concentrated detergent solution into the wash chamber is stopped shortly after the fabric reaches a full saturation level at the spin speed. Full saturation at the spin speed means that the fabric has absorbed an amount of detergent solution to come to equilibrium with respect to detergent solution retention at the particular spin speed. There is no requirement that the introduction is terminated for any particular reason."

LG argues for the following construction: "Terminating the introduction of concentrated detergent solution (i.e., not fresh water) into the wash chamber just after sensing that the fabric in the wash chamber has reached a full saturation level at the recited spin speed (i.e., not as a result of maintaining a predetermined liquid level in the wash chamber)."

LG does not dispute Whirlpool's interpretation of the phrase "just after full saturation" as meaning "shortly after" the fabric has reached a full saturation level at the recited spin speed. The issue is whether the claim

contains the limitation that the termination not be the result of maintaining a predetermined liquid level in the wash chamber.

The Court agrees with Whirlpool that the claim does not include LG's proposed limitation of the word "terminating." The plain language of the claim requires only that the direction of concentrated detergent solution terminate just after the machine senses that the fabric has reached a "full saturation level at said spin speed." Nothing in the claim language limits the word "terminating" to any particular reason or cause, so long as the machine senses that the fabric is fully saturated, and LG has pointed to nothing in the intrinsic evidence suggesting differently. Also, LG does not contest Whirlpool's construction of "full saturation at said spin speed" as meaning that the fabric has absorbed sufficient detergent solution so as to come to equilibrium saturation at that particular spin speed. LG points out that its machine's system of pooling clothes in solution makes it impossible to "sense" whether the clothes are "fully saturated," but that is an argument (perhaps a strong one, given this Court's ruling on the meaning of "sensing") for the infringement case, not for claim construction.

Accordingly, the Court adopts Whirlpool's construction of these claim terms.

10. Fresh Water Added To Cool Said Fabric

[19] The meaning of the phrase "*fresh water is added to cool said fabric*" is in dispute. It appears in the following context: "prior to draining said lesser concentrated detergent solution from said wash chamber, *fresh water is added to cool said fabric.*" (370 patent, claims 4, 11.)

Whirlpool argues for the following construction: "This claim element means that prior to draining, fresh water is added to the washer and the fresh water has the effect of cooling fabric in the washer, regardless of the reason for added the fresh water."

LG seeks the following construction: "Fresh water (i.e., not a solution of water and another additive) is added for the intended purpose of cooling the fabric and not added for other purposes."

The primary dispute with respect to this phrase is whether it establishes a limitation that fresh water be added with the intention or purpose of cooling the fabric. The Federal Circuit held in *Dow Chem. Co. v. Mee Indus.*, 341 F.3d 1370, 1380 (Fed.Cir.2003) that "the motive of the accused infringer when performing a claimed method is simply not relevant." Based on *Dow*, Whirlpool argues that even if water is added for an entirely different reason than to cool the fabric, infringement would not be avoided because the reasons why water might be added are irrelevant. However, Whirlpool's reliance on *Dow* is misplaced. *Dow* was a patent infringement decision, rendered after the claims had been construed, which stands for the proposition that a person who practices a claimed method infringes regardless of the person's subjective intent or motive. The present action, in contrast, remains at the claim construction stage, where the Court's task is not to determine infringement, but rather the proper interpretation of the claims. *Dow* thus has no bearing on the issue now before the Court.

The Court concludes that the plain and ordinary meaning of the phrase is that the purpose clause, "to cool said fabric," necessarily modifies the clause describing the action, "fresh water is added." No other construction of the language makes sense. Thus, the Court construes the language to contain LG's proposed limitation and rejects Whirlpool's attempt to delete it from the claim. Intrinsic evidence only serves to confirm the purpose limitation. The patent specification describes the cooling purpose for the addition of

fresh water: "In some embodiments, where extremely high temperatures are used during the tumble wash, water is added at the end of the tumble wash cycle *to cool* the clothes load, and the wash water." ('370 Patent, col. 8, lines 38-41.) (emphasis added) Elsewhere in the patent, Whirlpool discusses the introduction of water for purposes other than cooling the fabric, such as to dispense fabric softener during the spray rinse. ('370 patent, col. 9, lines 36-41.) It is therefore clear that when Whirlpool added the purpose language to the claim, it did so for a reason and meant it to require that the fresh water actually cools the fabric.

Another point of dispute concerns the meaning of "fresh water." Whirlpool says "fresh water" simply refers to water that is added to the washer from outside (i.e., the tap), and what happens to the water once it enters the washer, such as whether it flows through a bleach dispenser or acquires detergent residue, is irrelevant. LG argues that "fresh water" means clear water only, not a solution of water and some other additive or wash water residue. Neither party offers dictionary definitions for the term, and the Court concludes that its meaning is ambiguous and thus looks to intrinsic evidence. In the '370 patent specification, the only disclosed method of adding fresh water is through the detergent or wash additive dispensers, which necessarily means that "fresh water" must be construed in accordance with Whirlpool's proposal, as it would be impossible for "fresh water" as understood by LG to enter the machine. ('370 patent, col. 3, lines 12-24.) The word "fresh" in the claim takes on a meaning something like "new" or "additional" or "more."

Accordingly, the Court construes the phrase "fresh water is added to cool said fabric" as requiring that the water be added for the purpose of cooling the fabric (i.e., the Court adopts LG's proposed construction). However, the term "fresh water" does not mean clear water without any additives or wash residue (i.e., the Court adopts Whirlpool's proposed construction).

11. Rinsing by Spraying

[20] The construction of the phrase "*rinsing by spraying*" is in dispute. It appears in the following contexts: "*rinsing said fabric by spraying water directly onto said fabric and recirculating water to said wash chamber by spraying and recirculating water directly onto said fabric*" and "*rinsing said fabric by adding water by spraying water directly onto said fabric and recirculating water by spraying water directly onto said fabric to and within said wash chamber.*" ('718 patent, claims 1, 6.)

Whirlpool seeks the following construction: "This claim step means that the fabric is rinsed by spraying water directly onto the fabric, and as the rinse water drains from the fabric it is pumped back through the sprayer to form a recirculating spray of rinse water that is then sprayed directly onto the fabric. This does not require that the water is absolutely free from any residual or remaining detergent solution, or that the water may not have contacted the fabric in the wash chamber, prior to rinsing."

LG argues for the following construction: "Rinsing the fabric in the wash chamber by spraying fresh water directly onto the fabric and recirculating rinse water to the wash chamber by spraying the recirculating rinse water directly onto the fabric" and "rinsing the fabric in the wash chamber by added fresh water by spraying fresh water directly onto the fabric and recirculating rinse water by spraying rinse water directly onto the fabric."

The dispute here is whether the term "water" means "fresh water." The claim never uses the term "fresh," specifying only that "water" is sprayed and recirculated during the rinsing step, but LG argues that the claim should be construed as containing the "fresh" limitation for two reasons. First, in LG's view, the ordinary meaning of the claim term "rinse" does not include flushing with dirty or soapy water. *See* MERRIAM-

WEBSTER'S COLLEGIATE DICTIONARY ("rinse" means "to cleanse (as of soap used in washing) by clear water"); THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE ("rinse" means "to remove (soap, for example) by washing lightly in water"). Second, LG argues, the only disclosed embodiment in the '718 patent specification recites a "fresh" water limitation, stating: "In step 524, the *fresh water* is sprayed directly onto the spinning clothes load. The water dilutes the detergent in the clothes as it passes through the load and basket. The rinse water drains down into the tub and is pumped back through the nozzle 51 to form a recirculation loop." ('718 patent, col. 9, lines 14-19.) (emphasis added). Third, LG contends, Whirlpool represented in the prosecution history that the claim required a first "fresh water" spray and then a recirculating rinse water spray: "As claimed in Independent claims 1 and 6, *fresh water* and then recirculated rinse liquor is sprayed directly onto the fabric while the fabric is tumbling and then the water is drained." (Whirlpool Response Br. at 12.) (emphasis added). Moreover, Whirlpool told the examiner that the prior art did not suggest "spraying of *fresh water* at a tumble speed" as "required by one or more of the claims." (Amendment at 16, LG Br. Ex. 8.) (emphasis added). FN3 LG points out that "[a] deviation[from the ordinary meaning] may be necessary if a patentee has relinquished a potential claim construction in an amendment to a claim or in an argument to overcome or distinguish a reference." *Interactive Gift Express, Inc., v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed.Cir.2001) (internal quotation marks and citation omitted).

FN3. Whirlpool suggests that the use of the word "fresh" during patent prosecution was in error and should not impact claim construction, citing *Intervet Am., Inc. v. Kee-Vet Labs., Inc.*, 887 F.2d 1050, 1054 (Fed.Cir.1989) ("When it comes to the question of which should control, an erroneous remark by an attorney in the course of prosecution of an application or the claims of the patent as finally worded and issued by the Patent and Trademark Office as an official grant, we think the law allows for no choice. The claims themselves control.").

The Court concludes that the claim step requires a rinse spray of "fresh" water, but as the Court has already discussed, the word "fresh" is not limited as LG desires. Instead, "fresh water" only means newly added water brought into the machine through cold water valves 45 and 76 and channeled via the detergent dispenser. The limitation does not require that the water sprayed onto the fabric is absolutely and perfectly free from any residual detergent solution. Instead, the "fresh water" may contain some residual detergent solution, and it may come in contact with the fabric as it passes to the bottom of the washer. In short, "fresh water" means water newly brought into the machine from the outside.

III. Conclusion

The Court construes the disputed claim terms as set forth above for the reasons stated.

An Order consistent with this Opinion will follow.

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