United States District Court,
D. New Hampshire.

KWENCH SYSTEMS INTERNATIONAL, LLC,
v.
UPONOR WIRSBO COMPANY.

Civil No. 07-cv-221-JM

Nov. 5, 2008.

Alexander J. Walker, Jonathan M. Shirley, Devine Millimet & Branch PA, Manchester, NH, for Plaintiff.

David D. Christensen, Jackson Ho, Michael E. Zeliger, K & L Gates LLP, Boston, MA, for Defendant.

ORDER

JAMES R. MUIRHEAD**, United States Magistrate Judge.**

The plaintiff, Kwench Systems International, LLC ("Kwench") has filed an action for patent infringement against Uponor Wirsbo Company ("Uponor"). On September 9, 2008, the court conducted a *Markman* hearing, at which the parties presented evidence and argument in support of their respective constructions of the disputed patent terms. *See* Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996). In this Order, I construe the disputed patent terms.

I. BACKGROUND

A. General Description of the Patented Invention

The patents-in-suit are U.S. Patent Nos. 6,044,911 (the '911 patent), 6,241,024 (the '024 patent), and 6,422,319 (the '319 patent). All three patents disclose "[a]n integrated water distribution network [that] supplies the requirements of both domestic and fire sprinkler water fixtures in a dwelling structure." '911 patent, Abstract. FN1

FN1. For ease of reference, I cite to the '911 patent's specification where the patents-in-suit are substantively identical.

Previous sprinkler systems require a large-diameter water supply main and are " 'stagnant' water systems, in that the water flows within the system only when a sprinkler head is activated." Id. col. 1:22-24. These sprinkler systems "require regular inspections of system operability as it is critical that water under pressure be supplied to the various sprinkler assemblies." Id. col. 1:46-48. On the other hand, domestic water systems cannot be "stagnant" for a variety of reasons (codes, regulations, etc.). Id. col. 1:27-30. As a result, domestic and fire-sprinkler water systems have been separate which "is both uneconomical ... and environmentally

disadvantageous." Id. col. 1:38-40. The applicant's invention overcomes these shortcomings by integrating a domestic water system with a fire-sprinkler system. Id. col. 2:8-11.

B. The Claims

The relevant claim language from the three patents-in-suit is substantially similar. The parties dispute four patent terms: plumbing fixture; substantially non-stagnant; integrated; and backflow diverter-less. Claim 1, which is representative of the independent claims, is reproduced below, with the disputed terms in boldface.

1. An **integrated** water distribution system for supplying both domestic water and fire sprinkler water requirements of a structure, said system comprising: FN2

FN2. The '319 patent's first independent claim has the same preamble but adds the term "backflow diverter-less," so that it reads: "[a]n integrated **backflow diverter-less** water distribution system .... " '319 patent, col. 7:38. The term "backflow diverter-less" is also in dispute.

a plurality of multiport fittings being adapted to be secured within the structure, each of said plurality of multiport fittings having a plurality of ports, each of said plurality of multiport fittings capable of being fluidly coupled to a fire sprinkler assembly;
a plurality of flexible conduit interconnecting said plurality of multiport fittings through said plurality of ports, said plurality of flexible conduit establishing a network, and each of said plurality of flexible conduit within said network being capable of carrying a water flow;

a plurality of **plumbing fixtures,** each being fluidly connected to the network through a fixture conduit, wherein upon occupant use of any one or more of said plumbing fixtures, said water flow through each of said flexible conduits interconnecting said plurality of multiport fittings is **substantially non-stagnant;** and

a water supply line fluidly coupled to the network, for supplying the system with water relating to the occupant use.

'911 patent, col. 5:7-30.

C. Prosecution History

The patents-in-suit are links in a chain of continuation and continuation-in-part applications that began with the first application in 1996. The '911 patent is a continuation-in-part of U.S. Patent Application 08/904,355, which was a file-wrapper continuation of the applicant's first application, U.S. Patent Application 08/709,121.FN3 The ' 024 patent is a continuation-in-part of the ' 911 patent while the ' 319 patent is a continuation-in-part of the ' 024 patent.

FN3. The 08/904,355 and 08/709,121 applications eventually were abandoned.

II. CLAIM CONSTRUCTION

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.' " Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed.Cir.2005) (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1115 (Fed.Cir.2004)).

Claim construction is a question of law. Markman, 517 U.S. at 372. A claim term must be assigned "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Phillips, 415 F.3d at 1313.

A disputed term should be construed by first examining the intrinsic evidence, which includes the claim language, the specification, and the prosecution history. Id. at 1314. The "claims 'must be read in view of the specification, of which they are a part.' " Id. at 1315 (quoting Markman v. Westview Instruments, 52 F.3d 967, 978 (Fed.Cir.1995) (en banc)). Moreover, the specification is usually " 'the single best guide to the meaning of a disputed term.' " Phillips, 415 F.3d at 1314 (quoting Markman, 52 F.3d at 979). The prosecution history should also be consulted to clarify "how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it otherwise would be." *Id*. at 1317.

After examining the intrinsic evidence, courts may also refer to extrinsic evidence such as dictionaries, treatises, and expert testimony when necessary to fully understand the scope of a claim. *Id*. at 1317-18. These sources must be "considered in the context of the intrinsic evidence." *Id*. at 1319. "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention [in the specification] will be, in the end, the correct construction." *Id*. at 1316.

III. Analysis

A. Plumbing Fixtures

The first dispute focuses on what the patent claims when it uses the term "plumbing fixture." That term is used in independent claim 1 of the '911 patent, which recites:

a plurality of plumbing fixtures, each being fluidly connected to the network through a fixture conduit, *wherein upon occupant use of any one or more of said plumbing fixtures, said water flow* through each of said flexible conduits interconnecting said plurality of multiport fittings *is substantially non-stagnant*.

'911 patent, col. 5:21-26 (emphasis added). While the parties agree the claim contemplates that using a plumbing fixture will cause water to flow, they disagree about whether a plumbing fixture must also drain water away. Kwench argues that a plumbing fixture is "a device connected to the system to deliver and drain away water and configured to enable a particular use." Pl.'s Rebuttal Br. (document no. 30) at 3. Uponor argues, by contrast, that a plumbing fixture has a much broader construction and means any "component other than a fire sprinkler that receives water from the water supply of the structure," Def.'s Rebuttal Br. (document no. 31) at 3, with no draining away requirement. I am not persuaded by Kwench's construction, that a plumbing fixture must include a draining capacity, for the following reasons.

1. The Specification

Kwench begins with the specifications to support its construction of a plumbing fixture to include a draining away requirement. Kwench relies heavily on the fact that the specifications' examples of plumbing fixtures all drain water away, like the faucet with a sink depicted, and argues that the court should take judicial notice of this. *See* '911 patent, col. 3:4-5 (listing "a water closet **22**FN4, tub, vanity sink **24,** or kitchen sink **26**"); *see also* Pl.'s Br. at 22-23. These illustrations, however, are only examples of plumbing fixtures, and do not serve to limit the scope of the claims. *See* C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 865 (Fed.Cir.2004) ("Under our precedent, a patentee's choice of embodiments can shed light on the intended

scope of the claim, but a patent claim term is not limited merely because the embodiments in the specification all contain a particular feature."). Despite the embodiments showing a faucet and sink together, nothing in the specification supports the conclusion that the term "plumbing fixture" is limited to a faucet and sink as one unit rather than a faucet alone, nor supports the conclusion that a drain is a necessary component of a "plumbing fixture." When, as here, the applicant has not demonstrated a clear intention to limit the scope of the claims, a restriction cannot be read into them. *See* Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed.Cir.2004). If Kwench had intended "plumbing fixtures" to be limited to devices which drain away water, he could and should have said so in the independent claims, or made that limitation clear in the specification. Id. at 908-09.

FN4. The bolded numbers cited are from the written description of the patents and refer to corresponding elements in the patent's drawings.

Next, and in response to Uponer's position that a plumbing fixture may include a faucet or other outlet which need not be connected to a drain, Kwench argues that the specification language describes "plumbing connections or attachments" as, among other things, valves, rendering "valves and other devices that simply release water" "entirely distinct" from plumbing fixtures.FN5 *See* Pl.'s Rebuttal Br. at 8; Pl.'s Br. at 24. This language, however, simply indicates that valves may operate as plumbing connections or attachments, but it does not suggest, let alone substantiate, Kwench's position that a valve cannot also be a plumbing fixture because it does not drain water away. When that language is read in context, it is clear that the valves described as plumbing connections or attachments were internal to the system (e.g., "unidirectional flow valves," ' 024 patent, col. 3:15), were considered part of the water distribution system, and were not depicted in Figures 1-4 because they were well known to people skilled in the art and, therefore, were not necessary to show. *See* id., col. 3:18-21.

FN5. The specification language on which Kwench relies provides, in relevant part:
Additional plumbing connections or attachments such as *valves,* piping, expansion tanks, pipe fittings (elbows, tees, etc.) are all well know [sic] in the art of plumbing.... These additional components, which may be needed to fully implement a functional water distribution system according to the present invention, are well known to those skilled in the art and are not shown in the exemplary environment of FIGS. 1-4.

'024 patent, col. 3:12-22 (emphasis added).
By contrast, the patents depict a faucet and sink in Figures 1-4, which suggests that Kwench considered valves that released water, like faucets, to be plumbing fixtures that were important to show, unlike the "plumbing connections or attachments ... not shown in the exemplary environment." Id. col. 3:22. The claims also recite that "upon occupant use of any one or more of said plumbing fixtures" water will flow. *See, e.g.,* '911 patent, col. 5:24-25. Significantly, the claims do not continue on to state that upon occupant use of said plumbing fixture water will also drain away. Because use of a faucet will cause water to flow, a faucet is reasonably understood to be a type of plumbing fixture within the scope of the claims. This construction of plumbing fixture to include outlet valves, like faucets, is not precluded by the specification language describing "plumbing connections or attachments" to include valves. The term "valve" is reasonably understood to cover both possibilities.

Simply because valves that are plumbing connections or attachments do not drain away water, does not mean that valves that are plumbing fixtures must drain water away. Nothing in the specification supports

such a limited construction of the term "plumbing fixture." The requirement for "occupant use" of the plumbing fixture, and the depiction of a faucet and a sink, strongly support a construction of "plumbing fixture" to include all the component parts that deliver or receive water, which may, but must not necessarily, also drain water away.

2. The Prosecution History

The prosecution history also undermines Kwench's argument that a plumbing fixture must drain water away and, therefore, does not include any valve or other device that simply releases water. During prosecution of the 08/709,121 application, the applicant implied that faucets were plumbing fixtures by describing his invention as a "distribution network [that] functions in both ways," where "water continuously flushes through the pipes *whenever a faucet is turned on* or a toilet is flushed." Def.'s Rebuttal Br., Ex. G at UPR003504 (emphasis added). Thus, the applicant understood that a faucet, without a drain, is sufficient to make water flow through the system.

3. Extrinsic Evidence

Finally, Kwench cites several dictionary definitions to support the proposition that a plumbing fixture drains water away. *See* Pl.'s Br. at 23 (citing DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS (McGraw Hill, 4th ed.1989), and Int'l Ass'n of Plumbing & Mechanical Officials, *Unif. Plumbing Code,* Ch. 2, 202.0 (1994)). The term "plumbing fixture," however, has several dictionary definitions, including ones that comport with Uponor's proposed construction. *See* Def.'s Rebuttal Br. at 3 (citing A.S.S.E. Plumbing Dictionary). In fact, the Uniform Plumbing Code, which Kwench proffers as support for its construction, includes an alternative definition in line with Uponor's construction. *See* Pl.'s Br. at 23 (citing *Unif. Plumbing Code,* Ch. 2, 202.0 (1994)); *see also* Pl.'s Rebuttal Br. at 7 (citing Int'l Code Council, *Int'l Plumbing Code* (2006), which defines plumbing fixture to include, alternatively, a receptacle that demands water, or a device that discharges water, or requires *both* a water supply connection and a discharge (emphasis added)). This extrinsic evidence demonstrates that a plumbing fixture does not necessarily need to drain water away.FN6

FN6. Kwench also argues that a plumbing fixture should be limited by the clause "configured to enable a particular use." Nothing in the record supports this construction, and Kwench's reliance on extrinsic evidence is both unpersuasive and insufficient, requiring no further analysis.

As the above discussion demonstrates, Kwench's construction of the term plumbing fixture is not supported by either the intrinsic or the extrinsic evidence on which it relies. Accordingly, I adopt Uponor's construction, that a "plumbing fixture" is a component of a water system other than a fire sprinkler that receives water from the water supply of the structure.

B. Substantially Non-Stagnant

The parties also dispute to what extent the patents-in-suit contemplated water would flow in the system when a plumbing fixture is used. Independent claim 1 of the '911 patent recites:

said water flow through each of said flexible conduits interconnecting said plurality of multiport fittings is substantially non-stagnant.

'911 patent, col. 5:24-26. Kwench argues that the word substantially was chosen to convey that, when a plumbing fixture is used, "water movement results in many of the water carrying conduits, but not all of the conduits." Pl.'s Rebuttal Br. at 3-4. On the other hand, Uponor contends that "water must flow 'throughout *essentially the entire* system.' " FN7 Def.'s Rebuttal Br. at 6. The issue, therefore, is what the patents claim by the term "substantially."

FN7. Uponor originally proposed that use of a plumbing fixture "will cause water to flow throughout the system" but later revised its definition to add the modifier "essentially." Def.'s Opening Br. (document no. 26) at 4.

Unfortunately, the claim itself is ambiguous, because it fails to suggest how much deviation from complete non-stagnancy is acceptable. Similarly, the specification provides little guidance for a more precise construction of "substantially." Instead, the written description uses the modifiers "generally" or "essentially" to describe the resultant water flow from use of a plumbing fixture. *See, e.g.,* '911 patent, col. 1:61-62 ("a water flow is established throughout generally the entire network each time a plumbing fixture is accessed"); id. col. 4:19-21 ("by establishing water flow within essentially the entire system **10** during occupant use of a plumbing fixture"). The specification explains that "[w]hile the flow rates of individual conduits **16, 18** may not be equal (and may be in directions other than as illustrated) there is some flow of water in the conduits **16, 18** between all of the multiport fittings during sink **26** use." '911 patent, col. 4:28-32. While the patents-in-suit convey that upon use of a plumbing fixture water will flow through some portion of the system, how much of the system is not clearly or definitely described. The fact that the claims are silent about the exact extent of water flow suggests that the ordinary and accustomed meaning of "substantially" should be adopted.

Uponor argues, however, that the file history limits Kwench to water flow "throughout" the network. Def.'s Opening Br. at 14-15. To support this position, Uponor cites the appeal brief filed during the prosecution of the ' 911 patent, in which the applicant repeatedly argued that, upon use of a plumbing fixture, there is non-stagnancy *throughout* the system. *See* Def.'s Opening Br., Ex. D at 15-16 ("in the present invention, upon use of a plumbing fixture **20** [sic], **24, 26** a non-stagnant water condition is established *throughout* the network **10** and not only in the local conduit **16, 18** and local multiport fitting **14.**"). Uponor now asserts that the patent intended that water flow "throughout the system" means "system-wide, non-stagnant water flow." Def.'s Rebuttal Br. at 5. Yet, Uponor also concedes that this language does not require water to flow through every inch of conduit. Id. This position is actually consistent with Kwench's argument, that the applicant's statements do not limit the claims to require water to flow through every inch of conduit. Pl.'s Rebuttal Br. at 6-7; Def.'s Rebuttal Br. at 5. I agree that to construe the term "substantially" otherwise would create the nonsensical result of reading "substantially" out of the claims. *See* Bicon, Inc. v. Straumann Co., 441 F.3d 945, 950 (Fed.Cir.2006) ("claims are interpreted with an eye toward giving effect to all terms in the claim"); *see also* Innova/Pure Water, 381 F.3d at 1119 ("While not an absolute rule, all claim terms are presumed to have meaning in a claim"). The prosecution history, therefore, also fails to definitively commit to how much of the system the applicant claimed water would flow through upon use of a plumbing fixture.

While the parties agree that the patents claim that water flow upon use of a plumbing fixture means something less than 100% of the entire system, i.e., the claim is not limited to complete non-stagnancy, it is clear that Kwench's proposed construction, that water need only flow through "many" of the conduits, may understate the resultant water flow. Since neither the claim itself, nor the prosecution history indicate an intent to limit the word substantially, I conclude that the ordinary and accustomed meaning of the term

should be adopted, because the intrinsic evidence does not suggest a narrower interpretation. *See* Intellicall, Inc. v. Phonometrics, Inc., 952 F.2d 1384, 1387-88 (Fed.Cir.1992). I find the patents claim that, upon use of a plumbing fixture, water flows largely, but not necessarily wholly, throughout the system. This construction comports with other cases that have interpreted the term "susbtantially" and follows the applicable rules of claim construction. *See* LNP Eng'g Plastics, Inc. v. Miller Waste Mills, Inc., 275 F.3d 1347, 1354 (Fed.Cir.2001) ("the claim language supports ... the district court's interpretation of substantially completely wetted as largely, but not necessarily wholly, surrounded by resin.") (internal quotations omitted)); *see also* Ecolab, Inc. v. Envirochem, Inc., 264 F.3d 1358, 1369 (Fed.Cir.2001) (defining substantially as "largely but not wholly").

C. Integrated

The third disputed term is the word "integrated," as used in the preamble of each independent claim. The parties disagree as to whether the term limits the claims or simply gives context for what is being described in the body of the claims. The preamble to claim 1 of the '911 patent is representative and provides:

An integrated water distribution system for supplying both domestic water and fire sprinkler water requirements of a structure, said system comprising:

'911 patent, col. 5:8-10. Uponor argues that the preamble language does not limit the claims, because the claim's body defines a structurally complete invention. Uponor states that "an integrated water distribution system" is fully described by the claim requirements of "1) a water supply line; 2) a fire sprinkler somehow connected to that water supply line; and 3) a plumbing fixture somehow connected to that water supply line." Def.'s Opening Br. at 11. It contends that reading the term integrated into the claims adds nothing. I disagree.

"Whether to treat a preamble as a limitation is a determination resolved only on review of the entire[ ] ... patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim." Poly-America, L.P. v. GSE Lining Tech., Inc., 383 F.3d 1303, 1309 (Fed.Cir.2004) (internal quotes omitted). A preamble will generally limit claim scope if it "recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim." NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1305 (Fed.Cir.2005) (quoting Catalina Mktg Int'l v. Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed.Cir.2002)). Furthermore, "[w]hen limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention." Eaton Corp. v. Rockwell Int'l Corp., 323 F .3d 1332, 1339 (Fed.Cir.2003). In contrast, a term used in a preamble will not limit the claim if it "merely gives a descriptive name to the set of limitations in the body of the claim that completely set forth the invention." IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1434 (Fed.Cir.2000).

Based on my review of the patents-in-suit, it is clear that the use of the term integrated in the preamble was intended to modify all the claims. For example, independent claim 1 of the '911 patent, only requires that the multiport fittings are " *capable* of being fluidly coupled to a fire sprinkler assembly." '911 patent, col. 5:14-15 (emphasis added). If Uponor were correct that "integrated" is merely contextual and not limiting, then the claim would read on every domestic water system with multiport fittings, even if the systems were not combined with a sprinkler system.FN8 This outcome contradicts a plain reading of the patent.

FN8. I assume, *arguendo,* that a sprinkler system could be connected to the hypothetical infringing domestic

water system through multiport fittings.

Several other independent claims similarly reveal how Uponor's argument fails. For example, independent claims 6 and 16 of the '911 patent call for the multiport fittings to be "fluidly coupled to an associated fire sprinkler assembly." Id. col. 5:51-52; id. col. 6:32-33 ("each multiport fitting being fluidly coupled to a fire sprinkler assembly"). These claims read on a system "where the water supply for the plumbing fixtures and fire sprinkler heads originate from an [sic] single water source ... but then branch off into separate and distinct systems that do not reconnect at any further point." Pl.'s Br. at 28. In other words, if "integrated" is not a limitation, the claim would read on previously existing systems, even though the patents' advantages are only achieved through a combined system. *See* '911 patent col. 1:19-50 (describing prior art fire sprinkler systems that were separate and distinct from domestic water systems); id. cols. 1:51-64 (discussing the advantages of an integrated domestic water and fire sprinkler system).

Additional support that the preamble's use of the term "integrated" must be read to modify the claim is found in the specification, which states that "[t]he present invention is *directed to an integrated water distribution system* for supplying a building's domestic water needs and fire sprinkler systems requirements *without the duplicity of having separate water distribution networks*." Id. col. 2:8-11 (emphasis added).

As the above examples demonstrate, "integrated" does not merely define a context in which the invention operates, "but instead [is] the *raison d'etre* of the claimed [apparatus] itself." Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp., 320 F.3d 1339, 1345 (Fed.Cir.2003). To read out "integrated" would ignore "what the inventors actually invented and intended to encompass by the claim." Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257 (Fed.Cir.1989). Therefore, I find that "integrated" limits the claims to a unitary system.

D. Backflow Diverter-less

The last disputed term is "backflow diverter-less," which is also found in the preamble. The preamble to claim 1 of the '319 patent recites:

An integrated backflow diverter-less water distribution system for supplying both domestic water and fire protection system water requirements of a structure, said distribution system comprising:

'319 patent, col. 7:38-41. Kwench argues that "backflow diverter-less" limits the claims, because "[c]onventional domestic water system [sic] often include backflow diverters to direct water flow in a single direction as it enters the structure from a water supply.... A distinguishing feature of several claims in the '319 patent is that the system eliminates the backflow diverter." Pl.'s Br. at 29.

Kwench is not able to provide any evidence to support its position. There is nothing in the prosecution history to suggest that the lack of a backflow-diverter distinguished the invention from prior art. *See* Catalina Mktg., 289 F.3d at 808 ("[C]lear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention."). The term "backflow diverter" also does not appear anywhere in the specifications of the patents-in-suit. *See* id. at 808 ("[W]hen reciting additional structure or steps underscored as important by the specification, the preamble may operate as a claim limitation."). Accordingly, "backflow diverter-less" does not limit the claims, but rather, the term

provides context for the limitations set forth in the body of the claim.

IV. Conclusion

For the reasons set forth above, I construe the disputed terms as follows:

(1) a "plumbing fixture" is a component of a water system other than a fire sprinkler that receives water from the water supply of the structure;

(2) "substantially non-stagnant" means that upon use of a plumbing fixture, water flows largely, but not necessarily wholly, throughout the system;

(3) "integrated" limits the claims to a unitary system; and

(4) "backflow diverter-less" is not a claim limitation, but simply adds context for the limitations in the body of the claims.

SO ORDERED.

D.N.H.,2008.
Kwench Systems Intern., LLC v. Uponor Wirsbo Co.