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Patent Law and Means-Plus-Function Claim Language: Where it Was, Where it is (Post Williamson v. Citrix), and Where it Should Go in the Future

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PATENT LAW AND MEANS-PLUS-FUNCTION CLAIM LANGUAGE: WHERE IT WAS, WHERE IT IS (POST *WILLIAMSON V. CITRIX*), AND WHERE IT SHOULD GO IN THE FUTURE

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In response to proliferating abuse of the functional language allowances governing means-plus-function patent claims in 35 U.S.C. § 112, the Federal Circuit, in its recent decision Williamson v. Citrix, *lowered the presumption against patent claims arising under § 112. Before* Citrix, *there existed a strong presumption that the scope of § 112 did not encompass claims not including the specific language "means"—a loophole that drafters employed to avoid being subject to § 112 limitations. The Federal Circuit sought to remedy this loophole by lowering the strength of the presumption and also by shifting the focus of the presumption to language analogous to "mean." This Note argues that the Federal Circuit was correct in lowering the presumption, but that the term "means" should be removed from the analysis entirely, and the focus should be on functional language in general.*

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I. INTRODUCTION

The original purpose of the patent system was to engender an incentive system. This arrangement provides inventors with the benefit of a twenty-year monopoly in exchange for a detailed disclosure within the patent that allows another to reproduce the invention once the monopoly period has passed.[1] In theory, this system is an effective mechanism for fostering innovation by reducing inventors' infringement concerns (patent holders may sue for infringement damages)[2] or alternatively by allowing monetization through licensing agreements.[3] This idealistic view of spurring innovation, however, has become more of a secondary concern over the years; monetary gain is now taking priority over innovation as patent drafters try to obtain the broadest possible claim scope without regard for proper disclosure of the invention.[4]

One historical method for accomplishing broad patent claims is through functional claiming—where a patent drafter claims "the end [the invention] accomplishes, not the means of getting there."[5] To illustrate, compare the following two claims: (1) a vehicle comprising a chassis and four wheels and, (2) a means for transporting objects or people at high velocities. The difference here is evident: both claims encompass the invention of the modern day automobile, but the second claim potentially covers a much broader scope than the first claim (for example, it could also cover a speed boat or a plane). This shows why functional claims are so attractive to patent drafters.

The modern day embodiment of functional claiming exists in the "means-plus-function" claim.[6] This type of functional claim is

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[1] Sean B. Seymore, Symposium, *The Disclosure of the Patent System*, 69 VAND. L. REV. 1455, 1455 (2016).

[2] 35 U.S.C. § 271 (2018).

[3] Adam Mossoff, *The History of Patent Licensing and Secondary Markets in Patents: An Antidote to False Rhetoric*, CENTER FOR THE PROTECTION OF INTELLECTUAL PROPERTY (Dec. 9, 2013), https://cpip.gmu.edu/2013/12/09/the-history-of-patent-licensing-and-secondary-markets-in-patents-an-antidote-to-false-rhetoric/ ("The patent licensing business model is not a new phenomenon in the commercialization of patented innovation in the marketplace.").

[4] *See* Mark A. Lemley, *Robert W. Kastenmeier Lecture: Software Patents and the Return of Functional Claiming*, 2013 WIS. L. REV. 905, 911 ("Rather than claiming the device they actually built or described, inventors sought to identify the inventive contribution and to claim any device that incorporated that inventive contribution, even if it was not identical to the patentee's device.").

[5] *Id.* at 923.

[6] *See infra* notes 8–9.

narrower in scope than a general functional claim because it limits the scope of the claim to the particular technology disclosed in the patent instead of allowing every means for performing the claimed function.[7] On its face, this scope limitation seems like a reasonable compromise that allows drafters to submit broader functional claims over purely structural claims. The issue is that, for the scope limitation to apply, the claim language must trigger either § 112(f) of the America Invents Act for patents filed on or after September 16, 2012,[8] or § 112 Paragraph 6 of the Patent Act of 1952 for patents filed before this date.[9] Until recently, § 112(f) and § 112 Paragraph 6 have been relatively easy to avoid if the patent drafter does not use the language "means" or "means for" in their claims.[10]

The means-plus-function claim construction analysis comprises a two-part test. First, the court determines whether the claim triggers § 112(f) (hereinafter "§ 112(f)" will be used to refer to both § 112(f) and § 112 Paragraph 6 unless § 112 Paragraph 6 is referenced individually).[11] During this step, the court will presume § 112(f) is triggered if the word "means" is used in the claim.[12] As this Note will later explain, the difficulty of overcoming this presumption has changed over the years. Second, if the court concludes the claim is subject to § 112(f), it will look to patent specifications for "corresponding structure."[13] If the court finds no such structure, the claim is invalidated.[14]

Until the Federal Circuit's recent decision in *Williamson v. Citrix*,[15] the standard—for at least the past decade—has been that the absence of the word "means" from the claim establishes a "strong" presumption against construing a claim as a § 112(f) means-plus-function claim.[16] Conversely, a claim including the word "means" established a rebuttable presumption that the claim

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[7] Lemley, *supra* note 4, at 916–17.

[8] America Invents Act, 35 U.S.C § 112(f) (2018).

[9] Patent Act of 1952, Pub. L. No. 593, 66 Stat. 792, 798 (current version at 35 U.S.C § 112 (2018)).

[10] *See infra* pp. 11–15.

[11] TriPlay, Inc. v. WhatsApp, Inc., No. 13-1703-LPS-CJB, 2016 LEXIS 85583, at *13–14 (D. Del. June 30, 2016) (citations omitted).

[12] *Id.*

[13] *Id.*

[14] *Id.*

[15] Williamson v. Citrix Online, LLC, 792 F.3d 1339 (Fed. Cir. 2015).

[16] *Id.* at 1348.

was a § 112(f) means-plus-function claim.[17] The court in *Citrix* lowered this standard by lowering the strength of the presumption when "means" is not included in the claim. A post-*Citrix*, challenger can overcome a presumption against classifying a claim as a § 112(6) means-plus-function claim if "[he] demonstrates that the claim term fails to 'recite[ ] sufficiently definite structure. . . .' "[18]

This Note discusses the status of the standard established in *Citrix* as applied to post-*Citrix* claim construction cases. This Note also discusses some of the considerations that patent drafters should keep in mind when choosing claim language given the new standard. Finally, the Note argues that the Federal Circuit was correct in altering the standard, but § 112(f) might be best served by further legislative amendments.

Part II of this Note discusses functional claiming, as it existed prior to the *Citrix* decision. Part II begins by providing a brief overview of the history of functional claiming, beginning in the early nineteenth century, and evolving into the more narrowly defined "means-plus-function" claim found in § 112(f). Part II also illustrates how courts construed claim language in relation to § 112(f) means-plus-function claims prior to *Citrix*.

Part III of this Note provides an overview of the *Citrix* case, including a factual background, the new standard that the Federal Circuit adopted (or actually re-adopted), and how the court applied the new standard to its particular facts.

Part IV of this Note delves into the post-*Citrix* world of functional claiming. It begins by providing examples of both district court and Federal Circuit means-plus-function claim construction cases decided subsequent to *Citrix*. It then considers the effect of *Citrix* on the software industry (where functional claims are omnipresent). Finally, it discusses some of the considerations that patent drafters should keep in mind when deciding whether to use means-plus-function claim language post-*Citrix*.

Part V of this Note argues that the standard change in *Citrix* was necessary, but there is room for improvement by the legislature.

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[17] *Id.*

[18] *Id.* (quoting Watts v. XL Sys., Inc., 232 F.3d 880 (Fed. Cir. 2000)).

II. PRE-*CITRIX* FUNCTIONAL CLAIMING

A. HISTORY OF FUNCTIONAL CLAIMING

Patents were traditionally intended to be disclosures of the actual invention that an inventor conceived.[19] This was the norm until the middle of the nineteenth century, when patent drafters began using functional language to broaden the scope of their claims to include not only the invention that they actually conceived, but also every other potential invention that could perform similar functions.[20] Kastenmeier provides the example of the Wright Brothers, who invented an aircraft stability system involving a single cable that moved an aircraft's wing and rudder simultaneously.[21] Instead of claiming the cable system specifically, however, their claims included language such as "means for simultaneously moving the lateral portions."[22] This functional language allowed the Wright Brothers to assert infringement claims against inventors who invented a system in which the rudder and wing could be moved independently of one another merely because it fell within the broad scope of the Wright Brothers' functional claim language.[23]

Congress became concerned that these types of functional claims would hinder market competition, and subsequently passed the Patent Act of 1952.[24] The 1952 Act did not eliminate functional claiming completely, but instead limited the scope of functional claims through § 112 Paragraph 6.[25] Section 112 Paragraph 6 defined what is called a "means-plus-function" claim and included the language, "An element in a claim . . . may be expressed as a means . . . for performing a specified function . . . and such claim shall be construed to cover the corresponding structure . . . in the

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[19] Lemley, *supra* note 4, at 910.

[20] *See id.* at 911–12 (explaining a shift toward "peripheral claiming," which is not commonplace).

[21] *See id.* at 913 (noting how the Wright Brothers' patent used functional language).

[22] *Id.*

[23] *See id.* (discussing how Glenn Curtiss' design was blocked by the Wright Brothers' patent, despite significant design differences).

[24] *See id.* at 914–15 (explaining the events and controversy leading up to the Patent Act of 1952).

[25] *See id.* at 916 (noting how § 112(f) placed certain restrictions upon financial claiming).

specification. . . ."[26] This same language is also included in § 112(f) of the recently passed America Invents Act and survives as the current statutory basis for means-plus-function claims.[27]

B. MEANS-PLUS-FUNCTION CLAIM CONSTRUCTION PRE-*CITRIX*

Until 2004, the Federal Circuit, which handles all patent case appeals, followed a standard similar to the *Citrix* standard used today.[28] The essential inquiry did not revolve around the use of the word "means," but rather depended on whether "the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure."[29]

Around 2004, however, the Federal Circuit raised this standard by indicating that a lack of the term "means" leads to a "strong" presumption against subjecting a claim to § 112 Paragraph 6.[30] In 2012 the Federal Circuit subsequently raised the standard even higher by stating that "[w]hen the claim [has not used] the term 'means,' we are unwilling to apply [§ 112 Paragraph 6] without a showing that the limitation *essentially is devoid* of anything that can be construed as structure."[31] Because of this heightened presumption, a number of patent holders were able to avoid indefiniteness under § 112 Paragraph 6 simply by omitting "means" from their claim language.[32]

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[26] *See* Patent Act of 1952, Pub. L. No. 593, 66 Stat. 792, 798 (current version at 35 U.S.C. § 112 (2018)).

[27] America Invents Act, 35 U.S.C. § 112(f) (2018).

[28] The use of the word "means" in a claim created a rebuttable presumption that the claim was a § 112(6) or § 112(f) means-plus-function claim; the absence of the word "means" created a rebuttable presumption that the claim was not a § 112(6) or § 112(f) means-plus-function claim. Personalized Media Commc'ns., LLC v. Int'l Trade Comm'n, 161 F.3d 696, 703–04 (1998).

[29] Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1348 (Fed. Cir. 2015).

[30] Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354, 1358 (Fed. Cir. 2004). This heightened standard was echoed in *Inventio AG v. Thyssenkrupp Elevator Americas Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011).

[31] Flo Healthcare Sols., LLC v. Kappos, 697 F.3d 1367, 1374 (Fed. Cir. 2012) (emphasis added).

[32] *See* Apple Inc. v. Motorola, Inc., 757 F.3d 1286, 1297 (Fed. Cir. 2014) ("When the claim drafter has not signaled his intent to invoke [§ 112] by using the term 'means,' we are unwilling to apply that provision. . . ." (quoting *Flo Healthcare*, 697 F.3d at 1374)).

III. *WILLIAMSON V. CITRIX*

A. FACTS

Citrix was an infringement suit involving a patent discussing a technology for virtual classroom learning environments (the " '840 Patent").[33] Claim 8 of the '840 Patent includes the language "[a] system for conducting distributed learning among a plurality of computer systems . . . comprising . . . a *distributed learning control module*. . . ."[34] In the district court, this language was construed as a means-plus-function claim triggering § 112(f).[35] In applying § 112(f), the district court, and subsequently the Federal Circuit, invalidated claim 8 on the grounds that the patent specification did not include sufficient structural language corresponding to the function laid out in the claim.[36]

B. ANALYSIS

The Federal Circuit, in affirming the district court's decision regarding claim 8, abandoned the standard it had established over the last decade.[37] In doing so, the Federal Circuit came to the conclusion that the characterization of a claim lacking the word "means" as having a "strong" presumption against being subject to § 112(f) is not the appropriate presumption.[38] Instead, it reverted back to its pre-*Lighting World* standard by placing less of an emphasis on the term "means" and instead focusing the essential inquiry on "whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure."[39] The effect of this standard change was not on the means-plus-function test itself, but rather on the strength of the presumptions associated with the first part of

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[33] *Citrix*, 792 F.3d at 1343.

[34] *Id.* at 1344.

[35] *Id.* at 1345.

[36] *Id.*

[37] *See* Flo Healthcare Sols., LLC v. Kappos, 697 F.3d 1367 (Fed. Cir. 2012) (finding that the term "height adjustment mechanism" invoked § 112, but there was sufficient structure so that the presumption against being a means-plus-function claim was overcome); Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354 (Fed. Cir. 2004) (construing the "connector assembly" as a means-plus-function claim).

[38] *Citrix*, 792 F.3d at 1349.

[39] *Id.*

the test, effectively enlarging the scope of claims that § 112(f) encompasses.

In the relevant portion of the *Citrix* decision, the word "module" was the main source of contention.[40] Because the word "module" was used instead of "means" a presumption initially existed that claim 8 was not a means-plus-function claim (a presumption that defendants later overcame in the district court).[41] In upholding the district court's decision, the Federal Circuit agreed that the full term " 'distributed learning control module' does not have a well understood structural meaning in the computer technology field."[42] The court reaffirmed the district court's finding that "module" is "simply a generic description for software or hardware," on par with other generic terms such as "device" or "mechanism."[43] Finally, the court noted that the presence of modifiers can provide structure to an otherwise generic term, but the modifiers in claim 8 did not produce such a result.[44]

IV. POST-*CITRIX* FUNCTIONAL CLAIMING

A. DECISIONS AFTER *CITRIX*

Because *Citrix* was decided in 2015, both district courts and the Federal Circuit have had a chance to decide means-plus-function claim construction cases in light of the *Citrix* standard.[45]

1. District Court Cases. Of the hundred-plus cases tried in district courts since the *Citrix* decision, the overwhelming majority of cases have adopted the new standard articulated by the Federal Circuit.[46] In fact, as of December 2015, only one district court case

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[40] *Id.* at 1350.
[41] *Id.* at 1349.
[42] *Id.* at 1350.
[43] *Id.*
[44] *Id.* at 1351.
[45] *See infra* note 46 (district court cases); *infra* note 48 (Federal Circuit cases).
[46] *See, e.g.*, M2M Sols. LLC v. Sierra Wireless America, Inc., No. 12-30-RGA, WL 5826816, at *2 (D. Del. Oct. 2, 2015) (directly quoting the *Citrix* standard); Vir2us, Inc. v. Invincea, Inc., No. 2:15cv162, 2016 U.S. Dist. LEXIS 22098, at *13–14 (E.D. Va. Feb. 19, 2016) (also directly quoting *Citrix*).

has criticized the *Citrix* means-plus-function presumption standard.[47]

2. Federal Circuit Cases. More importantly, *Citrix* has also been cited numerous times by the Federal Circuit.[48] All of these Federal Circuit decisions reference and apply the new *Citrix* standard.[49]

Advanced Ground Information Systems v. Life360, Inc.,[50] decided in 2016, provides one specific example. *Life360* involved two patents containing claims including the language "a symbol generator."[51] In its analysis, the Federal Circuit found that the term "symbol generator" fell under § 112(f) despite the fact that the term "means" was not used in the claim.[52] Here, the Federal Circuit affirmed the district court's determination that "symbol generator" is actually analogous to "means" because it "is simply a description of the function performed."[53] *Life360* stands for the notion that the Federal Circuit, at the bare minimum, is going to follow the *Citrix* standard and is much more likely to construe a claim as falling under § 112(f) in the future.

B. IMPLICATIONS OF *CITRIX* WITH RESPECT TO SOFTWARE CLAIMS

While *Citrix* affects patent claims for technologies spanning most industries to relatively the same degree, it is important to also specifically consider the effect of *Citrix* on software patent claims, since these claims almost necessitate functional claim language.[54] With the advent and growth of the computer, internet, and other related technologies in the past couple of decades, the courts faced

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[47] TriPlay, Inc. v. WhatsApp, Inc., No. 13-1703-LPS-CJB, 2016 WL 3574012 n.7, at *5 (D. Del. June 30, 2016) ("[T]he Court agrees with TriPlay that it should still utilize pre-[*Citrix*] Federal Circuit caselaw in analyzing whether disputed terms convey sufficiently definite structure. . . .").

[48] *See, e.g.*, Advanced Ground Info. Sys. v. Life360, Inc., 830 F.3d 1341, 1347 (Fed. Cir. 2016) (directly quoting the *Citrix* standard); Voice Domain Techs., LLC v. Apple Inc., No. 13-40138-TSH, 2015 WL 4638577, at *7 (D. Mass. Aug. 4, 2015) (also directly quoting the *Citrix* standard).

[49] *Life360*, 830 F.3d at 1347; *Apple Inc.*, 2015 WL 4638577, at *7.

[50] 830 F.3d 1341.

[51] *Id.* at 1345.

[52] *Id.* at 1347.

[53] *Id.*

[54] *See* Lemley, *supra* note 4, at 919 ("Computer software gives patentees the opportunity to take abstraction in patent claiming to the extreme . . . [and] write 'structural' claims in which the structure is not novel and does no work.").

the question of how to deal with the patentability of the software programs used to operate these technologies. Courts further face the even more concerning issue that a majority of software patent claims, if not all, are drafted in the most broad and functional terms possible.[55]

In one regard, the Supreme Court's decision in *Alice Corp. v. CLS Bank International* reduced the surge of software patents. The case essentially stated that an invention cannot simply take an abstract idea "well known in the art," apply it to a computer, and expect to receive a patent protection.[56] The Court in *Alice* cites several examples, including creating a software program to accomplish the already-established common economic concept of hedging financial risk.[57] However, the task of determining what to do with the drove of software patent claims that pass the *Alice* filter remains.

Of course, ideally the courts should be able to simply employ the § 112(f) restrictions to force the software patent drafter to significantly narrow the scope of his claims to the particular algorithm used in the software. However, as of 2013, this was not always how the process played out in court.[58] Functional claim opponents need not fear, however, as there is evidence that the courts are pushing to subject all software patent claims to the § 112(f) limitations.[59] Once a software claim falls under § 112(f), the courts have shown that they will not hesitate to invalidate the claim if it does not disclose "a sufficient algorithm as corresponding structure," instead of just a "general purpose computer" (at least in the past couple years).[60]

The *Citrix* piece fits into this software patent claiming puzzle by helping to clear the path for categorizing software claims as § 112(f) means-plus-function claims. While patent drafters will still likely

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[55] *Id.* at 907.

[56] Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347, 2350 (2014).

[57] *Id.* at 2356.

[58] Professor Lemley states that a simple change such as replacing the language "means for doing" with "a generic reference to a general-purpose computer 'programmed to' achieve those same steps . . . and the [court] no longer treats the claim as [falling under § 112 or 112(f)] . . . and accordingly puts no limit on the functional nature of the claim." Lemley, *supra* note 4, at 946. He further elaborates by stating "current cases treat 'a computer' (or equivalents like 'a processor . . .') as a structural definition of the software invention, except where the patentee happened to make the mistake of using the word 'means.' " *Id.*

[59] Kirk Teska, *(The Unfortunate) Future of Software Patents Under 35 USC § 101 and § 112*, 16 J. HIGH TECH. L. 394, 405–06 (2016).

[60] Verint Sys. v. Red Box Recorders, Ltd., 166 F. Supp. 3d 364, 377 (S.D.N.Y. 2016).

be forced to use functional language in software claims, without the "strong" presumption against claims not including the term "means" being means-plus-function claims, patent drafters seeking broad functional protection will have a tougher time doing so without being subject to the § 112(f) limitations.[61]

C. IMPLICATIONS FOR PATENT PROSECUTION STRATEGY

Citrix forces patent drafters to take a number of considerations into account when deciding whether to include means-plus-function language in their patent claims. The clearest new consideration is that drafters will no longer be able to confidently side-step § 112(f) by not using the language "means" in their claims. This alone should serve as somewhat of a general deterrent against means-plus-function claims (with the exception of software patent claims) because once the functional claims are subject to § 112(f), the scope of the claims is effectively narrowed enough to thwart the purpose of using functional language.[62]

Another major consideration is that, in choosing to use means-plus-function language, drafters will be taking the risk that a court will invalidate these claims if the patent specification does not sufficiently disclose the structure associated with the function presented in the claims language.[63] While on its face the specification disclosure requirement does not seem difficult to surmount, post-*Citrix* courts have shown that they will not take the limitation lightly,[64] and it might not be worth the risk given the potential magnitude of monetary damages at play in patent litigation.[65]

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[61] *See, e.g.*, *id.* at 379–80 (construing one particular claim as a means-plus-function claim regardless of the fact that the term "means" wasn't specifically used because the term "computer application" included in the claim did not define sufficient structure).

[62] This is because § 112 claims require structure disclosures, when the original intent of the drafter was to possess a broader, structure-less claim.

[63] Both § 112 and 112(f) state that the "[C]laim shall be construed to cover the corresponding structure, material, or acts described in the specification or equivalents thereof." *See* Patent Act of 1952, Pub. L. No. 593, 66 Stat. 792, 798 (current version at 35 U.S.C § 112 (2018)); 35 U.S.C. § 112(f) (2018).

[64] *See, e.g.*, Advanced Ground Info. Sys. v. Life360, Inc., 830 F.3d 1341, 1347 (Fed. Cir. 2016) (deeming a means-plus-function claim invalid because the specification discussed symbols being generated generally, but "fail[ed] to [disclose] an 'algorithm' or description as to how those symbols are actually 'generated' ").

[65] *See* Apple, Inc. v. Samsung Elecs. Co., 727 F.3d 1214, 1217 (Fed. Cir. 2013) ("[A]warding Apple more than $1 billion in damages.").

With these considerations in play, drafters will likely be reluctant to include potentially invalid or narrowing means-plus-function claims within their claim set. Justifications for including these types of functional claims still exist, however. For example, if a specific type of technology necessitates the use of functional claim language (software patents), there are arguably also some litigation benefits, but the potential downsides appear to outweigh the benefits.[66] Nevertheless, empirical evidence tends to indicate that the use of means-plus-function claims has drastically fallen over the last decade, and there is no indication that the trend with change directions anytime soon.[67]

V. ANALYSIS OF *CITRIX* PRESUMPTION SHIFT

A. DID THE FEDERAL CIRCUIT MAKE THE CORRECT DECISION?

The Federal Circuit made the correct decision in lowering the presumption against a Claim triggering § 112(f) when "means" is not included in the language, a decision supported by the constitutional underpinnings of patent law.

The first source of support for the Federal Circuit's decision comes from the constitutional foundation for patent law.[68] Article I section eight of the U.S. Constitution states the purpose of the patent (and copyright) system is "to promote the Progress of Science and useful Arts"[69] This section intends to "provi[de] the public with the benefit of lower price through unfettered competition."[70] But claim drafters do not seek to "promote the progress of science," they draft around § 112(f) limitations to seek unjustified increases in

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[66] *See* Steven Katz, *Do's and Don'ts for Claim Drafting: A Litigator's Perspective*, http://www.fr.com/files/Uploads/attachments/muenchen/presentation8.pdf (last visited Oct. 25, 2016) (discussing how fact finders determine the scope of "equivalents" to the structures disclosed in the specification).

[67] Nicholas R. Mattingly, *Avoiding Invocation of Functional Claim Language in Computer-Implemented Inventions*, IPWATCHDOG (June 18, 2015), http://www.ipwatchdog.com/2015/06/18/avoiding-invocation-of-functional-claim-language-in-computer-implemented-inventions/id=58803/. The evidence presented on this webpage indicates a decline in the use of the specific language "means for" in patent claims. This could simply indicate drafters attempting to side-step § 112, but it would still evidence drafters' reluctance to draft means-plus-function claims.

[68] *See supra* note 1 and accompanying text; *see also* U.S. CONST. art. I, § 8, cl. 8.

[69] *See supra* note 1 and accompanying text; *see also* U.S. CONST. art. I, § 8, cl. 8.

[70] Biotechnology Indus. Org. v. District of Columbia, 496 F.3d 1362, 1373 (Fed. Cir. 2007).

market control.[71] The reason patents have so many limitations is because the constitutional drafters sought to strike a balance. They wanted to provide enough incentive to inventors to warrant investing time and capital in inventing without fear of infringement, while not providing the inventors with so much power as to hinder the future growth of that technology and market.[72] Claim drafters seeking to avoid appropriate statutory limitations by drafting broad functional claims violate the intent the intent of the constitutional drafters.

In addition to its consistency with the constitutional aim of facilitating the progress of science and the arts, the *Citrix* standard goes further by ensuring that the progress sought by the Constitution is actually realized. One of the main issues with broad, functional claims is that they cover a wide scope of potential technology without really providing any specific instructions on how to recreate these technologies. This is counter, not only to the purpose of patents, but all intellectual property in general.[73] By lowering the presumption against claims not subject to § 112(f) limitations, the Federal Circuit is ensuring that the drafters include enough detail in their patent specification as to allow a person of ordinary skill in the relevant art to physically "recreate, emulate, or manufacture" the invention listed in the patent claims.[74]

B. WHAT CHANGES SHOULD BE MADE TO THE STANDARD?

While the Federal Circuit was correct in lowering the presumption against a claim not being a means-plus-function claim, given the purpose of doing so, it would make sense to also modify the standard as a whole. The presumption states that "when a claim lacks the word 'means,' the presumption can be overcome . . . if the challenger demonstrates that the claim term

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[71] A good example of this is found in the Wright Brothers broad functional patent claims described in Part II of this Note. *See generally supra* notes 21–23 and accompanying text..

[72] *See, e.g.*, Stephan Kinsella, *"The" Purpose of Patent Law*, CENTER FOR THE STUDY OF INNOVATIVE FREEDOM (Dec. 6, 2010), http://c4sif.org/2010/12/the-purpose-of-patent-law/ ("Without an intellectual property[ ] regime, innovators would keep their discoveries safely secured from competitors. . . ." (citation omitted)).

[73] *See Glossary*, UNITED STATES PATENT AND TRADEMARK OFFICE, https://www.uspto.gov/learning-and-resources/glossary (last visited Mar. 29, 2018) (defining "intellectual property" as "[c]reations of the mind—creative works or ideas embodied in a form that can be shared or can enable others to recreate, emulate, or manufacture them").

[74] *Id.*

fails to 'recite sufficiently definite structure.' "[75] Even though the presumption against a means-plus-function claim is now less difficult to overcome, the party challenging the patent claim still has a burden of proving that the claim should be subject to § 112(f) limitations.[76] Although it is not likely that this burden will deter plaintiffs in patent infringement suits, there are some situations where the burden does not seem necessary.

Life360 presents an example of the most obvious situation in which a court may not require the patent challenger to prove the claim should be subject to § 112(f) limitations. In *Life360* the drafters did not specifically use the term "means," but used a term analogous enough to have essentially the same meaning.[77] The Federal Circuit found in *Life360* that the term "symbol generator" was analogous enough to "means" and thus it was not necessary for the plaintiff to prove this.[78] While this appears to be more of a discretionary decision by the Federal Circuit in this particular case, the Federal Circuit could apply it in all claim construction claims as an inherent component of the standard.

With cases like *Life360* in mind, in order to streamline the claim construction process, it seems intuitive for the courts to move away from placing so much emphasis on the one term "means." Coincidently, the statutory language of § 112(f) does include the term "means." However, the real overarching purpose of the statute is to place limitations on overly broad *functional* claims in general, and there appears to be no indication as to why the term "means" was specifically chosen to represent such a broad category.[79] It is also important the legislature included the term "step for" along with "means" in § 112(f).[80] This provides further evidence that the intent of this statute was to protect against broad functional claiming in general because the statutory drafters chose to include a term other than "means" in the language.

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[75] William v. Citrix Online, LLC, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (quoting Watts v. XL Sys., Inc., 232 F.3d 877, 880 (Fed. Cir. 2000)).

[76] *Id.*

[77] Advanced Ground Info. Sys. v. Life360, Inc., 830 F.3d 1341, 1347 (Fed. Cir. 2016).

[78] *Id.*

[79] As mentioned in Part II of this Note, the means-plus-function language was originally included in the 1952 Patent Act, which was engendered as a response to concerns overly functional claim language. *See supra* note 24 and accompanying discussion.

[80] 35 U.S.C. § 112(f) (2018).

Ideally, the legislature would amend § 112(f) to include language analogous to "means for," or just expand the language to include any functional claim without accompanied structural definitions. However, until such legislation is passed, the courts are stuck with interpreting the present language. This should not serve as too much of a hurdle, however, as the Federal Circuit has already shown its willingness to look to analogous terms in *Life360*.

There is one caveat to adopting a broader analogous terms approach to functional claim construction: the existence of method claims. Method claims involve patents over "methods" or "processes" (for example, a method for manufacturing a certain type of drug).[81] Method claims differ from means-plus-function claims because they *only* cover the method or process used and do not involve any structural components.[82] This could create overlap between the terms "method" and "process" used in method claims, as they could potentially be seen as "means" synonyms. This problem could easily be solved, however, by simply eliminating "method" and "process" from the category of analogous terms.

VI. CONCLUSION

The patent system is a regime that seeks the right balance to provide just enough incentive for society to progress as effectively as possible in science and the arts. However, as with the vast majority of systems in existence, there are ways to exploit it. In the case of the patent system, patent drafters have been able to realize more benefits from their patents than they should by using broad, over-encompassing claim language in their patents. Thankfully, Congress and the courts are moving towards plugging the gaps left for exploitation in the system. However, the post-Citrix standard is not perfect and still has room for improvement.

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[81] Timothy R. Holbrook, *Method Patent Exceptionalism*, 102 IOWA L. REV. 1001, 1010 (2017) ("For machines, manufactures, and compositions of matter, there necessarily is a tangible item that a court or jury uses to assess infringement. This is not so with method claims, where the bases of comparison are fleeting acts or steps. Under current law, the claims processes technically do not cover the machine or other apparatus (if any) that performs the process, but only the performance of the steps of the process." (citations omitted)).

[82] *Id.*