

## **Protection Against Infringement of Patents in Canada**

Ronald E. Dimock, Shahrzad Esmaili, James Green, and Harvey Lim

Gowling WLG (Canada) LLP

### **Abstract**

In this article the authors review the patent law relating to claim construction and infringement in Canada, the United Kingdom, and the United States and explain why the law in Canada should be reformed to make it less difficult to prove infringement of a patent at trial. The opinions expressed in this article are those of the authors based on their combined experience in the prosecution and litigation of patents in Canada and are presented, in part, with the hope of starting a serious conversation about the need for reforming the law of patent protection in Canada.

### **Résumé**

Dans cet article, les auteurs examinent certains éléments du droit des brevets, notamment la structure des revendications et l'utilisation frauduleuse des brevets, au Canada, au Royaume-Uni et aux États-Unis, en plus d'expliquer pourquoi la législation canadienne devrait faire l'objet d'une réforme pour faciliter la démonstration de l'utilisation frauduleuse d'un brevet dans le cadre d'un procès. Les opinions exprimées dans le présent article sont celles des auteurs, sur la base de leurs expériences combinées en matière de poursuites et contentieux des brevets au Canada, et elles sont présentées, en partie, dans l'espoir d'amorcer une conversation sérieuse sur la nécessité de réformer la législation canadienne sur la protection des brevets.

## 1.0 Introduction

“Why is an engine cradle essential to the invention?” That question<sup>1</sup> led us to write this article and ultimately to ask this question: “Why, since the turn of the millennium, have there been fewer findings in favour of patentees in Canadian patent trials than ever before?” The numbers speak for themselves: in the 30 years before 2000, patentees were successful about 58 percent of the time at trial; since then, they have been successful only about 40 percent of the time.<sup>2</sup>

The litigation process is designed so that not all cases need go to trial to resolve a dispute. In patent litigation in Canada, with few exceptions over the last 50 years, no more than half a dozen cases go to trial each year.<sup>3</sup> To succeed at trial, a patentee must prove infringement of at least one valid claim of a patent. A satisfactorily functioning patent system presumably requires a minimum success rate for patentees at trial, but such a rate may not be quantifiable. Nonetheless, over time, the level of success would be expected to stabilize and not swing widely up or down, absent some deliberate policy decision by Parliament or some legal interpretation by the Supreme Court of Canada that “rebalances” the system one way or the other.

This article seeks to identify the reasons in the Canadian patent system for this apparent swing away from success for patentees from 58 percent to 40 percent. Could the swing be merely a matter of randomness without any statistical significance, or is there something else at play? If it is the latter, what might it be? It does not appear to be validity; the level of success on the issue of the validity of at least one asserted claim has not changed very much from an average of about 67 percent over the last half century. Perhaps the way in which infringement is determined could account for the drop in the

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<sup>1</sup> See appendix A to this article.

<sup>2</sup> See appendix B to this article.

<sup>3</sup> See appendix B. In only five years since 1971 have there been more than six patent trials reported in a single year.

patentee success rate, with outcomes on the issue of infringement dropping from about 79 percent in favour of patentees in the 30 years before 2000 to 55 percent since then.

Although there are challenges in comparing success rates and outcomes in patent cases between jurisdictions, patentee success rates at trial in Canada since 2000 appear to be significantly out of step with those in other jurisdictions. According to one recent study covering roughly the same period (1998–2017), patentees were successful at trial in the United States over 60 percent of the time, compared with only 40 percent in Canada since 2000.<sup>4</sup>

The hypothesis of this article is that infringement has become far more difficult to establish in the Canadian patent system in the 21st century as a result of a combination of the following factors: (1) purposive construction has displaced the law of literal and substantive infringement; (2) in the application of purposive construction, scant attention is paid to the need to separate and distinguish “essential”<sup>5</sup> from “non-essential” elements in a claim; (3) purposive construction has often reverted to narrow and literal construction; (4) there is no “doctrine of equivalents”; and (5) many patents are drafted primarily with a view to patentability and not with a view to issues of infringement. These factors and ways in which the situation may be improved are explored in this article.

## **2.0 Patent Infringement**

The *Patent Act* grants the patentee the monopoly or exclusive right of making, constructing, or using the invention and selling it to others, for the term of the patent.<sup>6</sup> Patent infringement occurs when any person interferes with this exclusive right, including depriving the patentee of the advantage of the

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<sup>4</sup> PWC, “2018 Patent Litigation Study” (May 2018), online: PWC US <[www.pwc.com/us/en/forensic-services/publications/assets/2018-pwc-patent-litigation-study.pdf](http://www.pwc.com/us/en/forensic-services/publications/assets/2018-pwc-patent-litigation-study.pdf)>.

<sup>5</sup> Some noted scholars prefer “non-substitutable” to “essential.”

<sup>6</sup> *Patent Act*, RSC 1985, c P-4, s 42.

patented invention through making, using, and selling the invention. In the patent system, before a remedy for infringement can be given, it must first be determined whether there is infringement. Infringement is determined by asking a question of law of claim construction (what is the full scope of the claims), and then a question of fact (whether the allegedly infringing activity is within that scope).

### **3.0 Historical Perspective**

#### **3.1 Literal and Substantive Infringement**

For most of the 20th century, Canadian courts followed a two-step approach in determining whether a patent was infringed. In the first step, the court construed the claims and determined whether the allegedly infringing act had literally taken the invention (literal or textual infringement). If it had not, the court proceeded to the second step of asking whether “in substance” the invention was wrongfully appropriated (substantive infringement).<sup>7</sup>

Literal infringement protected the *form* of the invention. Under this approach, the scope of patent protection was defined by the language of the patent claims, which were viewed as “fences” that an inventor had set up to demarcate the boundaries of its monopoly.<sup>8</sup> A finding of literal infringement required that the alleged infringer appropriate the very text of the patent claims. Even a minor and inconsequential variation of a claim element was considered non-infringing because it fell outside the inventor’s expressed monopoly.

Whereas literal infringement considered the form of the invention, substantive infringement focused on its *substance*. The “substance” of an invention has also been referred to as the “pith and marrow” or the

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<sup>7</sup> *Free World Trust v Électro Santé Inc*, 2000 SCC 66 at para 46 [*Free World Trust*].

<sup>8</sup> *Minerals Separation North American Corp v Noranda Mines Ltd*, [1947] Ex CR 306 at 352, Thorson J, rev’d 1949 CarswellNat 19 (WL Can) (SCC), aff’d 1952 CarswellNat 2 (WL Can) (PC).

“spirit.”<sup>9</sup> Under the substantive infringement step, a person may be held liable for taking the substance of an invention where the accused device omitted or substituted a non-essential feature.<sup>10</sup> As stated by the Exchequer Court of Canada in *Lightning Fastener Co v Colonial Fastener Co* and approved by Justice Mahoney of the Federal Court (as he then was) in *Globe-Union Inc v Varta Batteries Ltd*, the principle to be applied was as follows:

In each case the substance, or principle, of the invention and not the mere form is to be looked to. It has been stated in many cases that if an infringer takes the principle and alters the details, and yet it is obvious that he has taken the substance of the idea which is the subject matter of the invention, and has simply altered the details, the Court is justified in looking through the variation of details and see that the substance of the invention has been infringed and consequently can protect the inventor. And the question is not whether the substantial part of the machine or method has been taken from the specification, but the very different one, whether what is done by the alleged infringer takes from the patentee the substance of his invention.<sup>11</sup>

Since substantive infringement protects the substance of an invention, the scope of patent protection under this approach can be considerably broader than literal infringement because it is not necessarily limited by the precise language of the patent claims. In the Supreme Court of Canada decision in *Dominion Manufacturers*, Justice Rinfret appeared to have tied his finding of substantive infringement to the language of the *specification* rather than to the invention in general:

[A]ccording to any fair interpretation of the language of the specification, he has taken, in substance, the pith and marrow of the invention, with all its essential and characteristic features, except in details which could be varied without detriment to the successful working of it. There is no difference in the main

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<sup>9</sup> *Electrolier Manufacturing Co v Dominion Manufacturers Ltd*, [1934] SCR 436 at 444 [*Dominion Manufacturers*].

<sup>10</sup> *McPhar Engineering Co v Sharpe Instruments Ltd* (1960), [1956–60] Ex CR 467, 21 Fox Pat C 1 at para 128 (Ex Ct Can).

<sup>11</sup> *Globe-Union Inc v Varta Batteries Ltd* (1981), 57 CPR (2d) 132 at 146 (FC), aff'd (1984), 80 CPR (2d) 1 (FCA), leave to appeal to SCC refused, citing *Lightning Fastener Co v Colonial Fastener Co*, [1932] Ex CR 89 at para 9, rev'd [1933] SCR 363, rev'd [1934] 51 RPC 349 (PC).

elements of the two structures. There is no difference in the operation. Both perform the same function in the same way. Above all, “the spirit of the invention” was infringed.<sup>12</sup>

As inconsistent as these two approaches to patent infringement were with each other, the Canadian jurisprudence recognized and supported both. Each approach was also favoured for different policy reasons. Literal infringement promoted fairness and predictability by having the claims serve as a public notice function in defining the scope of the monopoly. However, literal infringement was criticized for being inflexible in allowing a person who has made minor and inconsequential variations to an invention to stay just outside the monopoly in order to escape liability.

In contrast, substantive infringement was lauded for its flexibility in providing a remedy for inventors in circumstances where the claimed invention was appropriated but for minor and inconsequential variations. In effect, infringement by taking the substance of an invention was the equivalent of stripping away all of the non-essential elements in the claim and reducing the claim to its essentials. However, critics have argued that an overly broad interpretation of the substance of an invention could risk conferring on a patentee the benefits of inventions that it had not in fact made but that could be deemed with hindsight to be substantially equivalent to what in fact was invented. In a system that is based on a quid pro quo bargain between the inventor and the state, this would be unfair to the public and to competitors.

This two-step approach to deciding patent infringement began to lose its footing in Canada in 1982 in *Procter & Gamble Co v Beecham Canada Ltd*,<sup>13</sup> when the Federal Court of Appeal cited with approval

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<sup>12</sup> *Dominion Manufacturers*, *supra* note 9 at 444.

<sup>13</sup> *Procter & Gamble Co v Beecham Canada Ltd* (1982), 61 CPR (2d) 1 (FCA) [*P&G*]. In that case, although a claim called for a “web” substrate, the Court of Appeal concluded that a web was not “essential” to the invention in the manner outlined in *Catnic*. Rather, any suitable substrate would do. Infringement would not be avoided by the mere substitution of another type of suitable substrate for a “web”).

the just-released UK House of Lords decision in *Catnic Components Ltd v Hill & Smith Ltd*.<sup>14</sup> The *Catnic* approach focused on the primacy of the claim language and distinguished the essential features of a claim from the non-essential features.<sup>15</sup> The approach in *Catnic* also aimed to collapse the two former approaches to patent infringement into a “single cause of action” as a way to minimize confusion.<sup>16</sup>

During the next two decades, judges at trial and on appeal struggled with how to apply the principles in *Catnic* to the Canadian law of claim construction and infringement. In *Eli Lilly & Co v O’Hara Manufacturing Ltd*, the Federal Court of Appeal applied *Catnic* to reverse a finding of infringement at trial.<sup>17</sup> The claims at issue were for a tablet-coating machine and included the element that an exhaust inlet be “flexibly biased” against a drum. The trial judge found that O’Hara’s machines were copies of the patented machine, with the only difference being that the exhaust inlet was mounted in a fixed, rather than a flexibly biased, position relative to the drum, which was of no real consequence. Reversing the trial judge’s finding of infringement, the Federal Court of Appeal held that since O’Hara’s machines lacked the requisite “flexibly biased” claim element, they were non-infringing. Moreover, the court stated that it must adhere to the language of the claims as drafted by the inventor:

A court must interpret the claims; it cannot redraft them. When an inventor has clearly stated in the claims that he considered a requirement as essential to his invention, a Court cannot decide otherwise for the sole reason that he was mistaken.<sup>18</sup>

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<sup>14</sup> *Catnic Components Ltd v Hill & Smith Ltd*, [1982] RPC 183 at 243 (HL (Eng)), Diplock L [*Catnic*].

<sup>15</sup> *Ibid* at 243.

<sup>16</sup> *Ibid* at 242.

<sup>17</sup> *Eli Lilly & Co v O’Hara Manufacturing Ltd* (1989), 26 CPR (3d) 1 (FCA) [*O’Hara*].

<sup>18</sup> *Ibid* at 7.

The Federal Court of Appeal gave a less strict application of *Catnic* in two later cases: *Computalog Ltd v Comtech Logging Ltd* and *Imperial Oil Ltd v Lubrizol Corp.*<sup>19</sup> It is noteworthy that the Court of Appeal was still referring to “pith and substance” infringement as the law in Canada. Several years later, however, the Supreme Court of Canada made it clear that “pith and substance” infringement was no longer the law.

## **4.0 The Current Approach**

### **4.1 Purposive Construction**

In two back-to-back decisions released on December 15, 2000, the Supreme Court of Canada settled the law on claim construction in Canada and, with it, the proper approach to determining patent infringement. Instead of endorsing one of the two existing approaches, the court landed somewhere between them, stating that the proper approach is based on a “purposive construction” of the claims, followed by the assessment of infringement.

Purposive construction was said to promote fairness to the patentee by interpreting claims in an informed and purposive way (as opposed to a literal interpretation), and, in doing so, also promoted fairness to the public by disciplining the scope of “substantive” claim construction and thus preventing the patentee from being granted a larger monopoly than what was bargained for.<sup>20</sup>

Although Canadian courts had, since *P&G*, variously applied purposive construction as formulated by the House of Lords in the *Catnic* case, the Supreme Court of Canada’s endorsement of *Catnic* in *Free World Trust* and *Whirlpool Corp v Camco Inc*<sup>21</sup> was intended to help settle much uncertainty

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<sup>19</sup> *Computalog Ltd v Comtech Logging Ltd* (1992), 44 CPR (3d) 77, 142 NR 216 (FCA); *Imperial Oil Ltd v Lubrizol Corp* (1992), 45 CPR (3d) 449, 98 DLR (4th) 1, 150 NR 207 (FCA).

<sup>20</sup> *Free World Trust*, *supra* note 7 at paras 43, 50.

<sup>21</sup> *Whirlpool Corp v Camco Inc*, 2000 SCC 67 [*Whirlpool*].



surrounding the proper approach to patent infringement that previously existed in Canada. As the Supreme Court stated, the scope of patent protection must be both reasonably predictable and fair.<sup>22</sup> And yet, as will be explored, the application of purposive construction to protect against infringement is not always fair.

As explained by the Supreme Court, purposive construction involves reading the claims in an “informed and purposive way” with a mind willing to understand, rather than in a purely literal sense.<sup>23</sup> It is from the perspective of a person skilled in the art with the common general knowledge that the patent claims should be construed. An informed and purposive construction of the words of the claims involves reading them in the context of the specification and with the sense of what the inventor is understood to have intended.<sup>24</sup>

The Supreme Court also explained that it will be apparent that some elements of the claimed invention are essential (elements that cannot be substituted without affecting the way in which the invention works), while others are non-essential.<sup>25</sup> In this way, the court attempted to clarify that a purposive construction is not merely a literal reading of the claims and that infringement cannot be avoided by the mere switching of “bells and whistles”:

It would be unfair to allow a patent monopoly to be breached with impunity by a copycat device that simply switched bells and whistles, to escape the literal claims of the patent. Thus the elements of the invention are identified as either essential elements (where substitution of another element or omission

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<sup>22</sup> *Free World Trust*, *supra* note 7 at para 41.

<sup>23</sup> *Ibid* at paras 31(c), 44, 50.

<sup>24</sup> *Ibid* at para 51.

<sup>25</sup> *Ibid* at para 31(e).

takes the device outside the monopoly), or non-essential elements (where substitution or omission is not necessarily fatal to an allegation of infringement).<sup>26</sup>

Under purposive construction, the essentiality of a claim element is highly significant to the determination whether patent infringement has occurred. There is no infringement if an essential element is substituted for or omitted from the allegedly infringing activity or device. However, infringement may still occur with the substitution or omission of non-essential elements.<sup>27</sup> In other words, infringement of a patent claim requires that all of its essential elements be found in the infringing activity or device, but not necessarily any of its non-essential elements.

The Supreme Court also stipulated that the onus is on the patentee to show that a claim element is non-essential and therefore substitutable. Unless the patentee establishes otherwise, claim elements are presumed to be essential.<sup>28</sup> In *Free World Trust*, Justice Binnie of the Supreme Court held that for an element to be considered non-essential, it must be shown either

(i) that on a purposive construction of the words of the claim it was clearly *not* intended to be essential, or (ii) that at the date of publication of the patent, the skilled addressees would have appreciated that a particular element could be substituted without affecting the working of the invention, i.e., had the skilled worker at that time been told of both the element specified in the claim and the variant and ““asked whether the variant would obviously work in the same way”,” the answer would be yes.<sup>29</sup>

There has been speculation that Justice Binnie intended his two-part test for essentiality to be conjunctive rather than disjunctive (that is, requiring that both questions be answered in the affirmative before the element can be found to be non-essential).<sup>30</sup> This uncertainty arises from the fact that Justice

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<sup>26</sup> *Ibid* at para 55.

<sup>27</sup> *Ibid* at para 31(f).

<sup>28</sup> *Ibid* at para 57; *Pollard Banknote Ltd v BABN Technologies Corp*, 2016 FC 883 at para 74 [*Pollard*].

<sup>29</sup> *Free World Trust*, *supra* note 7 at para 55 [emphasis in original].

<sup>30</sup> See *Shire Canada Inc v Apotex Inc*, 2016 FC 382 at paras 137–38; but see *Halford v Seed Hawk Inc*, 2006 FCA 275 at para 13, where an element is considered essential “on the basis of the intent of the inventor as expressed or inferred from the

Binnie, in the same paragraph in *Free World Trust* in which he proposed the two-part test, reformulated a similar test from the United Kingdom that is conjunctive. Specifically, Justice Binnie approved of the questions (“the Improver questions”) set out in *Improver Corp v Remington Consumer Products Ltd*:

(i) Does the variant have a material effect upon the way the invention works? If yes, the variant is outside the claim [that is, not caught by the monopoly of the patent]. If no:—

(ii) Would this (i.e.: that the variant had no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art? If no, the variant is outside the claim. If yes:—

(iii) Would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention? If yes, the variant is outside the claim.<sup>31</sup>

For infringement to be found for the variant in question, the answer to questions (i) and (iii) must be no and to question (ii) it must be yes.

Regardless of whether the test for essentiality is conjunctive or disjunctive, in practice patent trial counsel and judges often concede that all the elements of a claim are essential to the working of the invention or appear to skip that analytical step altogether.<sup>32</sup> Consequently, even the slightest variation of an element that should otherwise be considered non-essential has led to a finding of non-infringement. Few cases report any attempt or resultant success to characterize a claim element as non-

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claims, or on the basis of evidence as to whether it would have been obvious to a skilled worker at the time the patent was published that a variant of a particular element would make a difference to the way in which the invention works.”

<sup>31</sup> *Free World Trust*, *supra* note 7 at para 55, citing *Improver Corp v Remington Consumer Products Ltd*, [1990] FSR 181 at 182 (ChD Pat Ct) [*Improver*].

<sup>32</sup> See, for example, *Valence Technology, Inc v Phostech Lithium Inc*, 2011 FC 174 at paras 104, 131, 151; *Dow Chemicals Co v NOVA Chemicals Corp*, 2014 FC 844 at para 34; *Georgetown Rail Equipment Company v Rail Radar Inc*, 2018 FC 70 at para 158; *Tensar Technologies, Limited v Enviro-Pro Geosynthetics Ltd*, 2019 FC 277 at para 95 [*Tensar*]; *Bessette v Quebec (Attorney General)*, 2019 FC 393 at para 108; *Seedlings Life Science Ventures, LLC v Pfizer Company ULC*, 2020 FC 1 at para 99; *ViiV Healthcare Company v Gilead Sciences Canada, Inc*, 2020 FC 486 at para 4 [*ViiV*]; *Bauer Hockey Ltd v Sport Maska, Inc (CCM Hockey)*, 2020 FC 624 at para 73 [*Bauer Hockey*].

essential. Of the 43 patent trial cases reported since 2011, only 9 show clear attempts to argue that a claim element is non-essential, which suggests that essentiality is not often contested at trial.<sup>33</sup>

The appellants in *Whirlpool* also attempted to argue that the principle of purposive construction should apply only to the issue of infringement and not to the issue of validity. In rejecting this argument, the Supreme Court made it clear that purposive construction applies to both infringement and validity: “the claims receive one and the same interpretation for all purposes.”<sup>34</sup> Importantly, the court also stated that “[a] patent must not of course be construed with an eye on the allegedly infringing device in respect of infringement or with an eye to the prior art in respect of validity to avoid its effect.”<sup>35</sup> Claim construction was not to be a “results-oriented” exercise. In other cases, in reiterating that the same construction applies to all issues, Canadian courts have stated that a patent cannot be “read up” for one purpose (such as validity) and “read down” for another (such as infringement).<sup>36</sup>

It is undoubtedly advantageous to a patentee on the issue of validity to have all elements of a claim be considered essential. Indeed, it is well settled that to prove that an invention has been anticipated requires that there be a single prior art reference that discloses all the essential elements of the invention at issue.<sup>37</sup> Similarly, a claim will be found to be overbroad and invalid where it fails to claim

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<sup>33</sup> See, for example, *Hollick Solar Systems Ltd v Matrix Energy Inc*, 2011 FC 1213 at para 57; *Eurocopter v Bell Helicopter Textron Canada Limitée*, 2012 FC 113 at para 246; *ABB Technology AG v Hyundai Heavy Industries Co, Ltd*, 2013 FC 947 at paras 73, 81; *Cascade Corporation v Kinshofer GmbH*, 2016 FC 1117 at para 78 [*Cascade*]; *Excalibre Oil Tools Ltd v Advantage Products Inc*, 2016 FC 1279 at paras 219, 229; *Mediatube Corp v Bell Canada*, 2017 FC 6 at para 73; *MIPS AB v Bauer Hockey Ltd*, 2018 FC 485 at paras 170–71 [*MIPS*]; *Safe Gaming System v Atlantic Lottery Corporation*, 2018 FC 542 at para 85; *Eli Lilly Canada Inc v Apotex Inc*, 2020 FC 814 at para 163.

<sup>34</sup> *Whirlpool*, *supra* note 21 at para 49(b).

<sup>35</sup> *Ibid* at para 49(a).

<sup>36</sup> *Hoffmann-La Roche Limited v Apotex Inc*, 2011 FC 875 at para 22.

<sup>37</sup> See, for example, *Eli Lilly and Company v Apotex Inc*, 2009 FC 991 at para 410, *aff'd* 2010 FCA 240, leave to appeal to SCC refused.

an essential element of the invention made or disclosed.<sup>38</sup> Conversely, there is an advantage to an alleged infringer on the issue of infringement to leave all elements in a claim as essential. That tension—between trying to have a claim read as broadly as possible and at the same time not exposing the claim to an attack on its validity—appears to explain some of the apparent reluctance that Canadian trial counsel have had in trying to render a claim element non-essential.

This tension is well illustrated by a recent decision of the Federal Court in *Tensar*<sup>39</sup> relating to geogrid products used in the construction industry to reinforce, contain, and filter particulate matter, and methods for making those products.

In *Tensar*, the parties simply agreed that all elements of the claims in suit were essential, and no detailed analysis of essentiality was performed by the Federal Court.<sup>40</sup> Instead, the court’s analysis focused on the meaning of the claim element “continuous orientation.” The patentee was apparently motivated to accept all claim elements as essential to avoid a piece of prior art that disclosed all claim elements except for the “continuous orientation” element, while the defendant was apparently motivated to accept all claim elements as essential because its defence to infringement was centred on its device’s alleged omission of the “continuous orientation” element.

In adopting the purposive construction approach in *Free World Trust*, the Supreme Court affirmed the primacy of the claim language for construing the scope of patent protection, and it expressly rejected any vague notion of the “spirit of the invention” to expand it further.<sup>41</sup> By adhering to the language of the claims, purposive construction was said to further the public interest of promoting predictability:

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<sup>38</sup> See, for example, *MIPS*, *supra* note 33 at para 247.

<sup>39</sup> *Tensar*, *supra* note 32.

<sup>40</sup> *Ibid* at para 95.

<sup>41</sup> *Free World Trust*, *supra* note 7 at para 31(d).

the greater the level of discretion left to courts to peer below the language of the claims in a search for “the spirit of the invention,” the less the claims can perform their public notice function, and the greater the resulting level of unwelcome uncertainty and unpredictability.<sup>42</sup>

In particular, the Supreme Court expressed concerns about how a patent system that was uncertain could “chill” competition by creating fear in competitors wanting to work in areas that are not in fact protected by a patent.<sup>43</sup>

It must be noted that the blatant taking of a patented invention is rarely an issue for infringement at trial. A trial about blatant infringement would usually be about the validity of the patent, not its infringement. Trials about issues of infringement are almost always about how well the defendant has concealed its taking of the invention by straying from the words in the claims. The apparent failing of purposive construction to protect against infringement is that too often the claim element is found to be essential (with either no attempt to rebut the presumption of essentiality or a finding that the onus not satisfied) and/or is given a literal rather than a purposive meaning.

What appears not to have been foreseeable by the Supreme Court was that patent counsel would so readily concede questions of claim element essentiality (and that the courts would so readily accept essentiality). Consequently, few cases reveal the parties contesting the essentiality of a claim element; instead, analytical battles are fought almost exclusively on the “purposive meaning” of elements. The effect is that the essentiality analysis (recognized by the Supreme Court in *Free World Trust* as being an important analytical step to prevent an infringer from breaching a patent monopoly with impunity by switching “bells and whistles”) has become an afterthought. As a result, it is suggested that purposive

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<sup>42</sup> *Ibid* at para 50.

<sup>43</sup> *Ibid* at paras 41–42.

construction has failed to provide the degree of protection against infringement intended by the Supreme Court.

The Supreme Court also expressly considered the doctrine of equivalents, used in the US patent system to overcome the limited patent protection that is accorded to a patentee under literal infringement. The Supreme Court of Canada chose not to import the doctrine into Canadian law, having concluded that purposive construction does the trick.<sup>44</sup> To be consistent, the Supreme Court rejected “file wrapper estoppel,” the law developed in the United States to prescribe limits on how a patentee can construe claims, in light of arguments or concessions made during prosecution.<sup>45</sup>

## **4.2 Purposive Construction in Patent Prosecution**

As described above, claims are to receive “one and the same interpretation for all purposes.” Consistent with this, during examination of a patent application, the Commissioner of Patents is required to identify the actual invention on the basis of a purposive construction of the claims.<sup>46</sup> The Patent Office takes the position that claim construction during examination “requires an examiner to interpret each claim” based on a set of practice guidelines,<sup>47</sup> summarized below:

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<sup>44</sup> *Ibid* at paras 37–40.

<sup>45</sup> *Ibid* at para 66.

<sup>46</sup> *Canada (Attorney General) v Amazon.com, Inc*, 2011 FCA 328 at para 43 [*Amazon*].

<sup>47</sup> Canadian Intellectual Property Office, “Examination Practice Respecting Purposive Construction—PN2013-02” (8 March 2013), online (pdf): CIPO <[https://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/PN2013-02-eng.pdf/\\$file/PN2013-02-eng.pdf](https://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/PN2013-02-eng.pdf/$file/PN2013-02-eng.pdf)> [PN2013-02]; Canadian Intellectual Property Office, “Examination Practice Respecting Computer-Implemented Inventions—PN 2013-03” (8 March 2013), online (pdf): CIPO <[https://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/PN2013-03-eng.pdf/\\$file/PN2013-03-eng.pdf](https://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/PN2013-03-eng.pdf/$file/PN2013-03-eng.pdf)>; Canadian Intellectual Property Office, “Patent Notice: Revised Examination Practice Respecting Medical Uses—PN 2015-01” (18 March 2015), online: CIPO <[www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr03916.html](http://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr03916.html)>; Canadian Intellectual Property Office, “Patent Notice: Examination Practice Respecting Medical Diagnostic Methods—PN 2015-02” (29 June 2015), online: CIPO <[www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr03945.html](http://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr03945.html)>.

#### **4.2.1 Use a Fair, Balanced, and Informed Approach**

A “fair, balanced, and informed” approach is effectively a purposive approach and involves reading the specification as a whole through the eyes and mind of a person who is skilled in the art and who possesses the common general knowledge in the relevant field of the invention at the time of publication of the application. By purposively construing the meaning of the terms in the claims, the examiner can ascertain the nature of the invention.

#### **4.2.2 Identify the “Problem” and the “Solution”**

Since the patentability of an invention is based on a determination that it provides an inventive solution to a practical problem, the examiner, to identify the problem and the solution sought by the inventors, should be guided by the description in the patent application and not by the closest prior art.

#### **4.2.3 View the Entire Specification as Context to Claim Construction**

The Patent Office emphasizes its reliance on *Amazon*<sup>48</sup> in taking the position that an informed purposive construction must consider the entire specification rather than simply a literal reading of the claims.

#### **4.2.4 Determine Which Elements of the Claim Solve the Identified Problem**

The Patent Office reiterates its view that only after the problem and the solution have been identified can the essential elements be identified. When defining a “non-essential element,” the Patent Office provides the following guidelines:

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<sup>48</sup> *Amazon*, *supra* note 46 at para 43.



- 1) Rely on the test for a “non-essential element” from *Free World Trust*: “at the date of publication of the patent, the skilled addressees would have appreciated that a particular element could be substituted without affecting the working of the invention.”<sup>49</sup>
- 2) Consider whether the element is superfluous (and thus non-essential) specifically with relevance to the solution to a given problem. Superfluous (non-essential) elements are not relevant to the determination of a claim’s patentability during examination.

Notably, the Patent Office indicates that the identification of the solution should be done with a view of the elements that provide the inventive solution (that is, the essential elements), while considering that some elements may exist as part of the operating environment but do not contribute to the solution being addressed (that is, the non-essential elements). Only the claimed elements that contribute to the patentable nature of the invention, and in effect bring the claim over the threshold into allowance, should be considered essential.

#### **4.2.5 Focus on One Solution to a Problem**

The Patent Office states that purposive construction should in effect determine a single solution to a problem, with consideration given to the description and the emphasis placed by the inventors.

Specifically, the initial choice of solution should be based on “the solution given the greatest emphasis by the inventors.”

The Patent Office has also stated that the purposive construction of claims by an examiner is informed by the applicant’s submissions, the knowledge of an appropriately experienced examiner, the identification of the problem and solution provided by the invention, and the application as a whole.<sup>50</sup>

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<sup>49</sup> *Free World Trust*, *supra* note 7 at para 55.

<sup>50</sup> PN2013-02, *supra* note 47.

This problem–solution approach is in line with the decision in *Wenzel Downhole Tools Ltd v National-Oilwell Canada Ltd*:

To give a purposive construction to the claims of a patent, it seems to me that one should understand the purpose of the invention and the problem that the invention sought to address. For the most part, inventors come to their patentable inventions in order to solve a problem. What was the problem that the “630 Patent was intended to address?”<sup>51</sup>

An example of the Patent Appeal Board (PAB) applying the Canadian Intellectual Property Office’s (CIPO’s) practice notice on purposive construction can be seen in decision number 1373.<sup>52</sup> In this decision, the PAB concluded that the subject matter of the independent claims “pertains to an abstract scheme or set of rules for providing financial advice, which fails to manifest a discernible effect or change,”<sup>53</sup> and therefore are not directed to patentable subject matter.

The PAB further stated:

While purposive construction is anchored in the language of the claims, the analysis cannot be based solely on a literal reading of the claims (see *Amazon*, para. 43); an element is not automatically considered essential by its mere presence in the language of the claim as drafted by the inventor. Instead, as the practice notice in our view correctly indicates, it must be determined whether or not an element is essential because it cannot be varied or omitted without a material effect on the invention.<sup>54</sup>

CIPO’s problem–solution approach to the examination of Canadian patents was recently rejected by the Federal Court on the basis that it is inconsistent with the purposive construction approach in *Whirlpool* and *Free World Trust*. In *ChouEIFaty v Canada (Attorney General)*,<sup>55</sup> the inventor appealed the

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<sup>51</sup> *Wenzel Downhole Tools Ltd v National-Oilwell Canada Ltd*, 2011 FC 1323 at para 61, Snider J, aff’d 2012 FCA 333.

<sup>52</sup> *Re Application No 2,312,726* (10 October 2014), Decision 1373, online: Commissioner of Patents, <<https://brevets-decisions-patents.opic-cipo.gc.ca/pab-cab/p/en/item/467884/index.do?q=1373>>.

<sup>53</sup> *Ibid* at para 60.

<sup>54</sup> *Ibid* at para 30.

<sup>55</sup> *ChouEIFaty v Canada (Attorney General)*, 2020 FC 837 [*ChouEIFaty*].

Commissioner of Patents' refusal of a patent application relating to a computer-implemented method for providing an anti-benchmark portfolio. The Commissioner applied a problem–solution approach to the claims and concluded that the essential elements of the claims were “directed to a scheme or rules involving mere calculations,” and therefore outside the definition of an “invention.”<sup>56</sup>

In rejecting the problem–solution approach adopted by CIPO, Justice Zinn in *Chouiefaty* compared the approach to the “substance of the invention” approach discredited by the Supreme Court of Canada in *Free World Trust*.<sup>57</sup> Justice Zinn further noted that the problem–solution approach also fails to take into consideration the inventor’s intention, which, as set out in *Free World Trust*, is relevant to determining whether a claim element is essential or non-essential.<sup>58</sup> To reinforce the notion that CIPO is bound by the purposive construction test set out by the Supreme Court of Canada, Justice Zinn reiterated the findings of the Federal Court of Appeal in *Amazon* imposing this requirement on the Commissioner.<sup>59</sup>

The repercussions of *Chouiefaty* remain to be seen in the long term. CIPO has recently responded to this decision by updating practice guidelines on purposive construction to suggest that all claimed elements are presumed to be essential unless established otherwise or contrary to language used in the claim.<sup>60</sup> Returning to the *Chouiefaty* decision, examination of Canadian patent applications must now be based on purposive construction consistent with the teachings in *Free World Trust* and *Whirlpool* and notably with consideration to the inventor’s intention. If due consideration must be given to the

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<sup>56</sup> *Ibid* at para 16.

<sup>57</sup> *Ibid* at para 37.

<sup>58</sup> *Ibid* at para 39.

<sup>59</sup> *Ibid* at para 35.

<sup>60</sup> Canadian Intellectual Property Office, “Patentable Subject-Matter Under the *Patent Act*” (3 November 2020), online: CIPO <<http://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr04860.html>>.

inventor's intention, one might expect that there may be more allowances of patent applications, particularly those that may have been previously objected to as non-statutory subject matter, because the inclusion of a claim element may be considered an expressed intent by the inventor that the element is essential to the invention. In respect of infringement, the repercussions of *Choueifaty* may similarly mean that each and every claimed element may be considered essential on a purposive construction (subject to language indicating that any of the elements is optional or to the language used in the claim), and thus any single element may be varied to avoid infringement.

### **4.3 File Wrapper Estoppel**

A recent development in the Canadian approach to claim construction is the treatment of file wrapper estoppel in Canadian law. In jurisdictions where it is applied, the concept of file wrapper (or prosecution history) estoppel prevents patentees from asserting a position regarding claim construction during litigation that is inconsistent with the patentee's statements made to the patent office during prosecution. Specifically, a patentee who argues during prosecution for a limited construction of a claim in order to avoid prior art is prevented from arguing for a wider scope of the claim when asserting the patent in infringement proceedings.

Historically, Canadian patent law had rejected the concept of file wrapper estoppel. In *Free World Trust*, Justice Binnie expressly rejected the use of extrinsic evidence including the patent prosecution history for the purposes of unveiling the inventor's intention. The court's reasoning for not "opening the Pandora's box of file wrapper estoppel" was that doing so would "undermine the public notice function of the claims and increase uncertainty as well as fuelling the already overheated engines of patent litigation."<sup>61</sup>

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<sup>61</sup> *Free World Trust*, *supra* note 7 at para 66.

Be that as it may, the risk associated with disallowing the use of the prosecution history to construe patent claims was made apparent in *Pollard*.<sup>62</sup> There, the patentee attempted to take a position on the construction of a claim that was different from what was represented to the Canadian Patent Office to overcome a prior art citation during examination. As Justice Locke (as he then was) noted, excluding the use of the patent prosecution history has the potential risk of giving a very different interpretation of what the inventor had intended, thereby giving the inventor more than what he had bargained for:

[I]t is breathtaking to see SG [one of the defendants] now attempt not just to take a different position on the construction of claim 1, but also to argue that, by doing so, it does not reintroduce the problem of obviousness in light of the Camarato Application that it had previously argued was avoided applying its first position.

I would expect that SG's argument would never have made it to a trial in the US where the principle of file wrapper estoppel applies. There, SG would likely not have been allowed to argue a claim construction that attempts to recapture ground conceded during prosecution of the patent application to avoid prior art.

This case highlights a potential risk in taking a simpler approach to claim construction by ignoring extrinsic evidence, such as the prosecution history of the patent in suit. As revealed in my analysis above, excluding such extrinsic evidence resulted in a very different construction of the phrase “a removable continuous scratch-off coating covering both the printed indicia in said play area and the bar code” than would otherwise have been the case.<sup>63</sup>

The common-law ban against the use of the extrinsic evidence of the patent prosecution history for the purposes of claim construction was overturned by a legislative change to the *Patent Act* in December 2018. Canadian law now recognizes a form of file wrapper estoppel. Pursuant to newly added section 53.1 of the *Patent Act*, written communications between the patentee and the Canadian Patent

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<sup>62</sup> *Pollard*, *supra* note 28.

<sup>63</sup> *Ibid* at paras 237–39.

Office in respect of the prosecution of a patent are admissible as evidence to rebut any representation made by the patentee as to the construction of a claim in the patent.<sup>64</sup>

While the language of section 53.1 is limited to communications between the patentee and the Canadian Patent Office, Justice Manson of the Federal Court in *Canmar Foods Ltd v TA Foods Ltd* held that, in extraordinary circumstances, the prosecution histories from foreign applications may also be admissible.<sup>65</sup> However, Justice Lafrenière in *Gemak v Jempak* arrived at a different conclusion, ruling that foreign prosecution history is inadmissible.<sup>66</sup> Both decisions have been appealed to the Federal Court of Appeal.

The Canadian approach to claim construction and patent infringement has settled on purposive construction with a unique version of file wrapper estoppel that remains unsettled. What is missing from the Canadian approach, however, may be a necessary counterbalance to purposive construction and file wrapper estoppel, namely, the doctrine of equivalents, which has long been the law in the United States and now is the law in the United Kingdom.

## **5.0 United Kingdom**

As noted above, Canada's adoption of purposive claim construction was largely influenced by the UK common law and the opinion of Lord Diplock in *Catnic*. The principles set out in *Catnic* had been the prevailing approach to claim construction and patent infringement in the United Kingdom for decades, but this has since fundamentally changed following the UK Supreme Court's judgment in *Actavis UK Limited v Eli Lilly and Company*, discussed later in this article.

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<sup>64</sup> *Patent Act*, RSC 1985, c P-4, s 53.1.

<sup>65</sup> *Canmar Foods Ltd v TA Foods Ltd*, 2019 FC 1233 at paras 73–74, appeal to FCA pending (court file no A-408-19).

<sup>66</sup> *Gemak v Jempak*, 2020 FC 644 at para 86, appeal to FCA pending (court file no A-158-20).

## 5.1 Purposive Construction and the Doctrine of Equivalents

In *Catnic*, Lord Diplock rejected the notion that there were two types of patent infringement, literal and substantive infringement, and instead held that there was only one cause of action.<sup>67</sup> His endorsement of the purposive construction approach has become a well-known passage:

A patent specification should be given a purposive construction rather than a purely literal one derived from applying to it the kind of meticulous verbal analysis in which lawyers are too often tempted by training to indulge.<sup>68</sup>

On a purposive construction approach, Lord Diplock recognized that there may be variants embodied in an allegedly infringing device that would fall outside the words of the claims but had no material effect on the way the invention worked. Lord Diplock's approach to determining whether such a variant was nonetheless within the scope of patent protection can be summarized by the Improver questions formulated by Lord Hoffman in *Improver*. As discussed earlier, the Improver questions were subsequently reformulated when incorporated into Canadian law in *Free World Trust*.<sup>69</sup>

Legislative context is important to understanding how the UK approach to claim construction and patent infringement has developed since *Catnic*. Article 69 of the *European Patent Convention* (EPC) specifies the extent of patent protection:

The extent of the protection conferred by a European patent or a European patent application shall be determined by the claims. Nevertheless, the description and drawings shall be used to interpret the claims.<sup>70</sup>

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<sup>67</sup> *Catnic*, *supra* note 14 at 242.

<sup>68</sup> *Ibid* at 243.

<sup>69</sup> *Free World Trust*, *supra* note 7 at para 55.

<sup>70</sup> *European Patent Convention*, 5 October 1973, art 69 (as revised by the Act revising Article 63 EPC of 17 December 1991 and the Act revising the EPC of 29 November 2000) [EPC].

Guidance on the interpretation of article 69 of the EPC is set out in the *Protocol on the Interpretation of Article 69 EPC*, which states:

**Article 1: General principles**

Article 69 should not be interpreted as meaning that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Nor should it be taken to mean that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patent proprietor has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patent proprietor with a reasonable degree of legal certainty for third parties.

**Article 2: Equivalents**

For the purpose of determining the extent of protection conferred by a European patent, due account shall be taken of any element which is equivalent to an element specified in the claims.<sup>71</sup>

Accordingly, the scope of protection for a European patent is defined by the words of the claims, which are not to be construed literally or viewed as mere guidelines. The monopoly may also include equivalents of a claim element. As a guiding principle, domestic courts of all contracting states of the EPC, which include the United Kingdom, are to determine the extent of patent protection that gives effect to “a fair protection for the patent proprietor with a reasonable degree of legal certainty for third parties.”<sup>72</sup>

In *Kirin-Amgen Inc v Hoechst Marion Roussel Ltd*, Lord Hoffman noted that while the Protocol sets out the protocol for the construction of article 69, it does not expressly lay down any principles for the

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<sup>71</sup> *Protocol on the Interpretation of Article 69 EPC*, 5 October 1973, arts 1, 2 (as revised by the Act revising the EPC of 29 November 2000) [Protocol].

<sup>72</sup> *Ibid*, art 1.



construction of claims.<sup>73</sup> He held that the principle of purposive construction as set out in *Catnic* gives effect to the requirements of the Protocol, and that the Improver questions encapsulate the guidelines for applying that principle to equivalents.<sup>74</sup> Lord Hoffman concluded that determining the scope of patent protection as per article 69 of the EPC ultimately requires one to construe the claims:

The determination of the extent of protection conferred by a European patent is an examination in which there is only one compulsory question, namely that set by article 69 and its Protocol: what would a person skilled in the art have understood the patentee to have used the language of the claim to mean? Everything else, including the [Improver questions], is only guidance to a judge trying to answer that question. But there is no point in going through the motions of answering the [Improver questions] when you cannot sensibly do so until you have construed the claim.<sup>75</sup>

In reference to the doctrine of equivalents, Lord Hoffman held that article 69 “firmly shuts the door on any doctrine which extends protection outside the claims.”<sup>76</sup> After a review of the US jurisprudence on the doctrine of equivalents, he noted that whereas the United States developed this doctrine to overcome the issues with literalism, the United Kingdom instead adopted the “pith and marrow” approach to infringement (which was subsequently abandoned in favour of purposive construction):

It seems to me that both the doctrine of equivalents in the United States and the pith and marrow doctrine in the United Kingdom were born of despair. The courts felt unable to escape from interpretation which “unsparing logic” appeared to require and which prevented them from according the patentee the full extent of the monopoly which the person skilled in the art would reasonably have thought that he was claiming. The background was the tendency to literalism which then characterised the approach of the courts to the interpretation of documents generally and the fact that patents are likely to attract skills of lawyers seeking to exploit literalism to find loopholes in the monopoly they create.<sup>77</sup>

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<sup>73</sup> *Kirin-Amgen Inc & Ors v Hoechst Marion Roussel Ltd & Ors*, [2004] UKHL 46 at para 47, Hoffman L [*Kirin-Amgen*].

<sup>74</sup> *Ibid* at para 52.

<sup>75</sup> *Ibid* at para 69.

<sup>76</sup> *Ibid* at para 44.

<sup>77</sup> *Ibid* at para 41.

Lord Hoffman is understood to have decided against the introduction of the doctrine of equivalents into UK law because purposive construction not only gives effect to article 2 of the Protocol but also to the doctrine of equivalents. This was not the view of everyone. Sir Hugh Laddie, after he retired from the bench, wrote, “*Catnic* is better regarded as the penultimate step on the road to the adoption of a narrow, unforgiving approach to the determination of the scope of protection. It is suggested that the ultimate step is [*Kirin-Amgen*] itself.”<sup>78</sup>

However, in a landmark decision by the UK Supreme Court in *Actavis*, Lord Neuberger rejected Lord Hoffman’s attempt to reconcile the existing common-law approach to claim construction and infringement with the legislative context of article 69.<sup>79</sup> It should be noted that Lord Neuberger was the trial judge, whose finding of infringement had been reversed on appeal by Lord Hoffman, in *Kirin-Amgen*.

In *Actavis*, Lord Neuberger held that, notwithstanding *Catnic* and *Kirin-Amgen*, infringement is best approached by addressing two issues, each of which is considered through the eyes and mind of the skilled person:

- (i) does the variant infringe any of the claims as a matter of normal interpretation; and if not,
- (ii) does the variant nonetheless infringe because it varies from the invention in a way or ways which is or are immaterial?

If the answer to either issue is “yes,” there is an infringement; otherwise there is not.<sup>80</sup>

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<sup>78</sup> Hugh Laddie, “*Kirin-Amgen—The End of Equivalents in England?*” (2009) 40:1 Intl Rev IP & Comp L 3 at para 51. This is an excellent commentary on the law of claim construction and patent infringement in the United Kingdom.

<sup>79</sup> Gordon Harris, “*Actavis v Eli Lilly—Should We Have Seen It Coming?*” Briefing Note, (2017), online: Gowling WLG, <<https://gowlingwlg.com/getmedia/713a5810-6df8-4499-8b39-52c7da1fd616/170914-actavis-v-eli-lilly-should-we-have-seen-it-coming.pdf.xml>>.

<sup>80</sup> *Actavis UK Limited et al v Eli Lilly and Company*, [2017] UKSC 48 at para 54, Neuberger L [*Actavis*].

To the extent that Lord Hoffman conflated the two infringement issues into a single question of interpretation, Lord Neuberger held that this was wrong in principle.<sup>81</sup>

While Lord Neuberger stated that issue (i) involves “normal interpretation,” subsequent case law has interpreted “normal interpretation” to mean “purposive interpretation.”<sup>82</sup> However, he noted that issue (ii) “involves not merely identifying what the words of a claim would mean in their content to the notional addressee, but also considering the extent if any to which the scope of protection afforded by the claim should extend beyond that meaning.”<sup>83</sup> Issue (ii) squarely raised the question of equivalents as set out in article 2 of the Protocol, and in doing so introduced the doctrine of equivalents into UK law.

For determining whether infringement had been established under issue (ii) (that is, under the doctrine of equivalents), Lord Neuberger considered and reformulated the Improver questions as follows:

- i) Notwithstanding that it is not within the literal meaning of the relevant claim(s) of the patent, does the variant achieve substantially the same result in substantially the same way as the invention, i.e. the inventive concept revealed by the patent?
- ii) Would it be obvious to the person skilled in the art, reading the patent at the priority date, but knowing that the variant achieves substantially the same result as the invention, that it does so in substantially the same way as the invention?
- iii) Would such a reader of the patent have concluded that the patentee nonetheless intended that strict compliance with the literal meaning of the relevant claim(s) of the patent was an essential requirement of the invention?

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<sup>81</sup> *Ibid* at para 55.

<sup>82</sup> *Icescape Ltd v Ice-World International BV & Ors*, [2018] EWCA Civ 2219 at para 60, Kitchin L, and para 96, Floyd L.

<sup>83</sup> *Actavis*, *supra* note 80 at paras 56, 58.

In order to establish infringement in a case where there is no literal infringement, a patentee would have to establish that the answer to the first two questions was “yes” and that the answer to the third question was “no.”<sup>84</sup>

In *Actavis*, the patentee claimed the use of “pemetrexed disodium” in the manufacture of a medication for use in combination with vitamin B12 for the treatment of cancer. Rather than pemetrexed disodium, the defendants used other pemetrexed compounds, namely, pemetrexed diacid, pemetrexed ditromethamine, or pemetrexed dipotassium.

Applying the reformulated Improver questions to the facts in *Actavis*, Lord Neuberger concluded that the infringing products work in the same way as the invention (question 1), that this would be appreciated by a person skilled in the art (question 2), and that this notional person would not likely have concluded that the patentee intended to exclude other pemetrexed compounds from the scope of protection (question 3).<sup>85</sup> On that basis, the *Actavis* products were found to be infringing under the doctrine of equivalents.<sup>86</sup>

Would a Canadian patent claim, corresponding to one at issue in *Actavis*, be infringed under current Canadian patent law? Maybe not. A purposive construction of the *Actavis* patent claims might lead to the conclusion that “pemetrexed disodium” was an essential element and thus, absent this specific compound in the infringing product, there would be no infringement.

Lord Neuberger’s two-pronged approach to infringement and the recognition that a patent may be infringed even where there is no infringement after the claim is construed is a significant departure from Lord Diplock’s “single cause of action” approach to infringement based on purposive

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<sup>84</sup> *Ibid* at para 66.

<sup>85</sup> *Ibid* at paras 68–74.

<sup>86</sup> *Ibid* at para 75.

construction. It looks like a return to a modified “two-step” approach that existed in Canadian law before *Whirlpool* and *Free World Trust*.

## 5.2 File Wrapper Estoppel

*Actavis* also overturned the previous common-law ban on the use of a patent’s prosecution history for the purposes of interpretation or infringement. Notably, in *Kirin-Amgen*, Lord Hoffman stated that there were good reasons for this prohibition—namely, that “the meaning of the patent should not change according to whether or not the person skilled in the art has access to the file and in any case life is too short for the limited assistance which it can provide.”<sup>87</sup>

However, in *Actavis*, Lord Neuberger revisited this issue and held that, under appropriate circumstances, the contents of a patent’s prosecution file may be referred to when questions of interpretation or infringement are being considered:

In my judgment, it is appropriate for the UK courts to adopt a sceptical, but not absolutist, attitude to a suggestion that the contents of the prosecution file of a patent should be referred to when considering a question of interpretation or infringement, along substantially the same lines as the German and Dutch courts. It is tempting to exclude the file on the basis that anyone concerned about, or affected by, a patent should be entitled to rely on its contents without searching other records such as the prosecution file, as a matter of both principle and practicality. However, given that the contents of the file are publicly available (by virtue of article 128 EPC 2000) and (at least according to what we were told) are unlikely to be extensive, there will be occasions when justice may fairly be said to require reference to be made to the contents of the file. However, not least in the light of the wording of article 69 EPC 2000, which is discussed above, the circumstances in which a court can rely on the prosecution history to determine the extent of protection or scope of a patent must be limited.<sup>88</sup>

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<sup>87</sup> *Kirin-Amgen*, *supra* note 73 at para 35.

<sup>88</sup> *Actavis*, *supra* note 80 at para 87.

Lord Neuberger then identified two non-exhaustive circumstances where reference to a patent's prosecution history may be appropriate:

- (i) the point at issue is truly unclear if one confines oneself to the specification and claims of the patent, and the contents of the file unambiguously resolve the point, or
- (ii) it would be contrary to the public interest for the contents of the file to be ignored such as in the case where the patentee had made it clear to the EPO that he was not seeking to contend that his patent, if granted, would extend its scope to the sort of variant which he now claims infringes.<sup>89</sup>

The limited circumstances in which a patent's prosecution history may be used also limits the circumstances in which file wrapper estoppel may apply. In *Actavis*, the prosecution history of the asserted patent showed that the patentee had first filed for a broader set of claims involving antifolate (a class of chemicals that includes pemetrexed), which was subsequently limited to pemetrexed, and then further limited to the final issued claims involving pemetrexed disodium. Despite the clear abandonment of the broader set of claims, Lord Neuberger found that this had no bearing on the question whether any pemetrexed salts other than pemetrexed disodium should be within the scope of the patent pursuant to the doctrine of equivalents. According to Lord Neuberger, “[t]he whole point of the doctrine [of equivalents] is that it entitles the patentee to contend that the scope of protection afforded by the patent extends beyond the ambit of its claims as construed according to normal principles of interpretation.”<sup>90</sup>

The defendants were ultimately found liable for infringement under the doctrine of equivalents.

Overall, the United Kingdom has had a long history of applying purposive construction to the issue of infringement, but this has since changed following *Actavis*. The current approach to infringement in the United Kingdom is now more akin to the US approach, where there are two prongs: literal infringement

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<sup>89</sup> *Ibid* at para 88.

<sup>90</sup> *Ibid* at para 89.

and infringement under the doctrine of equivalents. Another significant development in UK patent law is the use of the file history of a patent, which is now permitted in appropriate circumstances.

## **6.0 United States**

### **6.1 The Current Approach to Claim Construction and Patent Infringement**

Much as in Canada and the United Kingdom, a “bedrock principle” of patent law in the United States is that “the claims of a patent define the invention to which the patentee is entitled the right to exclude.”<sup>91</sup> Claim construction involves giving claim terms an ordinary and customary meaning from the perspective of a person of ordinary skill in the art at the time of the invention—namely, the effective filing date of the patent application.<sup>92</sup> In *Phillips v AWH Corp*, the Federal Circuit summarized the evidentiary sources that may be used for claim construction.<sup>93</sup> Importantly, claims are not to be read in a vacuum but must be construed in the context of intrinsic evidence, including the entire patent (including the other claims and the disclosure) and prosecution history.<sup>94</sup> Although considered less reliable than intrinsic evidence, extrinsic evidence such as expert and inventor testimonies, dictionaries, and learned treatises may also be used to help construe the patent claims.<sup>95</sup>

Once the claims have been construed, a patent may be found to be literally infringed. If it is not, the United States has long recognized an alternative approach to infringement under the doctrine of equivalents. Under this doctrine, “a product or process that does not literally infringe upon the express

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<sup>91</sup> *Phillips v AWH Corp*, 415 F (3d) 1303 at 1312 (Fed Cir 2005), Bryson J.

<sup>92</sup> *Ibid* at 1313.

<sup>93</sup> *Ibid*.

<sup>94</sup> *Ibid* at 1314–17.

<sup>95</sup> *Ibid* at 1317–19.

terms of a patent claim may nonetheless be found to infringe if there is “equivalence” between the elements of the accused product or process and the claimed elements of the patented invention.”<sup>96</sup>

Early jurisprudence on the doctrine of equivalents described it in much the same way as the substantive infringement approach applied in prior Canadian law. For example, Justice Jackson of the Supreme Court of the United States (SCOTUS) in *Graver Tank & Mfg Co v Linde Air Products Co* stated:

The essence of the doctrine is that one may not practice a fraud on a patent. Originating almost a century ago in the case of *Winans v. Denmead*, 15 How. 330, 14 L.Ed. 717, it has been consistently applied by this Court and the lower federal courts and continues today ready and available for utilization when the proper circumstances for its application arise. “To temper unsparing logic and prevent an infringer from stealing the benefit of the invention” a patentee may invoke this doctrine to proceed against the producer of a device “if it performs substantially the same function in substantially the same way to obtain the same result.” *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42, 50 S.Ct. 9, 13, 74 L.Ed. 147. The theory on which it is founded is that “if two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form or shape.” *Union Paper-Bag Machine Co. v. Murphy*, 97 U.S. 120, 125, 24 L.Ed. 935.<sup>97</sup> [Emphasis added.]

While the doctrine of equivalents and substantive infringement may both represent alternatives to literal infringement, the two are also distinct. As discussed earlier, substantive infringement focuses on elusive concepts such as the “spirit” or the “pith and marrow” of the invention, which may be infringed even where an element of a claim has been omitted. The doctrine of equivalents, on the other hand, deems each element of a claim to be material, thus requiring that each claim element or an “equivalent” be identified in the allegedly infringing product or process to find infringement. As Justice Thomas of the SCOTUS stated in *Warner-Jenkinson*:

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<sup>96</sup> *Warner-Jenkinson Co Inc v Hilton Davis Chemical Co*, 520 US 17 at 21 (1997), Thomas J [Warner-Jenkinson].

<sup>97</sup> *Graver Tank & Mfg Co v Linde Air Products Co*, 339 US 605 at 608 (1950), Jackson J [Graver Tank].



Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole.<sup>98</sup>

The scope of patent protection under the doctrine of equivalents will largely depend on what are considered “equivalents.” The proper time for evaluating equivalency is at the time of infringement.<sup>99</sup> Generally, this inquiry involves analyzing the role played by each element in the context of the specific patent claim and determining whether a substituted element matches the function, way, and result of the claimed element.<sup>100</sup> As one can appreciate, the approach to determining what is equivalent is highly contextual.

Like substantive infringement, the doctrine of equivalents was endorsed with a view to overcoming the very limited patent protection that a patentee had under literal infringement. The doctrine of equivalents helps to deter and provide relief against copiers of an invention who make minor variations to escape liability, as Justice Jackson stated in *Graver Tank*:

Courts have also recognized that to permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing. Such a limitation would leave room for—indeed encourage—the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of law. One who seeks to pirate an invention, like one who seeks to pirate a copyrighted book or play, may be expected to introduce minor variations to conceal and shelter the piracy. Outright and forthright duplication is a dull and very rare type of infringement. To prohibit no other would place the inventor at the mercy of verbalism and would be subordinating substance to form. It would deprive him of the benefit of his

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<sup>98</sup> *Warner-Jenkinson*, *supra* note 96 at 29.

<sup>99</sup> *Ibid* at 37.

<sup>100</sup> *Ibid* at 40.

invention and would foster concealment rather than disclosure of inventions, which is one of the primary purposes of the patent system.<sup>101</sup>

Requiring that the infringing product or process fall within the literal terms of the claim also has the potential effect of greatly diminishing the value of a patent. Thus, while a literal interpretation of a patent offers predictability and conservation of judicial resources, Justice Kennedy of the SCOTUS in *Festo Corp v Shoketsu Kinzoku Kogyo Kabushik* was of the view that it is not necessarily the most efficient rule.<sup>102</sup> Instead, the scope of a patent must encompass both the literal terms and all equivalents to the claims described in order to avoid defeating a patent and its value by virtue of unimportant and insubstantial substitutions.<sup>103</sup>

As one might expect, the policy concerns with respect to substantive infringement similarly apply to the doctrine of equivalents. In particular, the doctrine of equivalents conflicts with the definitional and public notice function of patent claims.<sup>104</sup> This leads to a lack of certainty in determining the scope of a patent because the equivalency of a particular element may not be readily ascertained. Despite these concerns, US courts have repeatedly affirmed the doctrine of equivalents, accepting that this uncertainty is the price of ensuring that innovators are given an appropriate incentive to innovate:

It is true that the doctrine of equivalents renders the scope of patents less certain. It may be difficult to determine what is, or is not, an equivalent to a particular element of an invention. If competitors cannot be certain about a patent's extent, they may be deterred from engaging in legitimate manufactures outside its limits, or they may invest by mistake in competing products that the patent secures. In addition, the uncertainty may lead to wasteful litigation between competitors, suits that a rule of literalism might avoid. These concerns with the doctrine of equivalents, however, are not new. Each time the Court has considered the doctrine, it has acknowledged this uncertainty as the price of ensuring

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<sup>101</sup> *Graver Tank*, *supra* note 97 at 607.

<sup>102</sup> *Festo Corp v Shoketsu Kinzoku Kogyo Kabushiki Co, Ltd*, 535 US 722 at 731–32 (2002), Kennedy J [*Festo*].

<sup>103</sup> *Ibid* at 731–32.

<sup>104</sup> *Warner-Jenkinson*, *supra* note 96 at 29.

the appropriate incentives for innovation, and it has affirmed the doctrine over dissents that urged a more certain rule.<sup>105</sup>

Opponents of the doctrine of equivalents argue that an overly broad application of the doctrine has the potential to grant exclusivity to the patentee over subject matters that belong to the public. For example, in *Graver Tank*, Justice Douglas, in dissent, identified a “strange anomaly” in ensnaring manganese within the scope of the patent at issue even though it was not an alkaline earth metal, as claimed.<sup>106</sup> Because manganese silicate had been the subject of expired patents, Justice Douglas opined that the majority’s application of the doctrine of equivalents effectively extended the patentee’s monopoly to include an unpatented and unpatentable composition.<sup>107</sup>

## **6.2 File Wrapper Estoppel**

As discussed earlier, the prosecution history of a US patent may be used as evidence to help construe the issued claims, but it also has significant implications in the application of the doctrine of equivalents. File wrapper estoppel bars a patentee from adopting a claim construction that is contrary to the position taken during prosecution. It may also bar a patentee from asserting equivalents that were given up by way of a narrowing amendment made during the examination process. Such an application of file wrapper estoppel is not necessarily limited to a narrowing amendment made for reasons of overcoming prior art; file wrapper estoppel may also apply to narrowing amendments made to comply with 35 USC § 112.<sup>108</sup>

Since the SCOTUS has stated that the underlying purpose of the doctrine of equivalents is to capture the essence of the invention where such may be difficult to clearly define, it follows that a patentee

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<sup>105</sup> *Festo*, *supra* note 102 at 732.

<sup>106</sup> *Graver Tank*, *supra* note 97 at 618, Douglas J, dissenting.

<sup>107</sup> *Ibid* at 618, Douglas J, dissenting.

<sup>108</sup> *Festo*, *supra* note 102 at 736–37.

should not be permitted to claw back subject matter ceded in a narrowing amendment, because the patentee would have clearly had no difficulty defining the invention in the broader claim. Thus, prosecution file wrapper estoppel ensures that the doctrine of equivalents remains tied to its underlying purpose by barring the patentee from claiming previously claimed but surrendered subject matter.<sup>109</sup>

While a narrowing amendment may limit the equivalents that a patentee may assert, it does not necessarily preclude the patentee from asserting *any* equivalents. The narrowed claims may still fail to precisely capture the claimed invention. In *Festo*, Justice Kennedy justified the continued availability of the doctrine of equivalents where an amended claim was narrowed during prosecution. He stated:

By amending the application, the inventor is deemed to concede that the patent does not extend as far as the original claim. It does not follow, however, that the amended claim becomes so perfect in its description that no one could devise an equivalent. After amendment, as before, language remains an imperfect fit for invention. The narrowing amendment may demonstrate what the claim is not; but it may still fail to capture precisely what the claim is. There is no reason why a narrowing amendment should be deemed to relinquish equivalents unforeseeable at the time of the amendment and beyond a fair interpretation of what was surrendered. Nor is there any call to foreclose claims of equivalence for aspects of the invention that have only a peripheral relation to the reason the amendment was submitted. The amendment does not show that the inventor suddenly had more foresight in the drafting of claims than an inventor whose application was granted without amendments having been submitted. It shows only that he was familiar with the broader text and with the difference between the two. As a result, there is no more reason for holding the patentee to the literal terms of an amended claim than there is for abolishing the doctrine of equivalents altogether and holding every patentee to the literal terms of the patent.<sup>110</sup>

This passage suggests that a patentee may still assert an equivalent if it was unforeseeable at the time of the amendment and beyond a fair interpretation of what was surrendered, or if it has only a peripheral relation to the reason the amendment was submitted. Whether or not the reason for an amendment is

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<sup>109</sup> *Ibid* at 734–35.

<sup>110</sup> *Ibid* at 738.

sufficient to overcome file wrapper estoppel as a bar to the application of the doctrine of equivalents is ultimately determined by the court. In the absence of any reasons for a narrowing amendment, courts may presume that the patentee surrendered all subject matter between the broader and the narrower language of the claim and that the territory surrendered is not an equivalent of the territory claimed. In those circumstances, a patentee may still rebut the presumption that estoppel bars a claim of equivalence.<sup>111</sup>

Accordingly, the patentee bears the burden of establishing the reason for making an amendment during patent prosecution.<sup>112</sup> The patentee also bears the burden of proving that the amendment does not surrender the particular equivalent in question.<sup>113</sup> This would involve showing that “at the time of the amendment one skilled in the art could not reasonably be expected to have drafted a claim that would have literally encompassed the alleged equivalent.”<sup>114</sup>

Overall, patent infringement in the United States is determined using a two-pronged approach. Literal infringement remains available as a remedy against an alleged infringer, but a patentee may also rely on the doctrine of equivalents for a broader scope of protection. This broader scope of protection is tempered and balanced against file wrapper estoppel, which serves to limit the equivalents that a patentee may assert based on the history of amendments made for issuance.

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<sup>111</sup> *Ibid* at 740–41.

<sup>112</sup> *Warner-Jenkinson*, *supra* note 96 at 33.

<sup>113</sup> *Festo*, *supra* note 102 at 740.

<sup>114</sup> *Ibid* at 741.

## **7.0 What Can Be Done with Purposive Construction?**

What can be done to make it less difficult to prove patent infringement? We offer some suggestions in this section.

### **7.1 In the Patent Office**

In light of all the examination guidelines regarding the Patent Office’s view of “purposive construction,” and thereby the determination of essential versus non-essential elements, it is clear that in the original patent application, and during prosecution, certain tactics may be helpful in establishing that key claim elements that are important for patentability are considered essential during prosecution. At the same time, however, there should be no superfluous elements in a claim that could be considered essential but that may be altered or avoided altogether and that would lead to a finding of non-infringement. To use the words of Justice Binnie in *Free World Trust*, a superfluous element may be considered a “self-inflicted wound” because it creates “an unnecessary or troublesome limitations in the claims.”<sup>115</sup>

The patentee and its representative should decide in advance the claim elements that should be considered essential, and then should set out the application and claims in such a way that the key claim elements that contribute to patentability are considered essential and superfluous elements are not. At the same time, the patentee and its agent should recognize that other considerations apply when the patent is being evaluated in terms of infringement. Accordingly, in drafting a patent application, one should not focus solely on the short-term benefit of having a patent issued; one should also aim for the issuance of a patent that brings long-term value by adequately protecting against infringers.

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<sup>115</sup> *Free World Trust*, *supra* note 7 at para 51.

The following are some of our drafting and prosecution tips for overcoming the patentability threshold and ensuring that the patent claims are considered valid during litigation, while widening the scope of such claims to increase the likelihood of a finding of infringement. The list is not exhaustive; rather, it serves as general guidance for patent prosecutors for whom any particular tip may be more applicable to some inventions than to others, depending on the field of the invention and the nature of the known prior art.

- 1) Clearly identify the problem faced by the inventor in the description, and correspondingly its solution addressed by the claimed invention. This will help to identify the claim elements that should be considered essential, while avoiding claimed elements that simply define a context or an environment for the claimed invention from being considered essential and thereby necessary to a finding of infringement.
- 2) Describe the claim elements that are desired to be essential (that is, required for patentability—novelty, obviousness, utility, etc.) as a solution to the problem identified, with a “significant level of detail” describing technically how the claim elements contribute to solving the problem.
- 3) Describe each and every one of the claim elements that are desired to be essential (that is, required for overcoming the patentability threshold) with flow charts, diagrams, and experimental results tied to the solution and the problem discussed. Describe the elements in such a way that a skilled person or examiner would be led to understand that each element is required to reach the described solution, and at the same time show that non-essential elements of the claim may be part of the working environment of the claimed element and may be omitted, substitutable, and/or varied.

- 4) Emphasize how the claim elements that are key to the patentability of the invention work together to address and overcome the challenges or deficiencies of prior inventions, thereby clearly tying the claimed elements to the consideration of patentability.
- 5) Ensure that the elements which are key to the invention (and which the patentee would not want infringed) are clearly present in the claims. Put another way, all the elements required for providing the solution need to be encompassed by the claim.
- 6) Describe specific advantages (such as improved efficiency or improved accuracy of operation) to using each of the claimed features that are desired to be essential in such a way that the essential elements that overcome the prior art are clearly defined for the purpose of patentability and finding of validity.
- 7) During examination, be consistent in discussing the “key features” of the claims that provide the desired solution and overcome the prior art—for example, any patentability objections such as lack of novelty or obviousness—and those features that are required for subject matter eligibility. Avoid relying upon non-essential elements that are superfluous and that may define the environment of the claim in the patentability arguments used during prosecution. Representations made to the Canadian Patent Office must be carefully assessed for their potential to be used to the benefit of infringers in the construction of an issued claim.
- 8) Consider drafting one Jepson-type claim<sup>116</sup> that sets out “wherein the improvement comprises ...” and define the key elements of the claim thereafter. This approach potentially limits the claim elements considered essential during purposive construction to those that are recited after “the improvement comprises.” This avoids an extraneous or superfluous element from being considered essential and therefore required for a finding of infringement. Care

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<sup>116</sup> This type of claim is named after the US Assistant Commissioner of Patent’s decision in *Ex Parte Jepson*, 1917 CD 62, 243 OG 525 (Ass’t Comm’r Pat).



should be given, however, to the preamble in the Jepson-style claim, because it could be negatively construed as an admission of prior art and misread by an examiner beyond the scope defined.

- 9) Consider a minimal set of claim elements in at least one claim so that only those claim elements are considered essential in the claim when considering the question of infringement.

Importantly, however, care must be taken to ensure that the minimum essential elements are claimed, because failure to claim an essential element can render the claim invalid for overbreadth.<sup>117</sup> Note that claim elements may be construed as being essential by their mere existence in a claim as part of considering the “inventor’s intention,” if the recent *Choueifaty* decision is applied. Therefore, choose the recited claim elements wisely to increase the likelihood of a finding of infringement.

- 10) Consider drafting claims from different perspectives of actions performed—for example, a claim directed to a receiver, a claim directed to a transmitter, and a claim directed to the overall system—so that an infringer may be caught in at least one of those actions requiring a subset of the overall claim elements. Also consider including innovative dependent claims, to cover various non-trivial variants of the invention and to use as a backup position in case more relevant prior art is located during litigation that challenges the validity of the broader claims.

The drafting of claim elements must strike a balance between, on the one hand, ensuring that certain elements are considered essential (during either prosecution or litigation) so as to overcome the threshold for validity during litigation or patentability during prosecution, and, on the other hand, ensuring that additional elements that may not necessarily be infringed are not considered essential and thus necessary to the finding of infringement. The patentee must give clear technical details about and

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<sup>117</sup> *MIPS*, *supra* note 33 at para 247.

support for the elements that are desirable to be found essential in a claim, and clearly tie those elements to the problem solved by the invention. At the same time, the patentee must clarify that other elements whose inclusion in a claim is unavoidable, but are not necessary for infringement, could be substituted by providing possible variations in the description or using alternate claiming techniques such as a Jepson-style claim.

## **7.2 In the Federal Court**

### **7.2.1 Re-Engaging with Essentiality**

For the most part, patent trial counsel and judges pay scant attention to the need to separate and distinguish “essential” from “non-essential” elements in a claim during purposive construction. Such inattention contributes to some of the difficulty a patentee encounters in trying to prove infringement. There are ways to overcome this difficulty.

First, in *Free World Trust*, the Supreme Court held, following the approaches set out in *Catnic* and *O’Hara*, that the patentee bears the onus of establishing known and obvious substitutability at the date of publication of the patent. According to the Supreme Court, “if the patentee fails to discharge that onus, the descriptive word or expression in the claim is to be considered essential unless the context of the claim language otherwise dictates.”<sup>118</sup>

The onus of proving substitutability appears to have had, in part, a chilling effect on patentees, seemingly preventing them from even attempting to argue that claim elements are non-essential.

It is not clear whether the “onus” described by the Supreme Court was intended to be an evidentiary onus, a legal onus, or both. A merely evidentiary onus, once discharged, puts the question of

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<sup>118</sup> *Free World Trust*, *supra* note 7 at para 57.

essentiality into play and requires the alleged infringer to rebut the evidence or risk an adverse determination on the issue. This is very different from a legal onus that imposes an unshifting legal (or ultimate) onus on the patentee to show substitutability on a balance of probabilities.

We suggest that, instead of onuses and burdens, the patent system may be better served by an approach in which questions of essentiality, like other questions of construction, such as the meaning given to claim terms, are always in play and are live issues to be determined by the court. Such an approach would require parties and the court to meaningfully engage in an analysis of essentiality rather than concede or bypass those issues.

Second, and perhaps more important, to the extent that the *Free World Trust* one-step purposive construction approach remains viable and is applied in Canadian law, there needs to be an attitudinal shift on the part of patentees and their counsel toward the embrace of arguments in favour of the non-essentiality of claim elements as a means of capturing more infringing activities.

Since the decision in *Free World Trust* and the imposition of a one-size-fits-all purposive construction, patentees have been rightly concerned about ensuring that a claim is read as broadly as possible for infringement purposes while, at the same time, avoiding invalidity attacks. By conceding that all claim elements are essential, patentees are afforded a stronger defence to invalidity attacks, but at the potential cost of limiting their chances of success on infringement.

Greater consideration needs to be given to whether it is more advantageous to the patentee for all claims of the patent to survive litigation (so that they may continue to serve as a deterrent for other would-be infringers), or whether it is better to sacrifice some more doubtful claims in order to secure a finding of infringement on even just one or two claims against the present infringer. This type of determination needs to be made on a case-by-case basis in accordance with a patentee's larger strategic

and business objectives. That said, it appears that at this time patentees are uniformly erring on the side of caution in favour of presenting the best possible defences to attacks on validity.

It is readily apparent that in many cases where infringement was not found, different arguments by counsel and different determinations by the court on questions of essentiality would have altered the court's findings on infringement. For example, in *Bombardier Recreational Products Inc v Arctic Cat*,<sup>119</sup> the inventions at issue related to new configurations for a snowmobile that would put the rider in a more forward position when sitting on a snowmobile.<sup>120</sup> The claim element "engine cradle" had been considered by all, including counsel and the parties' experts, to be an essential element of the claim, and the absence of that element (as construed by the trial judge) from the defendant's device resulted in a finding of non-infringement at trial.

There is no doubt that an engine cradle (or engine housing) is essential to the working of a functional snowmobile; but it is another matter entirely to say that the element is essential to the claims of the patent or the invention claimed.<sup>121</sup> If there had been different evidence at trial about the essentiality of the "engine cradle" element in the claims, and if the trial judge had determined that the "engine cradle" was "non-essential," then the nature or existence of the element in the defendant's snowmobiles would have been irrelevant to the inquiry of infringement, and a finding of infringement would likely to have been obtained at trial.<sup>122</sup>

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<sup>119</sup> *Bombardier Recreational Products Inc v Arctic Cat Inc*, 2017 FC 207 [*Arctic Cat* (FC)], rev'd in part 2018 FCA 172 [*Arctic Cat* (FCA)].

<sup>120</sup> See the claim language set out in appendix A.

<sup>121</sup> *Arctic Cat* (FCA), *supra* note 119.

<sup>122</sup> *Arctic Cat* (FC), *supra* note 119 at para 382.

It is recommended that any pre-trial or trial management order specify the claim elements in dispute that the patentee intends to prove are non-essential to the working of the invention as described in the disclosure.

### 7.2.2 Use of the Disclosure

The practice still lingers in which recourse to the disclosure portion of the specification, although permissible, is considered unnecessary where the words of the claim are “plain and unambiguous.”<sup>123</sup> Accepting the plain (or literal) meaning of a word without consulting the disclosure is inconsistent with construing the claims in an “informed and purposive way.” According to *Whirlpool*, a purposive approach to claim construction looks at the whole of the disclosure and the claims to ascertain the nature of the invention and methods of its performance.<sup>124</sup>

In *Bauer Hockey*, Justice Grammond stated that the modern method of claim construction mandates consideration of “clues,” which include the text, context, and purpose.<sup>125</sup> Disregarding the disclosure and drawings merely because the language of the claims is “clear” would amount to adopting the “plain meaning rule,” which the modern method rejects:

The modern method aims at helping the interpreter find clues about the meaning of a legal writing. There is no hierarchy of these clues, nor any predetermined order in which they are considered. In particular, the modern method rejects what is known as the “plain meaning rule,” or the idea that if one category of clues—the text—provides a “clear” answer, the other categories of clues are to be disregarded.<sup>126</sup>

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<sup>123</sup> *Monsanto Canada Inc v Schmeiser*, 2002 FCA 309, var’d on other grounds 2004 SCC 34; see also *P&G*, *supra* note 13.

<sup>124</sup> *Whirlpool*, *supra* note 21 at para 49(g); *Tearlab Corporation v I-MED Pharma Inc*, 2019 FCA 179 at para 33.

<sup>125</sup> *Bauer Hockey*, *supra* note 32 at paras 50, 54–55.

<sup>126</sup> *Ibid* at para 55.

Prematurely concluding that the words of the claims are plain and unambiguous without recourse to the disclosure can mistakenly overlook an alternative meaning of the words that was intended to describe and claim the invention. Justice Binnie in *Whirlpool* cautioned that it is “unsafe in many instances to conclude that a term is plain and unambiguous without a careful review of the specification.”<sup>127</sup>

Indeed, if “the words chosen by the inventor will be read in the sense the inventor is presumed to have intended,”<sup>128</sup> a word that has an otherwise plain and unambiguous meaning may be superseded by the meaning that the inventor had clearly given it in the disclosure. This was expressed in *Lundbeck Canada Inc v Ratiopharm Inc*, where Justice Mactavish’s construction of a claim term involved asking whether the patentee acted as a lexicographer in giving the term a meaning different from its ordinary meaning:

I am satisfied, based upon the evidence of Drs. Sadavoy and Herrmann that as of October, 1990, the term “cerebral ischemia” would have had an accepted, plain and unambiguous meaning to a person skilled in the art in Canada, namely, the interruption or loss of blood flow to the brain.

That is not, however, the end of the matter. The fact that a term may have an accepted and ordinary meaning is immaterial if it is made plain in the specification that the term is being used in a particular sense: see *Western Electric Co. v. Baldwin International Radio of Canada*, [1934], S.C.R. 570 at 582.

The question, then, is whether the patentees “acted as their own lexicographers” in this case, such that the term “cerebral ischemia” should be understood as having a meaning different from its ordinary meaning.<sup>129</sup>

A different approach was taken by Justice Zinn in *Janssen-Ortho Inc v Canada (Health)*:

I do not take the Supreme Court of Canada to be saying that in every case one must examine the disclosure prior to construing the claims of the patent; rather, I take the Court in *Whirlpool* and *Free World Trust* to be raising a caution that one should not reach a firm conclusion as to the meaning of the

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<sup>127</sup> *Whirlpool*, *supra* note 21 at para 52.

<sup>128</sup> *Free World Trust*, *supra* note 7 at para 51.

<sup>129</sup> *Lundbeck Canada Inc v Ratiopharm Inc*, 2009 FC 1102 at paras 51–53.

words in the claims being construed without having tested one's initial interpretation against the words of the disclosure. When that is done, if the disclosure suggests another interpretation of the terms used in the claims, then resort to the meanings given in the disclosure is proper, subject to the proviso that the invention that is protected is what is expressed in the claims which cannot be added to by anything mentioned in the disclosure that has not found its way into the claims as drafted.<sup>130</sup>

According to Justice Zinn, the proper approach to claim construction is to come to a meaning of the claims at issue before turning to the disclosure.<sup>131</sup> This approach was adopted in *Cascade Corp v Kinshofer GmbH*, where Justice Southcott stated that he would have “preferred to see a focus upon the meaning of the claims in the Patent before turning to interpretation of the disclosure, to ensure that the jurisprudential principles surrounding claim construction have been respected.”<sup>132</sup>

This claims-first approach to claim construction contrasts with a disclosure-first approach that has also been applied by Canadian courts. In *Apotex Inc v AstraZeneca Canada Inc*, Justice Gauthier considered what the invention was by “reading the full specification” and then went on to review the disclosure in detail before turning to the claims themselves.<sup>133</sup> Recognizing that an inventor may give a particular meaning to a claim word by adopting a “special lexicon,” Justice Gauthier held that “[i]t is trite law that a court will consider the disclosure when it construes the claims.”<sup>134</sup>

The notion that there is a right order to considering the various parts of the patent was rejected in *Bauer Hockey*.<sup>135</sup> Practically speaking, regardless of whether the claims are construed from a claims-first approach or a disclosure-first approach, so long as the whole of the patent is considered, the two

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<sup>130</sup> *Janssen-Ortho Inc v Canada (Health)*, 2010 FC 42 at para 119.

<sup>131</sup> *Ibid* at para 121.

<sup>132</sup> *Cascade*, *supra* note 33 at para 58.

<sup>133</sup> *Apotex Inc v AstraZeneca Canada Inc*, 2017 FCA 9 at paras 41, 48–64, leave to appeal to SCC refused.

<sup>134</sup> *Ibid* at para 48.

<sup>135</sup> *Bauer Hockey*, *supra* note 32 at para 54.

approaches are likely to yield the same construction. As Justice Zinn alluded to in *Janssen-Ortho*, this is because a preliminary meaning given to a claim term by virtue of reading just the claims or disclosure would likely be confirmed or corrected upon reading the rest of the patent.

A limitation on the use of the disclosure to construe the claims is that it may not “enlarge or contract the scope of the claim as written and thus understood.”<sup>136</sup> The general rule is “what is not claimed is considered disclaimed.”<sup>137</sup> An inventor is not obliged to claim a monopoly on everything new, ingenious, and useful that is described in the disclosure.<sup>138</sup> Accordingly, to the extent that the patentee did not claim a possible invention found in the disclosure, the claims cannot be construed broadly to encompass what is considered disclaimed.

Conversely, claims are not necessarily limited to the embodiments shown and described in the disclosure. One should also not presume that everything that is shown or described is essential.<sup>139</sup> As a general rule, drawings are to be taken as illustrations only, and a claim is not necessarily limited to the form shown in the drawings or described in a preferred embodiment.<sup>140</sup>

The disclosure not only gives purposive meaning to the words and elements in a claim, but is also relevant in determining the essentiality of each of the claim elements.<sup>141</sup> At the same time, the

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<sup>136</sup> *Whirlpool*, *supra* note 21 at para 52.

<sup>137</sup> *Ibid* at para 42.

<sup>138</sup> *Ibid*.

<sup>139</sup> *Bauer Hockey*, *supra* note 32 at para 72.

<sup>140</sup> *Northern Electric Co Ltd et al v Photo Sound Corp et al*, [1936] SCR 649 at 656–58; *Whirlpool*, *supra* note 21 at para 54; *Arctic Cat* (FCA), *supra* note 119 at para 54.

<sup>141</sup> *Arctic Cat* (FCA), *supra* note 119 at para 24; *ViiV*, *supra* note 32 at paras 66, 128.



disclosure should not be used to give the claims an unnecessarily narrow meaning tied to the preferred embodiment in the disclosure.

It is recommended that any pre-trial or trial management order specify those parts in the disclosure upon which each party intends to rely to inform the meaning of the claim elements in issue.

### **7.3 In the Supreme Court of Canada or in Parliament**

Just as a form of file wrapper estoppel was brought to Canada by way of a legislative amendment, the Canadian patent system may need a version of the “doctrine of equivalents” like that in the US and UK patent systems. The doctrine of equivalents and file wrapper estoppel have long gone hand in hand in the United States, and now they go together in the United Kingdom in conjunction with purposive construction. Why not in Canada? If the doctrine of equivalents were recognized in Canada, it would most likely be found in legislative amendments, as was file wrapper estoppel, unless the Supreme Court of Canada were to give leave in a patent case involving issues of claim construction and patent infringement and then follow the approach taken by the UK Supreme Court. If such a legislative amendment were to be considered, it might well reflect the wording in *Actavis* as follows:

Infringement is best approached by addressing two issues, each of which is considered through the eyes and mind of the skilled person:

- (i) does the variant infringe any of the claims as a matter of normal interpretation; and if not,
- (ii) does the variant nonetheless infringe because it varies from the invention in a way or ways which is or are immaterial?

If the answer to either question is “yes,” there is an infringement; otherwise there is not.<sup>142</sup>

For determining whether infringement had been established under issue (ii) (that is, under the doctrine of equivalents), the following questions need to be asked:

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<sup>142</sup> *Actavis*, *supra* note 80 at para 54.

i) Notwithstanding that it is not within the literal meaning of the relevant claim(s) of the patent, does the variant achieve substantially the same result in substantially the same way as the invention, i.e. the inventive concept revealed by the patent?

ii) Would it be obvious to the person skilled in the art, reading the patent at the priority date, but knowing that the variant achieves substantially the same result as the invention, that it does so in substantially the same way as the invention?

iii) Would such a reader of the patent have concluded that the patentee nonetheless intended that strict compliance with the literal meaning of the relevant claim(s) of the patent was an essential requirement of the invention?

In order to establish infringement in a case where there is no literal infringement, a patentee would have to establish that the answer to the first two questions was “yes” and that the answer to the third question was “no.”<sup>143</sup>

## **8.0 Appendix A**

The question “Why is an engine cradle essential to the invention?” was asked of counsel for Arctic Cat (one of the authors of this article) by Justice Pelletier of the Federal Court of Appeal during the hearing of an appeal from a finding of no infringement at trial.<sup>144</sup> The question was received by counsel as a challenge to explain why this claim element was held to be essential. The trial judge had found that the claims to a pyramidal brace assembly in a snowmobile (the quintessential Canadian subject matter) were not infringed, because Arctic Cat’s snowmobiles omitted an essential claim element—namely, the “engine cradle.” It was not contended by the patentee that an engine cradle was a non-essential element of the claims.

The trial decision on infringement was reversed on appeal as an error of law of claim construction. The interpretation given to “engine cradle” as a walled structure by the trial judge was considered by the

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<sup>143</sup> *Ibid* at para 66.

<sup>144</sup> *Supra* note 119.

Federal Court of Appeal to be too narrow and unnecessarily tied to the preferred embodiment in the disclosure.

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WHAT IS CLAIMED IS:

1. A snowmobile, comprising:
  - a frame including a tunnel and an engine cradle forward of the tunnel;
  - an engine mounted in the engine cradle;
  - a drive track disposed below and supported by the tunnel and connected operatively to the engine for propulsion of the snowmobile;
  - left and right skis disposed on the frame;
  - a straddle seat disposed on the tunnel above the drive track and rearward of the engine;
  - a pair of footrests supported by the frame;
  - a steering column movably connected to the frame without a headpipe and operatively connected to the two skis;
  - a handlebar connected to the steering column;
  - a pyramidal brace assembly connected to the frame, the assembly including:
    - left and right rear legs extending forwardly and upwardly from the tunnel, each of the left and right rear legs having a front end and a rear end, the rear ends of the rear legs being spaced further from each other than the front ends of the rear legs, and
    - left and right front legs extending rearwardly and upwardly from the frame forward of the tunnel, each of the left and right front legs having a front end and rear end, the front ends of the front legs being spaced further from each other than the rear ends of the front legs.

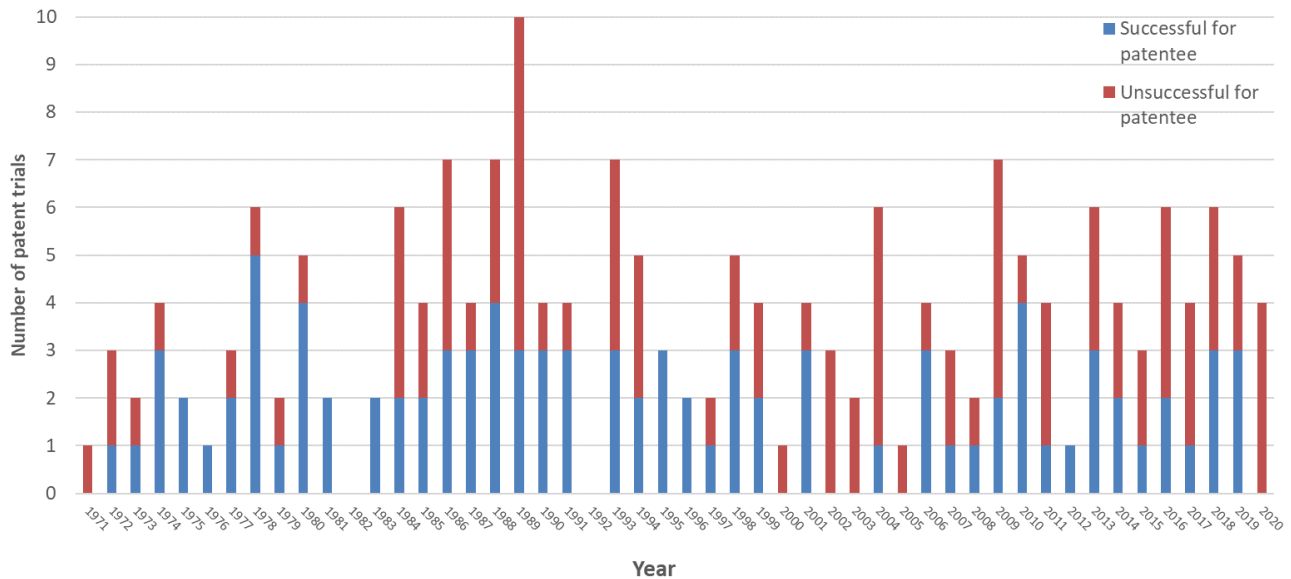
## 9.0 Appendix B

Appendix B includes two graphs and one table. Figure 1 shows the number of patent trials each year from 1971 (the year in which the Federal Court came into being) to 2020. Table 1 shows the findings on the issues of validity and infringement in those trials. Success for a patentee at trial is defined as any patent trial decision in which, irrespective of any outcomes on appeal, (1) at least one asserted claim

was found valid and infringed, or (2) at least one asserted claim was found valid and infringement was not at issue. Figure 2 visually plots the results from those trials.

Note that these charts relate to patent trials in both the Federal Court and provincial courts, but do not include any summary judgment motions and do not include any proceedings conducted under the prevailing *PM(NOC) Regulations*<sup>145</sup> prior to the amendments in 2017.

Figure 1 Number of Canadian Patent Trials Between 1971 to 2020



<sup>145</sup> *Patented Medicines (Notice of Compliance) Regulations*, SOR/93-133.

**Table 1 Rate of Findings of Validity, Infringement, and Overall Success for Patentee at Trial**

Years	Valid	Infringed (irrespective of validity)	Successful for patentee
1971–1975	8/12 (66.7%)	6/7 (85.7%)	7/12 (58.3%)
1976–1980	16/17 (94.1%)	11/15 (73.3%)	13/17 (76.5%)
1971–1980	<b>24/29</b> <b>(82.7%)</b>	<b>17/22</b> <b>(77.3%)</b>	<b>20/29</b> <b>(69.0%)</b>
1981–1985	7/13 (53.8%)	10/10 (100%)	8/14 (57.1%)
1986–1990	19/30 (63.3%)	20/27 (74.1%)	16/32 (50.0%)
1981–1990	<b>26/43</b> <b>(60.5%)</b>	<b>30/37</b> <b>(81.1%)</b>	<b>24/46</b> <b>(52.2%)</b>
1991–1995	13/19 (68.4%)	14/17 (82.4%)	11/19 (57.9%)
1996–2000	9/12 (75.0%)	9/13 (69.2%)	8/14 (57.1%)
1991–2000	<b>22/31</b> <b>(71.0%)</b>	<b>23/30</b> <b>(76.7%)</b>	<b>19/33</b> <b>(57.6%)</b>
1971–2000	<b>72/103</b> <b>(69.9%)</b>	<b>70/89</b> <b>(78.7%)</b>	<b>63/108</b> <b>(58.3%)</b>
2001–2005	9/13 (69.2%)	5/15 (33.3%)	4/16 (25.0%)
2006–2010	14/21 (66.7%)	14/18 (77.8%)	11/21 (52.4%)
2001–2010	<b>23/34</b> <b>(67.6%)</b>	<b>19/33</b> <b>(57.6%)</b>	<b>15/37</b> <b>(40.5%)</b>
2011–2015	10/17 (58.8%)	8/15 (53.3%)	8/18 (44.4%)
2016–2020	14/23 (60.8%)	12/23 (52.2%)	9/25 (36.0%)
2011–2020	<b>24/40</b> <b>(60.0%)</b>	<b>20/38</b> <b>(52.6%)</b>	<b>17/43</b> <b>(39.5%)</b>
2001–2020	<b>47/74</b> <b>(63.5%)</b>	<b>39/71</b> <b>(54.9%)</b>	<b>32/80</b> <b>(40.0%)</b>

Figure 2 Percent of Findings of Validity, Infringement, and Overall Success for Patentee at Trial

