



Ken Bousfield



Philip Mendes da Costa

# New helicopter landing gear is grounded

Ken Bousfield and Philip Mendes da Costa review *Eurocopter v. Bell Helicopter*, in which punitive damages were awarded by the Federal Court of Canada in a relatively ordinary patent infringement case.

**T**he decision in the case of *Eurocopter v. Bell Helicopter*, which was handed down by the Federal Court of Canada earlier this year, is of interest for a number of reasons. First, it awarded punitive damages, even though no helicopter with the infringing landing gear was sold or delivered. Second, although the Eurocopter specification made very specific promises of performance, the Court considered these promises “indicative only” and sought to find utility elsewhere. Third, the Court imported the doctrine of sound prediction into a mechanical case and decided the defendant’s claims were invalid due to the *possibility* the claim might encompass a useless embodiment.

## The product

Eurocopter developed the design for a “moustache” helicopter landing gear. The invention was based on inclining the forward part of the landing gear to permit the front cross-piece to work in both torsion and flexion,<sup>1</sup> in effect as two springs in series, giving improved performance. Instead of claiming the invention functionally, it was claimed based on the use of a particular structure. Claim 1 (translated into English) read:

“1. Helicopter landing gear, comprising two skids each having a longitudinal ground support surface and connected to a front cross piece and a rear cross piece which are themselves attached to the structure of the helicopter by connecting devices, the rear cross piece being attached by the ends of its descending branches to the rear part of said longitudinal support surfaces, characterized in that each of the said skids has at the front an inclined transition zone with double curvature orienting itself transversely in relation to said longitudinal ground support surfaces, above the plane of the latter, the two transition zones together constituting, in this way, an integrated front cross piece, offset in relation to the front delimitation of the plane of contact of the longitudinal support surfaces of the skids on the ground.”

Bell designed a competing landing gear and Eurocopter sued Bell without having first sent a cease-and-desist notice, thereby forestalling a pre-emptive US declaratory judgment action. As a reasonable person might have done, Bell sought advice from US patent counsel. Bell redesigned the landing gear to a second, or production, design. Bell quarantined and never sold the 21 units built to the first design. Only helicopters with the production design were delivered to customers.

## Punitive damages are anomalous in Canada

Only the earlier design was held to infringe. Although no helicopter with the infringing landing gear was ever sold or delivered, the Federal Court of Canada (hereafter the Court) nonetheless awarded punitive damages on the basis of wilful blindness toward any rights Eurocopter might have had in that design. The Court relied upon a “knew or should have known” standard in respect of

## Résumés

### Ken Bousfield, BSc (Mech. Eng.), LLB

Ken is a partner in Bereskin & Parr LLP’s mechanical/industrial practice group. He can be reached in Toronto at +1 416 957 1650 or kbousfield@bereskinparr.com.

### Philip C. Mendes da Costa, BSc (Chem. Eng.), LLB

Philip is a partner with Bereskin & Parr LLP and is the head of the firm’s patent practice group. He can be reached in Toronto at +1 416 957 1695 or pmdcosta@bereskinparr.com.



whether the original design would infringe the patent.<sup>2</sup> The Court characterized testimony given on behalf of Bell, as “far from candid”<sup>3</sup> and drew negative inferences on the basis of witnesses not called and privileged opinions not produced by the defendant. The Court held that “*on the balance of probability, the Court finds that there is clear evidence of bad faith and egregious conduct on the part of Bell.*”<sup>4</sup> This is a sharp divergence from previous case law.<sup>5</sup>

Under the existing governing precedent:

“Punitive damages may be awarded in situations where the defendant’s misconduct is so malicious, oppressive and high-handed that it offends the court’s sense of decency. Punitive damages bear no relation to what the plaintiff should receive by way of compensation. Their aim is not to compensate the plaintiff but rather to punish the defendant. It is the means by which the jury or judge expresses its outrage at the egregious conduct of the defendant.”<sup>6</sup>

Accordingly, it has been held that punitive damages may be awarded where:

- (a) “... there is a patent infringement and a willful breach of injunction following that...”;<sup>7</sup> or
- (b) the defendant “may have intentionally hidden the fact that they were infringing the patent” and the activity was “callous, reprehensible, vindictive or outrageous ...”<sup>8</sup>

In this case, the Court appears to have been motivated by the conduct of Bell. However, patent infringement does not require any intent to infringe and previously wilful infringement has not been considered to be so malicious, oppressive and high-handed as to warrant punitive damages. While the court considered testimony given on behalf of Bell to be “far from candid”, it is not clear why this might not have been appropriately addressed in costs. Further, the law prescribes punishments for perjury and for contempt of court. Patent infringement remedies are intended to make the plaintiff whole.<sup>9</sup> Punishment is not the job of the Patent Act. To award significant punitive damages, potentially far beyond the statutory penalties for perjury and contempt of court and without the protections of the criminal law, as an arbitrary penalty for suspected perjury, has not heretofore been the law in Canada.

## Utility and promises

The definition of “invention” under s. 2 of the Patent Act requires utility. Other than a claim for a “use”, however, section 27(3) of the Act does not require that the specification disclose utility.<sup>10</sup> Further, the Supreme Court of Canada has held that where a specification does not require a specific result, no particular level of novelty is required. A mere scintilla of utility will suffice.<sup>11</sup> Based on *Turner v. Winter*,<sup>12</sup> however, when a patentee makes a specific, explicit statement of performance and the claimed invention fails to achieve that performance, the claim lacks utility. This is unremarkable: where a claim unambiguously contradicts or is contradicted by the specification, the claim is invalid. It is a form of estoppel.

<sup>1</sup> US 5,860,621 at col. 2, lines 5–20.

<sup>2</sup> p. 138, paras [431–433].

<sup>3</sup> p. 137, para. [428].

<sup>4</sup> p. 138, para. [433].

<sup>5</sup> See, for example, the list of factors considered in awarding punitive damages in *Louis Vuitton Malletier, S.A. v. Yang* FC 1174, para. [48]. See also *Dimplex North America Ltd. v. CFM Corp.* (2006) FC 586 para. [123], Aff’d 2007 FCA 278: “There are no patent cases in the Federal Court that I am aware of where punitive damages have been awarded simply because the defendant knowingly or intentionally infringed the patent, without more”. The great irony in the Federal Court decision is that reliance on clearance opinions by counsel as a defence against wilful infringement in the US has been so problematic that it has been overturned by statutory amendment in the America Invents Act.

<sup>6</sup> *Hill v. Church of Scientology of Toronto* (1995), 2 SCR 1130, para. [196].

<sup>7</sup> *Lubrizol Corp. v. Imperial Oil Ltd.* (1996), 67 CPR (3d) 1 (FCA), at p. 21.

<sup>8</sup> *Ibid.* at p. 22.

<sup>9</sup> *Livingstone v. Rawyards Coal Co.* (1880), 5 AC. 25 (H.L.) at 39.

<sup>10</sup> *Consolboard Inc. v. MacMillan Bloedel (Sask.) Ltd.* [1981] 1 S. C. R. 504, per Dickson: ““not useful” in patent law means “that the invention will not work, either in the sense that it will not operate at all or, more broadly, that it will not do what the specification promises that it will do”. Current section 27(3) does not obligate the inventor to describe in what respect the invention is new or in what way it is useful. He must say what it is he claims to have invented. He is not obliged to extol the effect or advantages of his discovery, if he describes his invention so as to produce it.”

<sup>11</sup> *Ibid.*

<sup>12</sup> 1 Webst. P.C. 82, quoted in *Alsop’s Patent* (1907), 30 R.P.C 733 at 753. See also *Hatmaker v. Nathan* (1919) 36 R.P.C. 231.



Apparently diverging from the historic rationale, in more recent pharmaceutical cases brought under the Patented Medicines Notice of Compliance (PMNOC) regulations the courts now appear routinely to presume that all specifications disclose some promise of utility.<sup>13</sup> It may be noted that: (i) section 27(4) of the Act mandates that the claims define the invention, not the disclosure; (ii) purposive construction is only applied to the claims<sup>14</sup>; and (iii) it is binding Supreme Court of Canada precedent<sup>15</sup> that no utility need be disclosed in the specification.

The Eurocopter specification made highly specific promises of performance,<sup>16</sup> to which the *Turner v. Winter* or *Alsop's Patent* line of jurisprudence might have applied. Oddly, the Court ignored those explicit promises as “indicative only”<sup>17</sup> and instead, in PMNOC-style, sought to find the “promise of the patent”<sup>18</sup> – in this case the desired roll-mode performance.

### Sound prediction applied to a mechanical device

Until now, although exceedingly rare, a mechanical patent claim could be held invalid for encompassing useless embodiments – provided that there was *actual evidence* to support such a finding. By importing the pharmaceutical doctrine of sound prediction into a mechanical case,<sup>19</sup> the Court was able to hold mechanical claims invalid merely on the *possibility* that the claim might encompass a useless embodiment, with the burden being placed on the patentee to show otherwise.

In Canada, in a chemical or pharmaceutical patent the patentee is entitled to base claims on a sound prediction of what should result in a useful compound, subject to the risk that a defendant may subsequently show that the prediction is unsound or that some bodies falling within the claim have no utility or are otherwise invalid.<sup>20</sup> Thus the claim can only be held invalid if (i) there is evidence of lack of utility; or (ii) it is not a sound prediction.<sup>21</sup>

For the prediction to be sound:

- there must be a factual basis for the prediction;
- as of the claim date, the inventor must have an articulable and “sound” line of reasoning from which the desired result can be inferred from the factual basis; and
- there must be proper disclosure.

Section 27(3) of the Act governs disclosure. There is no requirement to extol the advantages of, provide a theory of, or even

understand *why* the invention works.<sup>22</sup> Practical readers merely want to know that it does work and how to work it. Sound prediction is to some extent the *quid pro quo* the applicant offers in exchange for the patent monopoly.<sup>23</sup> In addition, the soundness (or otherwise) of the prediction is a question of fact. Evidence must be given (i.e. at trial) about what was known at the priority date.<sup>24</sup> Recently, lower courts have held that the evidentiary basis of the prediction must be found in the specification itself,<sup>25</sup> although this is clearly inconsistent with both section 27(3) and with the requirement for “evidence”, *supra*.<sup>26</sup>

The inventive insight did not depend on whether the transition was inclined forward or backward, but on placing the elastic resistances in series. The inventor provided a practical means of implementation of that insight. That should have been sufficient to support utility without the demonstration of an actual useless embodiment. The burden of proof for invalidity always falls upon the party challenging validity.

After finding that a person of skill would have had an advanced degree in mechanical engineering and experience with finite element analysis of helicopter landing gear, the Court held that such a person would know to reject angles of inclination of the transition in the forward direction that do not provide the desired dynamic response.<sup>27</sup> However, the Court further held that a skilled person would not be able to make the same analysis of rearward angles and, therefore, that there was a “lack of demonstrated utility or sound prediction with respect to an embodiment included in claim 16 (offset backwards)”<sup>28</sup> On this basis, it found all of the claims except claim 15 to be invalid. This finding changes the required content for mechanical patents. It may be that the invention would not work with a rearward inclined transition. However, that was not demonstrated.

<sup>13</sup> See *Pfizer Canada Inc. v. Mylan Pharmaceutical*, 2011 FC 247, paras [212–217].

<sup>14</sup> *Whirlpool Corp. v. Camco Inc.*, 2000 SCC 67, para. [49], particularly at (f).

<sup>15</sup> *Consolboard Inc. v. MacMillan Bloedel (Sask.) Ltd.* [1981] 1 SCR 504, A.C. 525–526.

<sup>16</sup> “The purpose of the present invention is to overcome these disadvantages of the prior art and to obtain helicopter landing gear with a new design making it possible to reduce the said disadvantages significantly: approximately 20% reduction in mass, simplification of the manufacturing and approximately 10% cost reduction, approximately 10% reduction in the load factor on landing, elimination of mechanical anti-ground resonance systems.” – US 5,860,621 translation of CA 2 207 787, p. 2, lines 3–14.

<sup>17</sup> Paras. [340] and [343].

<sup>18</sup> Para. [335].

<sup>19</sup> Paras. [333–378].

<sup>20</sup> *Apotex Inc. v. Wellcome Foundation Ltd.* [2002] 4 S.C.R. 153, 2002 SCC 77.

<sup>21</sup> *Monsanto Co. v. Commissioner of Patents* [1979] 2 S.C.R. 1108, p. 1117 per Pigeon J.

<sup>22</sup> See footnote 8.

<sup>23</sup> *Apotex Inc. v. Wellcome Foundation Ltd.* [2002] 4 S.C.R. 153, 2002 SCC 77.

<sup>24</sup> *Apotex v. Wellcome Foundation*, *supra*, para. 38.

<sup>25</sup> *Eli Lilly v. Apotex*, 2008 FC 142, per Hughes, aff’d 2009 FCA 96 (Canlii): “[15] In my respectful view, the Federal Court Judge proceeded on proper principle when he held, relying on AZT, that when a patent is based on a sound prediction, the disclosure must include the prediction”.

<sup>26</sup> The rationale must be wrong for other reasons as well: how can there be a requirement that the specification include the evidentiary basis of a sound prediction of a utility that is not required to be disclosed in the first place, and when there is no requirement that an inventor even understand why the invention works? *Consolboard* says explicitly that there is no such disclosure requirement.

<sup>27</sup> Para. [354].

<sup>28</sup> Para. [360].

At root, “sound prediction” is about whether the inventor was fully possessed of the invention. In pharmaceutical cases, based on a small number of examples, it is sometimes difficult to know. In *Eurocopter*, the description showed full possession of the broad invention – and, more importantly, a person of ordinary skill reading the specification would immediately have seen it, too.<sup>29</sup>

There are sound reasons for holding claims invalid for obviousness or lack of novelty – no person should receive a monopoly for a non-invention – but that rationale ends where everyone admits that the inventor has given the public new and unobvious information, especially if commercially valuable. That is why claims are to be interpreted with a mind willing to understand and with a judicial anxiety to uphold a really useful invention, and why courts are not to be “too astute” in the interpretation of claims.<sup>30</sup>

In *Eurocopter*, although a useful invention has been provided to the public, the analysis by the Court would impose a very high claim drafting standard. The difficulties of claiming an invention without leaving an unfenced area in which otherwise-infringers may free-ride is the classic conundrum described by Pigeon J. in *Burton Parsons*.<sup>31</sup>

Under *Eurocopter*, inventors face a much greater prospect of being denied the fruits of their inventions – contrary to the cornerstone principles of the Patent Act. This can hardly accord with the Supreme Court of Canada requirement that patent claims be interpreted in a manner that is fair for the public and the inventor.

### Morphology, functionality and Jepson claims

As noted, the invention lay in a softening the roll-mode response of the forward lateral cross-member by combining the resilient deflection in two degrees of freedom. The invention pertained to dynamics, not statics. Claim 1 is written in terms of morphology. It requires a “double curvature”, and that the cross-member and skid be formed from an integrated member. At trial these morphological features were held to be essential.

The claims were in two-part European sign-post style. The Court mistook “characterised in that” as the transition and held, incorrectly,<sup>32</sup> that claim 1 was a Jepson claim. This highlights the danger of using more than one transition in a peripheral claim, and particularly of “characterised in that”. The actual transition is “comprising”.<sup>33</sup> Notably, in the corresponding US claims the problematic “characterised in that” was removed.

### Conclusion

The Federal Court of Canada held that punitive damages can be awarded in a relatively ordinary case of patent infringement. It also held that a patent may be held invalid in view of promises made in the disclosure, and applied the doctrine of sound prediction outside the chemical and biotech fields. As we are reminded by *Eurocopter* that:

- (i) in mechanical claims, it is often helpful to put greater emphasis on functionality than morphology;
- (ii) it is important not to make promises in the specification, not to recite “objects of the invention” and to avoid using the term “preferred” or “advantageous”;
- (iii) the way to address utility is through careful, exhaustively detailed description of the apparatus and of its operation, morphology and function in multiple embodiments, to show broad possession of the invention so that the person of skill reading the specification understands the utility; and
- (iv) use only one transition word in a claim, and forswear use of “characterized in that”.

**“In *Eurocopter*, although a useful invention has been provided to the public, the analysis by the Court would impose a very high claim drafting standard.”**

<sup>29</sup> See CA 2 207 787, p.3, lines 20–26; see US 5,860,621, col.2, lines 10–16.

<sup>30</sup> See *Consolboard*, *supra*.

<sup>31</sup> *Burton Parsons Chemical Inc. v. Hewlett Packard* [1976] 1 SCR 555, 17 CPR (2d) 97: “It is stressed in many cases that an inventor is free to make his claims as narrow as he sees fit in order to protect himself from the invalidity which will ensue if he makes them too broad. From a practical point of view, this freedom is really quite limited because if, in order to guard against possible invalidity, some area is left open between what is the invention as disclosed and what is covered by the claims, the patent may be just as worthless as if it was invalid. Everybody will be free to use the invention in the unfenced area. It does not seem to me that inventors are to be looked upon as Shylock claiming his pound of flesh. In the present case, there was an admitted meritorious invention and [the defendant] ... brazenly appropriated it. It was in no way misled as to the true nature of the disclosure nor as to the proper methods of making a competing cream. [...] No unexpected or generally unknown unsuitability was proved or even suggested, which makes this case quite unlike *Minerals Separation*...” (Emphasis added.)

<sup>32</sup> The correct form of a Jepson claim is “In an [A] having features [B] and [C], the improvement comprising a [D] etc.” In this structure, the noun being positively claimed is “the improvement”. If the claim is “An [A] having features [B] and [C], wherein the improvement comprises an [D] etc.” or similarly if the claim is “An [A] having features [B], and [C], characterized in that there is a [D] etc.”, the noun being positively claimed is an [A], of which the improvement forms a part. In a properly constructed Jepson claim, the preposition “In” of the initial “In an...” tells the reader that everything before the transition word is preamble and is admitted prior art. For this reason, the use of Jepson claims in North America is generally avoided. In a two-part claiming structure, this may be considered as a signpost that points toward the invention. In the EPC, it is mandated as the default claim form. However, in a peripheral claiming system, such as used in Canada and the US, and particularly where claims are to be holistically interpreted as required under purposive construction, it is the overall combination of elements that defines the invention, not individual elements or a subset of the positively claimed elements. *Eurocopter* stands as a clear reminder of the dangers of using “characterized in” language in Canadian practice, in particular, and of the danger in using more than one transition word in a claim more generally. It risks a finding that everything before the last transition word is implicitly admitted to be old and its combination obvious, greatly facilitating the rejection of the claim under section 28.3 of the Patent Act.

<sup>33</sup> “*Comprenant*” in the original French claims.

### Key points

- *Eurocopter v. Bell Helicopter* (2012 FC113), Federal Court of Canada, 30 January 2012
- The Federal Court of Canada held that punitive damages can be awarded in a relatively ordinary case of patent infringement
- It decided that a patent may be held invalid because of a possible lack of utility without evidence of actual lack of utility
- The Court applied the doctrine of sound prediction outside the chemical and biotech fields