

Federal Court of Appeal



Cour d'appel fédérale

Date: 20150818

**Dockets: A-346-13
A-379-13**

Citation: 2015 FCA 181

**CORAM: STRATAS J.A.
WEBB J.A.
NEAR J.A.**

BETWEEN:

**ABB TECHNOLOGY AG, ABB INC.
and ABB AG**

Appellants

and

HYUNDAI HEAVY INDUSTRIES CO., LTD.

Respondent

Heard at Toronto, Ontario, on May 14, 2014.

Judgment delivered at Ottawa, Ontario, on August 18, 2015.

REASONS FOR JUDGMENT BY:

STRATAS J.A.

CONCURRED IN BY:

**WEBB J.A.
NEAR J.A.**

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REASONS FOR JUDGMENT

STRATAS J.A.

[1] ABB Technology AG, ABB Inc., and ABB AG (collectively “ABB”) bring two appeals to this Court from judgments of the Federal Court.

[2] In the first appeal (A-346-13), ABB appeals from the Federal Court’s judgment dated September 11, 2013 (*per* Justice Barnes): 2013 FC 947. In that judgment, the Federal Court

dismissed ABB's claim that the respondent Hyundai Heavy Industries Co., Ltd. ("Hyundai") infringed Canadian Patent No. 2,567,781 (the "'781 Patent") and Canadian Patent 2,570,772 (the "'772 Patent"). The Federal Court also allowed Hyundai's counterclaim for a declaration that the '781 Patent and the '772 Patent are invalid.

[3] In the second appeal (A-379-13), ABB appeals from the Federal Court's judgment dated October 17, 2013 (*per* Justice Barnes): 2013 FC 1050. In that judgment, the Federal Court fixed costs in favour of Hyundai in the amount of \$350,000.

[4] In these reasons, I deal with both appeals. A copy of these reasons should be placed in each appeal file.

[5] For the reasons that follow, I would dismiss both appeals.

A. Basic facts

[6] ABB and Hyundai manufacture and sell gas-insulated switchgear assemblies. They compete with each other.

[7] The patents in issue in this case relate to gas-insulated switchgear assemblies used in electrical power transmission. A switchgear assembly is an arrangement of components designed to safely control the flow of electrical power from the incoming or supply side to the outgoing or

electrical load side. The components include circuit breakers, buses, disconnect switches, instrument transformers, cable terminators and control devices.

[8] Higher voltage switchgear assemblies, such as the ones before us in this case, potentially pose risk. Arc faults—the conducting of electricity through the air—can take place. The arcs can be explosive and life-threatening.

[9] To prevent this, connected components must be connected tightly and separate components must be kept separate. Back in the 1930's, gas-insulated technology began to appear in high voltage switchgear. Assemblies would be enclosed in gas-tight compartments. The gas would typically be sulphur hexafluoride, a gas with excellent insulating and arc-extinguishing properties.

[10] Another principal safety component is the circuit breaker. It disconnects the supply of power if an abnormal condition arises. From time to time, the circuit breaker must be maintained. When maintenance is required, the circuit breaker must be disconnected from the circuit by grounding it. In North America, this is typically done by using a separate grounding switch below the circuit breaker.

[11] This creates a problem of dimensioning the compartment containing the gas-insulated switchgear. The '772 Patent describes the problem as follows:

The isolator in the outgoing section, in addition to the isolator in the busbar compartment, isolates the ground potential in the outgoing section and the high-voltage potential of the busbar from one another.

However, this requirement can often not be implemented owing to the predetermined dimensions and arrangement of the individual functional compartments.

[12] In the '772 Patent, the inventors claim to have solved that problem by enlarging the compartment in the direction of the cable connections. Specifically, the '772 Patent describes the solution as follows:

According to the invention the circuit breaker compartment is dimensioned such that both the circuit breakers and the isolators and ground conductors on the outgoing section side are arranged therein.

That is to say, in order to be able to maintain a design which is as compact as possible and virtually unchanged external dimensions as regards the width, height and depth of the switchgear assembly, only the circuit breaker compartment is changed to the extent that it is enlarged in the direction of the cable connection, i.e. in terms of its height, and all three required devices can be arranged in it, i.e. the circuit breaker and the isolator on the outgoing section side and the ground conductor on the outgoing section side.

[13] The '781 Patent addresses a different problem. To ensure the circuit breaker is really grounded, one must verify the position of the grounding switch. This, however, can be difficult because the grounding switch is located inside the switchgear assembly.

[14] The '781 Patent solves this problem through the use of a window placed on the switchgear assembly in a line of sight to the switch. One can look through the window and inspect the position of the grounding switch. The ability to verify that the circuit breaker is really grounded is enhanced by incorporating coloured or topographical markings on the moveable switch element.

[15] Hyundai has sold several gas-insulated switchgear assemblies to B.C. Hydro.

[16] In reaction, ABB brought an action in the Federal Court against Hyundai for patent infringement. ABB alleged that Hyundai's switchgear assemblies infringed a number of claims in both the '772 Patent and the '781 Patent. Hyundai defended and also counterclaimed for declarations that the two patents are invalid.

[17] ABB's action was bifurcated into a trial on the issue of liability and later proceedings, if necessary, on the issue of damages.

[18] Following the trial on the issue of liability, the Federal Court dismissed ABB's action for patent infringement and granted the counterclaim, declaring that the '772 Patent and the '781 Patent are invalid. The Federal Court's specific findings will be examined in detail below. The Federal Court awarded Hyundai costs in the amount of \$350,000.

[19] ABB appeals the Federal Court's findings on the issues of liability and costs.

[20] On the liability issue, I shall consider the patents in the order in which the Federal Court considered them: first, the '781 Patent and then the '772 Patent.

B. Analysis

(1) Standard of review

[21] The central issue before the Federal Court was how to construe the claims of the patents.

[22] In this appeal, the parties broadly agree on the standard of review of the Federal Court's construction of the patents. We are to review the Federal Court's construction of the patents on the basis of correctness: *Whirlpool Corp. v. Camco Inc.*, 2000 SCC 67, [2000] 2 S.C.R. 1067 at paragraphs 61 and 76.

[23] However, the Federal Court is entitled to deference in its appreciation of the evidence, particularly the expert evidence, that affects that construction: *Mylan Pharmaceuticals ULC v. AstraZeneca Canada Inc.*, 2012 FCA 109, 432 N.R. 292 at paragraph 20; *Wenzel Downhole Tools Ltd. v. National-Oilwell Canada Ltd.*, 2012 FCA 333, [2014] 2 F.C. 459 at paragraph 44; *Bell Helicopter Textron Canada Limitée v. Eurocopter*, 2013 FCA 219, 449 N.R. 111 at paragraphs 73-74; see also *Consolboard Inc. v. MacMillan Bloedel (Sask.) Ltd.*, [1981] 1 S.C.R. 504 at page 537, 122 D.L.R. (3d) 203; *Corlac Inc. v. Weatherford Canada Inc.*, 2011 FCA 228, 95 C.P.R. (4th) 101 at paragraph 24.

[24] Where the expert evidence affects the Federal Court's construction and particularly where the Federal Court has preferred the testimony of one expert over that of others, in order to prevail on appeal an appellant must show that the Federal Court has committed "palpable and

overriding error”: see, e.g., *Cobalt Pharmaceuticals Company v. Bayer Inc.*, 2015 FCA 116 at paragraph 15. This is a high standard:

[46] Palpable and overriding error is a highly deferential standard of review: *H.L. v. Canada (Attorney General)*, 2005 SCC 25, [2005] 1 S.C.R. 401; *Peart v. Peel Regional Police Services* (2006), 217 O.A.C. 269 (C.A.) at paragraphs 158-59; *Waxman [v. Waxman]* (2004), 186 O.A.C. 201 (C.A.). “Palpable” means an error that is obvious. “Overriding” means an error that goes to the very core of the outcome of the case. When arguing palpable and overriding error, it is not enough to pull at leaves and branches and leave the tree standing. The entire tree must fall.

[47] In applying the concept of palpable and overriding error, it is useful to keep front of mind the reasons why it is an appropriate standard in a complex case such as this.

...

[49] Immersed from day-to-day and week-to-week in a long and complex trial such as this, trial judges occupy a privileged and unique position. Armed with the tools of logic and reason, they study and observe all of the witnesses and the exhibits. Over time, factual assessments develop, evolve, and ultimately solidify into a factual narrative, full of complex interconnections, nuances and flavour.

(*Canada v. South Yukon Forest Corporation*, 2012 FCA 165, 431 N.R. 286.)

[25] Expert evidence comes to bear in the construction of patents because of the requirement that patents be read through the eyes of the skilled reader: *Whirlpool*, above at paragraph 45. The skilled reader approaches the patent with an appreciation of the common general knowledge in the art to which the patent relates. This is not within the purview of a judge, so almost always the parties adduce expert evidence to explain how the skilled reader would read and understand the patent: *Whirlpool*, above at paragraphs 57-62; *Free World Trust v. Electro Santé Inc.*, 2000 SCC 66, [2000] 2 S.C.R. 1024 at paragraph 51.

[26] Thus, as I recently explained in *Cobalt*, above at paragraph 17, the practical reality is that a court nearly always reads a patent through goggles supplied by the experts whom the judge considers to be credible and accurate: *Unilever PLC v. Procter & Gamble Inc.* (1995), 61 C.P.R. (3d) 499 at pages 506-07, 184 N.R. 378 (Fed. C.A.). And often those experts, persons skilled in the art, rely upon their learning, sometimes going into factual matters within their knowledge that are relevant to the construction exercise: *Cobalt*, above at paragraph 18; *Novartis AG v. Dexcel-Pharma Limited*, [2008] EWHC 1266 (Pat), [2008] All E.R. (D) 97 at paragraph 21. Because of this, in practice, the standard of review of palpable and overriding error will often apply on questions of patent construction that are heavily suffused with the Federal Court's appreciation and assessment of the experts.

[27] In *Cobalt*, above, at paragraphs 20-24, I queried whether, based on these and other considerations, the time has come to reconsider the view that appellate courts are to review patent construction on the basis of correctness.

[28] However, in this case, as I did in *Cobalt*, I shall apply the standard of review as it exists at the present time on questions of patent construction, pending any future consideration of the matter by the Supreme Court of Canada.

[29] As will be seen, the Federal Court made findings on the issue of obviousness. Obviousness is a question of mixed fact and law. Unless the application judge committed an extricable legal error, his obviousness analysis is subject to review for palpable and overriding errors: *Cobalt* at paragraph 48; *Wenzel Downhole Tools* at paragraph 44.

[30] Finally, the Federal Court also made findings on the issue of infringement. Infringement is also a question of mixed fact and law: one must construe the claims of the patent (a question of law) and then determine whether on the facts any of the claims have been infringed. If the Federal Court construed the claims properly, then the question of infringement is really just a question of fact subject to review for palpable and overriding error: *Monsanto Canada Inc. v. Schmeiser*, 2004 SCC 34, [2004] 1 S.C.R. 902 at paragraph 30; *Halford v. Seed Hawk Inc.*, 2006 FCA 275, 275 D.L.R. (4th) 556 at paragraph 11; *AB Hassle v. Canada (Minister of National Health and Welfare)*, 2002 FCA 421, 22 C.P.R. (4th) 1 at paragraphs 29-30.

(2) The '781 Patent

[31] The '781 Patent advances eight claims. Claim 1 is an independent claim and Claims 2 to 8 are all dependent:

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A gas-insulated switchgear assembly having at least one disconnecter within a housing for the insulating-gas area of the switchgear assembly, and comprising an inspection window fitted in the housing such that positions of a moveable switch-contact element: can be seen from outside the housing in a direct line of sight via the inspection window by an unassisted eye; or can be seen from outside the housing in an indirect line of sight via the inspection window and at least one mirror by an otherwise unassisted eye.
2. A gas-insulated switchgear assembly as defined in claim 1, wherein the inspection window is fitted in the housing such that a hermetic seal with the housing is maintained.
3. A gas-insulated switchgear assembly as defined in claim 2, wherein a pressure-overload triggering device is arranged within the housing and is triggered before a bursting limit of the hermetic seal of the inspection window with the housing.

4. A gas-insulated switchgear assembly as defined in claim 1, 2 or 3, wherein the movable switch-contact element is provided with a colored or topographical marking which changes position with respect to a fixed marking or reference structure depending on the switch-contact element position.

5. A gas-insulated switchgear assembly as defined in claim 4, wherein, in order to inspect switch positions in a polyphase arrangement, the positions of the inspection window and of the marking or reference structure are selected in relation to one another in such a way that the latter can be inspected safely.

6. A gas-insulated switchgear assembly as defined in claim 4 or 5, wherein illumination means are provided outside the housing which can illuminate the marking or reference structure for inspection thereof.

7. A gas-insulated switchgear assembly as defined in any one of claims 1 to 6, wherein, in order to inspect switch positions in a polyphase arrangement, one or more inspection windows are provided.

8. A gas-insulated switchgear assembly as defined in any one of claims 1 to 7, which is a gas-insulated medium-voltage switchgear assembly.

[32] The Federal Court considered Claim 1 to be the key claim of the '781 Patent. Claim 1 claims the use of a viewing window to determine the positions of switches. The Claim describes the switches as “a moveable switch contact element.”

[33] The meaning of the key phrase—“a moveable switch contact element”—was a central issue in the Federal Court. Purely in the abstract, “a moveable switch contact element” could cover two possible moveable switch contact elements: “knife blade switches” and “sliding contact switches.” ABB acknowledged that prior art disclosed the use of viewing windows to observe the position of knife blade switches. If the phrase, “a moveable switch contact element,” were construed to cover both knife blade switches and sliding contact switches then the claim would be invalid.

[34] Thus, unsurprisingly, ABB submitted in the Federal Court that the phrase, “a moveable switch contact element,” covered only sliding contact switches. It submitted that the “purposive approach” to patent construction required the Federal Court to adopt a construction of the phrase that would favour the validity of the patents.

[35] The Federal Court rejected this, holding (at paragraph 27) that “the patentee has an obligation to draft the patent with sufficient clarity that competitors can know its limits.” In its view, “[w]hile the Court must be sympathetic to the presumed intent of the inventor,” that does not allow the Court to adopt “an interpretation that effectively ignores the claims language” (at paragraph 26).

[36] To buttress this point, the Federal Court cited the following passage from *Free World Trust*, above at paragraph 51:

The involvement in claims construction of the skilled addressee holds out to the patentee the comfort that the claims will be read in light of the knowledge provided to the court by expert evidence on the technical meaning of the terms and concepts used in the claims. The words chosen by the inventor will be read in the sense the inventor is presumed to have intended, and in a way that is sympathetic to accomplishment of the inventor's purpose expressed or implicit in the text of the claims. However, if the inventor has misspoken or otherwise created an unnecessary or troublesome limitation in the claims, it is a self-inflicted wound. The public is entitled to rely on the words used *provided* the words used are interpreted fairly and knowledgeably. [emphasis in original]

[37] In further charging itself as to the proper approach to the construction of patents, the Federal Court set out the Supreme Court’s observations at paragraph 49 of *Whirlpool Corp. v. Camco Inc.*, 2000 SCC 67, [2000] 2 S.C.R. 1067, quoting liberally from *Consolboard Inc. v.*

MacMillan Bloedel (Sask.) Ltd., [1981] 1 S.C.R. 504 at pages 520-521, 56 C.P.R. (2d) 145.

There, the Supreme Court emphasized the following:

- A patent should be interpreted to best ensure “the attainment of its objects,” something that is “manifested in words, whose meaning should be respected.” But words appear “in a context that generally provides clues to their interpretation and a safeguard against misinterpretation.” And an “integral element” of context is the overall “purpose.”
- The emphasis must be on the “words of the claims interpreted in the context of the specification as a whole” as viewed objectively by the notional person of skill.
- This requires one to “look to the whole of the disclosure and the claims to ascertain the nature of the invention and nature of its performance.” This is to be a neutral exercise—“neither benevolent nor harsh” and not “too astute or technical”—that achieves a result “reasonable and fair to both patentee and the public.” Put another way, if the “language...upon a reasonable view of it, can be read so as to afford the inventor protection for that which he has actually in good faith invented,” we are to “endeavour to give effect to that construction.”

[38] In my view, by setting out these principles, the Federal Court properly charged itself on the principles of patent construction.

[39] In this Court, ABB urges us to adopt a “purposive construction.” It says that the Federal Court erred in law in applying a “purely grammatical” approach to the construction of the ’781 Patent.

[40] In making this submission, ABB encourages us to place less emphasis on the language used in the patent. In effect, it takes the phrase “purposive construction,” deployed early on in *Catnic Components Ltd. v. Hill & Smith Ltd.*, [1982] R.P.C. 183, in the abstract and asks us to construe the key phrase—“a moveable switch contact element”—in a manner that will uphold the patent.

[41] The words “purposive construction” in *Catnic*—words that are sometimes repeated in the jurisprudence on patent construction—must be read with caution.

[42] First, the law that binds us is the *Patent Act*, R.S.C. 1985, c. P-4 and here, specifically, the requirements in section 27. Section 27 tells us that the words chosen by the patentee necessarily play a key role in the construction of the patent.

[43] Second, as the Supreme Court observed in *Whirlpool*, above at paragraph 39, that phrase is “quite consistent” with the principles borrowed from *Consolboard* and reproduced at paragraph 37, above. “Purposive construction” is not an exercise divorced from the words used in the patent and the context in which they appear. Due regard to the language of the patent promotes the purposes of fairness and predictability and any unnecessary limitation in that

language, to the extent it is construed to be essential, constitutes a “self-inflicted wound” by the inventor: *Free World Trust*, above at paragraph 51.

[44] As the Supreme Court stated in *Whirlpool*, above at paragraph 42:

The content of a patent specification is regulated by s. 34 [now s. 27(3)] of the *Patent Act*. The first part is a “disclosure” in which the patentee must describe the invention “with sufficiently complete and accurate details as will enable a workman, skilled in the art to which the invention relates, to construct or use that invention when the period of the monopoly has expired”: *Consolboard Inc. v. MacMillan Bloedel (Sask.) Ltd.*, [1981] 1 S.C.R. 504, at p. 517. The disclosure is the *quid* provided by the inventor in exchange for the *quo* of a 17-year (now 20-year) monopoly on the exploitation of the invention....[I]t is therefore important for the public to know what is prohibited and where they may safely go while the patent is still in existence. The public notice function is performed by the claims that conclude the specification and must state “distinctly and in explicit terms the things or combinations that the applicant regards as new and in which he claims an exclusive property or privilege” (s. 34(2)) [now s. 27(4)]. An inventor is not obliged to claim a monopoly on everything new, ingenious and useful disclosed in the specification. The usual rule is that what is not claimed is considered disclaimed.

[45] In my view, the Federal Court was right to avoid construing the patent in a manner that would unduly neglect its wording. Where patent language can bear more than one equally plausible meaning, one must adopt a “reasonable view” of patent language to “afford the inventor protection for that which he has actually in good faith invented” (*Consolboard*, above at page 521). But the Federal Court correctly held that this principle does not mean that in all cases it must adopt “any arguable interpretation that would uphold the patent.” The Federal Court added (at paragraph 29):

In most cases the language of the patent, when viewed contextually and objectively, will be sufficient to establish what was intended thereby ensuring the attainment of its purpose. I would add that the purposive approach is not an

invitation to the Court to ignore the ordinary rules of grammar and syntax. If an essential feature of a patent is defined in a specific way and a different more expansive term is also introduced than [sic] can include the specific term, one would not generally interpret the two terms as denoting the same thing. The usual purpose of using different words is to distinguish one feature from another and not to express synonymy.

I agree with these words of the Federal Court.

[46] In applying these principles, the Federal Court simply could not read the key phrase—“a moveable switch contact element”—to be limited only to sliding contact switches. In arriving at this conclusion, it noted the following matters, many of which were informed by its appreciation and assessment of the expert evidence before it (at paragraphs 44-47):

- Grammatically, the words used “readily apply to knife blade switches” which also incorporate “a moveable switch contact element” (at paragraph 44).
- The evidence showed that sometimes it is difficult to see the position of a knife blade through a window; thus, “a moveable switch contact element” viewable through a window could encompass a knife blade switch (at paragraph 42).
- The evidence of ABB’s expert, Mr. Leone, was not uniformly supportive of ABB’s position (at paragraph 43).
- The inventors were “clearly mindful of both types of switches” because at page one of the description they state that “[c]onventional three-position disconnectors

are also known as linear-travel switches or knife switches.” Thereafter the patent refers simply to “disconnectors.” The Federal Court concluded that the claims would not be limited to “linear-travel switches” because the all-encompassing word “disconnectors” was used, rather than “linear-travel switches” (see paragraph 44). Simply put, the draft used language that comfortably describes both switch types, not just sliding contact switches or linear-travel switches (see paragraph 45).

- ABB’s expert, Mr. Leone, gave evidence that undermined his construction opinion (see paragraph 45).
- Overall, the Federal Court accepted the patent construction of Hyundai’s expert, Mr. Nilsson (see paragraph 47).

[47] Also supporting the Federal Court’s construction was the fact that the ’781 Patent nowhere limits itself to linear-travel switches. In fact, it uses that term only once, in a manner that suggests that “a moveable switch contact element” can include both types of switches: “Conventional three-position disconnectors are known as linear-travel switches or knife switches” (see the ’781 Patent, page 1, lines 28-29).

[48] I see no error in the Federal Court’s construction of the ’781 Patent. It properly construed the key phrase—“a moveable switch contact element”—to cover two possible moveable switch contact elements, knife blade switches and sliding contact switches.

[49] I would add that to the extent that the Federal Court’s construction of the ’781 Patent depended upon its assessment of the credibility of the experts it heard—a large extent, I would suggest—it was incumbent on ABB to demonstrate palpable and overriding error on the part of the Federal Court. ABB has failed to persuade me of any palpable and overriding error.

[50] In this Court, ABB submits that where two possible interpretations of a patent are available, the one that favours validity (here, novelty) should be preferred. Therefore, in its view, the Federal Court erred in failing to adopt the interpretation of the ’781 Patent that would uphold its validity.

[51] To some extent, I have already dealt with this submission above. In this case, viewing the words of Claim 1 and the context of those words through the goggles supplied by the experts it preferred, the Federal Court did not find ambiguity in those words. It found that the words, “a moveable switch contact element,” covered both knife blade switches and sliding contact switches. As explained above, there are no grounds to set aside the Federal Court’s construction of these words. As it turns out, these words may have mistakenly claimed too much. But both the Federal Court and this Court are limited to interpreting them, not redrafting them: *Free World Trust*, above at paragraphs 58-50. Redrafting would undermine the public notice function of patents, which entitles readers to clear and definite guidance concerning the extent of the monopoly conferred: *Free World Trust*, at paragraphs 42-43.

[52] In this Court, ABB also urges *Whirlpool* and *Eurocopter*, both above, upon us for the proposition that a term that includes two variants should be construed to include only one

variant. In *Whirlpool*, the Supreme Court interpreted the term “vane” to mean rigid vanes and not also flexible vanes. In *Eurocopter*, this Court interpreted “rear cross piece” to mean only vertical cross pieces and not also horizontal cross pieces.

[53] I do not accept that these cases set out a binding proposition of law that a term that includes two variants should be construed to include only one variant. Patent construction is to be conducted in accordance with the methodology described above. It is not a collection of disparate and unconnected rules divorced from any underlying concept.

[54] In *Whirlpool* and *Eurocopter*, the specifications of the patents in issue did not teach the use of both variants, allowing the courts to conclude that the claim in question was limited to one of the two possible variants. Here, however, the term “disconnecter” used in the claims of the ’781 Patent is described in the disclosure as including both linear-travel switches and knife switches. There is nothing in the disclosure suggesting that it should be limited to just linear-travel switches.

[55] Further, in this case, Hyundai’s experts, whose testimony was generally preferred by the Federal Court, interpreted “moveable switch-contact element” to cover both variants. The Federal Court accepted that testimony. In *Whirlpool*, on the other hand, none of the experts interpreted the patent as teaching the use of one of the variants (flexible vanes).

[56] Thus, in my view, *Whirlpool* and *Eurocopter* are distinguishable from the case at bar.

[57] Before us, ABB also submits that the figures in the '781 Patent show only a linear-travel switch and so the '781 Patent can only cover this type of switch. The Federal Court considered this submission. It rejected it, observing that the '781 Patent stated that the figures were only “exemplary,” in other words representative embodiments and not the only embodiments. I see no ground to interfere with this finding. Indeed, the figures here are not unlike those in issue in *Whirlpool*, where the Supreme Court held (at paragraph 54) that they were of “limited help” but “hardly conclusive” because the patent disclosure referred to them as a “preferred embodiment.” Here, the '781 Patent does not even say “preferred”; instead they are just “exemplary.”

[58] ABB also submits that the purpose of the '781 Patent was to address a problem unique to linear-travel switches. But it was open to the Federal Court to find otherwise. The inventors of the '781 Patent did not distinguish between the two types of switches when discussing the prior art or outlining the problem the patent seeks to address. The standard of review is palpable and overriding error and ABB has failed to persuade me that that standard has been met.

[59] Finally, in this Court ABB notes the absence of evidence before the Federal Court that expressly contradicted the testimony of its experts. However, even if true, this is not a basis for finding that the Federal Court committed palpable and overriding error. The Federal Court is not obligated to accept evidence just because there is no evidence contradicting it. It can reject that evidence provided that its rationale is explicit or evident from its reasons viewed in light of the record and is acceptable. See generally *Barclays Bank PLC v. Devonshire Trust*, 2013 ONCA 494, 365 D.L.R. (4th) 15 at paragraph 90. Contrary to the submission of ABB, I do not accept that anything different is said in *Maldonado v. Canada*, [1980] 2 F.C. 302 (C.A.). Here, the

Federal Court did not accept all of the testimony of ABB's witnesses and supplied acceptable rationales for that.

[60] After construing this critical element of Claim 1, the Federal Court concluded that the '781 Patent was entirely invalid. I see no ground to set aside this conclusion. Properly construed, Claim 1 of the '781 Patent asserts a claim to the use of viewing windows to ascertain the position of knife blade switches in medium voltage, gas-insulated switchgear assemblies. As ABB accepts, this was known in the prior art. ABB cannot claim a monopoly over a technology that was known in the prior art: *Patent Act*, ss. 2 and 28.2 (the requirement that an "invention" that is the subject-matter of a patent be "new"); *Apotex Inc. v. Sanofi-Synthelabo Canada Inc.*, 2008 SCC 61, [2008] 3 S.C.R. 265 at paragraph 51; *Bristol-Myers Squibb Co. v. Canada (Attorney General)*, 2005 SCC 26, [2005] 1 S.C.R. 533 at paragraph 1; *Free World Trust*, above, at paragraph 13.

[61] The Federal Court also offered a basis for finding the remainder of the claims in the '781 Patent to be invalid on account of obviousness (at paragraph 52). In reaching this conclusion, it relied upon evidence from ABB's expert, Mr. Leone. The Federal Court charged itself properly on the law of obviousness (at paragraphs 50-51) and applied that law to its assessment of the expert evidence and the claims before it (at paragraphs 52-59): *Zero Spill Systems (Int'l) Inc. v. Heide*, 2015 FCA 115 at paragraphs 81-88.

[62] In particular, examining the evidence of ABB's expert, Mr. Leone, the Federal Court concluded that "Mr. Leone's evidence is a less than robust endorsement of the inventiveness of

using a window to observe a different switch type in medium voltage [gas-insulated switchgear assemblies] and I reject it” (at paragraph 56). Instead, he accepted the evidence of Hyundai’s experts, Messrs. Molony and Nilsson, to the effect that inspection windows were well-known in the prior art, were recognized as a means to view switch positions in several prior art references and standards applied to gas-insulated switchgear assemblies, and were required by many end-users (at paragraphs 59-60).

[63] Through its witness, Dr. Hyrenbach, ABB attempted to establish in the Federal Court that the placement of the window on the gas-insulated switchgear assembly is inventive. He testified that he was “surprised” when his first attempt to cut a hole in the assembly yielded a view of the switch. The Federal Court rejected this testimony of inventiveness (at paragraph 58). The Federal Court found that Dr. Hyrenbach cut the hole where any sensible person would have and he should not have been surprised that he was able to see the switch. According to the Federal Court, this was “trial and error” work that a skilled technician could have done without any inventive skill. I see no palpable and overriding error in this finding.

[64] ABB suggests that the Federal Court misconstrued Dr. Hyrenbach’s evidence on this point. It points out that Dr. Hyrenbach was surprised that he could “see the contacts” or “quite well see the position of these moving contacts.” ABB suggests that the Federal Court mistakenly thought that Dr. Hyrenbach could only see the “switch” and that this constituted palpable and overriding error.

[65] I disagree. In my view, the Federal Court may not have been as precise in its language as it might have been. But, having sat through the evidence and having heard the testimony, the Federal Court was expressing the very concept expressed by Dr. Hyrenbach, albeit infelicitously. Here, words of this Court in *South Yukon*, above, describing the standard of palpable and overriding error are of assistance:

[50] When it comes time to draft reasons in a complex case, trial judges are not trying to draft an encyclopedia memorializing every last morsel of factual minutiae, nor can they. They distill and synthesize masses of information, separating the wheat from the chaff and, in the end, expressing only the most important factual findings and justifications for them.

[51] Sometimes appellants attack as palpable and overriding error the non-mention or scanty mention of matters they consider to be important. In assessing this, care must be taken to distinguish true palpable and overriding error on the one hand, from the legitimate by-product of distillation and synthesis or innocent inadequacies of expression on the other.

[66] In my view, all that is present here is an “innocent inadequacy of expression.” Under the standard of palpable and overriding error, reasons are not meant to be the venue for a treasure hunt for error. We are not to comb through reasons, looking for slight inadequacy of expression or inconsequential mistake and, upon finding such an inadequacy or mistake, pounce upon it as justification to strike down the result in the case. The difference in this case between seeing the switch and seeing the contacts of the switch is too slight. Nothing in the evidentiary record of this case suggests a meaningful difference between the two.

[67] The Federal Court also found the use of coloured or topographical markings in Claim 4 of the '781 Patent to be obvious. The Federal Court had before it evidence from Hyundai's witnesses that coloured or topographical markings have been previously used to facilitate visual

verification of the switch position. Again, I cannot find any palpable and overriding error in this assessment.

[68] Overall, ABB has not persuaded me that the Federal Court's conclusions on obviousness, based as they are upon its assessment of the evidence before it, are vitiated by any palpable and overriding error.

[69] Having upheld the Federal Court's findings on validity, I need not consider ABB's appeal on the issue of infringement.

[70] Finally, ABB also complains that Hyundai conducted an inspection of certain equipment at BC Hydro without advance notice to ABB. The place for this objection—an evidentiary objection—is at trial, not on appeal. The trial judge as fact-finder, who has first-hand exposure to the evidence and the benefit of observing all witnesses, is the person who is to address such an objection, not the appeal court.

(3) The '772 Patent

[71] The '772 Patent advances seven claims. Claim 1 is an independent claim and Claims 2 to 7 are all dependent:

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A gas-insulated medium-voltage switchgear assembly comprising circuit breakers, isolators and ground conductors, wherein a circuit breaker compartment

thereof is dimensioned such that both (i) the circuit breakers and (ii) the isolators and ground conductors in an outgoing section, are arranged therein.

2. A gas-insulated medium-voltage switchgear assembly as defined in claim 1, further comprising latching means which make it possible for the ground conductor in the outgoing section only to be introduced into the assembly when an isolator associated with a circuit breaker is open.

3. A gas-insulated medium-voltage switchgear assembly as defined in claim 2, wherein the isolator can be opened only via the latching means when the circuit breaker previously has been disconnected.

4. A gas-insulated medium-voltage switchgear assembly as defined in claim 1, 2 or 3, further comprising drive mechanisms for switching devices, wherein the drive mechanisms are located entirely in a low-voltage compartment, and can be actuated both by a motor or by a manual drive.

5. A gas-insulated medium-voltage switchgear assembly as defined in any one of claims 1 to 4, further comprising current transformers and/or current sensors arranged in the circuit breaker compartment.

6. A gas-insulated medium-voltage switchgear assembly as defined in any one of claims 1 to 5, further comprising female connectors are provided to connect voltage transformers externally.

7. A gas-insulated medium-voltage switchgear assembly as defined in any one of claims 1 to 6, wherein both an isolator in the outgoing section and a ground conductor in the outgoing section are sliding-contact switches.

[72] The Federal Court found (at paragraph 72) that the dependent claims each describe a feature that was well-known in the prior art and all of the combinations described in them were held to add nothing inventive (at paragraph 98). Accordingly, the main issue before the Federal Court was the construction of the scope of the invention asserted in Claim 1.

[73] In the Federal Court, ABB argued that Claim 1 does not include as an essential feature the presence of a second switch below the transformer capable of grounding the outgoing cables. It said that the invention in the '772 Patent is directed at the North American preference for

independent circuit breaker grounding on the outgoing side. Thus, Claim 1 should not be interpreted to include as essential the cable grounding feature because that advantage is optional.

[74] On this issue, the Federal Court charged itself properly on the law. At paragraph 74 of its reasons, it reproduced the test for distinguishing between essential and non-essential elements of a patent claim in *Free World Trust*, above at paragraphs 55-57. Once again, rejecting the evidence of ABB's expert, Mr. Leone—indeed, at one point calling it “strained and unconvincing”—and accepting the evidence of Hyundai's expert Mr. Nilsson, the Federal Court found that the presence of a second switch below the transformer capable of grounding the outgoing cables was an essential element (at paragraphs 78-81). The Federal Court concluded as follows (at paragraph 81):

Here the inventor represented that cable grounding was required and included that component without reservation into Claim 1. If cable grounding was not an essential feature of Claim 1 there was no need to mention it. If it was intended to be an optional embodiment, it could have been described that way and included as a dependant claim. There is nothing in the claims or in the specification that would suggest to the skilled reader that including the cable grounding switch (ground conductor) in the [gas-insulated switchgear assemblies] compartment fulfilled some inventive purpose subordinate in importance to the circuit breaker isolator. Having included cable grounding as an essential feature of the claims, it is too late for ABB to resile from it.

[75] Here again, ABB has failed to establish the presence of any legal error or palpable and overriding error in the Federal Court's assessment and application of the evidence before it on its construction of the scope of the invention asserted in Claim 1.

[76] With this construction in hand, the Federal Court found all of the claims of the '772 Patent to be invalid on account of obviousness. Here again, it based its decision on the evidence presented before it. It viewed the prior art and found (at paragraph 90) that the '772 Patent was not a departure from the prior art or ABB's own design practices. The Federal Court also had before it US patent application 2002/0060204 that showed that the combination of a circuit breaker, isolator and grounding switch in a single compartment was well known in the art. ABB's expert, Mr. Leone, acknowledged that this US patent featured one gas compartment containing the components identified in the '772 Patent. Mr. Leone attempted to explain that compartment as an "air-insulated switch" as opposed to gas-insulated switchgear. At paragraph 88 of its reasons, the Federal Court found this "unconvincing." Nothing has been placed before this Court to suggest that this finding is vitiated by palpable and overriding error.

[77] On the issue of obviousness, in this Court ABB attacks the weakness of the evidence offered by Hyundai's experts. It says that they were retained one week before delivery of their voluminous reports. Their reports are largely identical. They adopt the approach of hindsight. Further, they do not satisfy the requirement that the evidence be independent. For all these reasons, ABB says that the Federal Court should have rejected the reports of Hyundai's experts.

[78] These submissions, however, go mainly to the weight the Federal Court should have given to the reports. That is a matter for the Federal Court. This Court, acting on appeal under the standard of palpable and overriding error, cannot engage in a reweighing of the evidence. Further, Hyundai informs us that ABB did not object before trial or at trial to the admission of the reports. Having not objected at trial, it is now too late for ABB to object now.

[79] Lastly, on the Federal Court's finding of obviousness, ABB submits that the Federal Court erred in failing to consider the inventors' "time consuming and complex invention path." However, before the Federal Court was plenty of evidence suggesting that the "invention path" was neither complex nor time consuming: see paragraph 93 of its reasons. ABB urges us to reverse the Federal Court on this point because there was evidence to the contrary that "ought to have been accepted": Memorandum, paragraph 46. But without more, it is not the role of this Court acting under the standard of palpable and overriding error to reweigh the evidence before the Federal Court and interfere with the Federal Court's findings.

[80] On the issue of infringement, the Federal Court found (at paragraph 99) that Hyundai had not infringed the '772 Patent. The gas-insulated switchgear assemblies sold by Hyundai and said to infringe the '772 Patent do not incorporate a cable grounding feature. Since that was an essential component of Claim 1 of the '772 Patent, the Federal Court found that there is no infringement: see *Free World Trust*, above at paragraph 32.

[81] In this Court, ABB properly accepts that if this Court upholds the Federal Court's construction of Claim 1 of the '772 Patent, the Federal Court's finding of non-infringement must stand. As I have upheld the Federal Court's construction of Claim 1 of the '772 Patent, I must also uphold its finding of non-infringement.

(4) The costs appeal

[82] ABB also appeals from the Federal Court’s judgment awarding Hyundai \$350,000 in costs.

[83] As is well-known, costs in the Federal Court are governed by Rule 400 of the *Federal Courts Rules*, SOR/98-106. Rule 400 expressly provides that it has “full discretionary power over the amount and allocation of costs.” It then sets out a non-binding list of factors that the Court may consider. It follows that the Federal Court’s cost award in this case is a discretionary order.

[84] This Court recently clarified the standard of review for discretionary orders made by the Federal Court: *Imperial Manufacturing Group Inc. v. Decor Grates Incorporated*, 2015 FCA 100.

[85] For some decades, the law of this Court was that discretionary orders of the Federal Court could only be set aside if the Federal Court proceeded “on a wrong principle, gave insufficient weight to relevant factors, misapprehended the facts or where an obvious injustice would result”: *David Bull Laboratories (Canada) Inc. v. Pharmacia Inc.*, [1995] 1 F.C. 588 at page 594, 58 C.P.R. (3d) 209 at page 213 (C.A.). Sometimes this standard is expressed as whether the Federal Court was “plainly wrong”: *Bell Helicopter Textron Canada Limitée v. Eurocopter, société par actions simplifiée*, 2013 FCA 220 at paragraphs 7-8.

[86] In *Imperial Manufacturing*, this Court noted that discretionary orders are nothing more than the application of legal standards to a set of facts—in other words, a question of mixed fact and law. In 2002, the Supreme Court held that the standard of review for questions of mixed fact and law is palpable and overriding error unless an extricable legal principle is present: *Housen v. Nikolaisen*, 2002 SCC 33, [2002] 2 S.C.R. 235. And in 2014, the Supreme Court applied the *Housen* standard to a discretionary order: *Hryniak v. Mauldin*, 2014 SCC 7, [2014] 1 S.C.R. 87 at paragraph 83; and see discussion of this in *Imperial Manufacturing*, above at paragraph 23. One would have thought that that would have been the end of the *David Bull* line of cases. But until *Imperial Manufacturing*, it was not.

[87] In *Imperial Manufacturing*, this Court held that the *David Bull* line of cases should no longer be followed. Among other things, this Court found that maintaining a different formulation of the standard of review for what were, in essence, decisions based on questions of mixed fact and law did not serve the purposes of achieving greater simplicity and clarity in our law. When it comes to articulating legal rules, especially on basic matters like the standard of review, simplicity and clarity are desired objectives: *Hryniak*, above; *Steel v. Canada (Attorney General)*, 2011 FCA 153, [2011] 1 F.C.R. 143 at paragraph 71.

[88] Therefore, the standard of review of discretionary orders of the Federal Court is the same as that set out in for rulings on questions of mixed fact and law. “[A]bsent error on a question of law or an extricable legal principle, intervention is warranted only in cases of palpable and overriding error”: *Imperial Manufacturing*, above at paragraph 29. To reiterate, palpable and overriding error is a high standard.

[89] In the Federal Court, the key debate among the parties was whether the Federal Court should depart from the Tariff in calculating the costs to be awarded to Hyundai. The Federal Court held that it should do so. In its view, there were a number of features of the litigation that drove up the complexity of the case (at paragraphs 5-6). It also noted (at paragraph 7) that Hyundai had served an offer to settle roughly one month before trial, an offer that “represented a better outcome for [ABB] than the judgment that was ultimately rendered.” In its view, ABB should have given that offer “serious consideration.” It did not.

[90] In my view, these considerations are sufficient to justify the award of costs made by the Federal Court. Many of them speak to the non-binding list of factors the Court may consider under Rule 400.

[91] In another case, the Federal Court might have weighed the considerations differently. But that is not the test for palpable and overriding error. ABB has failed to demonstrate an obvious error on the part of the Federal Court that strikes at the root of the cost award against it.

[92] ABB challenges a number of the particular items claimed by Hyundai in its costs submission. Here too, absent an error in legal principle, we can only interfere on the basis of a showing of palpable and overriding error. There is none. In any event, I note that the Federal Court carved Hyundai’s request for costs respecting fees from \$1,404,581 to \$350,000, reflecting the application of a considerable discount.

[93] Therefore, I would dismiss ABB’s appeal of the Federal Court’s judgment on costs.

C. Proposed disposition

[94] Therefore, for the foregoing reasons, I would dismiss ABB's appeals from the Federal Court's judgments dated September 11, 2013 and October 17, 2013 in file no. T-735-11. I would award Hyundai its costs of both appeals.

"David Stratas"

J.A.

"I agree
Wyman W. Webb J.A."

"I agree
D.G. Near J.A."

FEDERAL COURT OF APPEAL

NAMES OF COUNSEL AND SOLICITORS OF RECORD

DOCKETS:

A-346-13

**APPEAL FROM A JUDGMENT OF THE HONOURABLE MR. JUSTICE BARNES
DATED SEPTEMBER 11, 2013, NO. T-735-11**

STYLE OF CAUSE:

ABB TECHNOLOGY AG, ABB
INC. and ABB AG v. HYUNDAI
HEAVY INDUSTRIES CO., LTD.

PLACE OF HEARING:

TORONTO, ONTARIO

DATE OF HEARING:

MAY 14, 2014

REASONS FOR JUDGMENT BY:

STRATAS J.A.

CONCURRED IN BY:

WEBB J.A.
NEAR J.A.

DATED:

AUGUST 18, 2015

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DOCKETS: A-379-13

**APPEAL FROM A JUDGMENT OF THE HONOURABLE MR. JUSTICE BARNES
DATED SEPTEMBER 11, 2013, NO. T-735-11**

STYLE OF CAUSE: ABB TECHNOLOGY AG, ABB
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PLACE OF HEARING: TORONTO, ONTARIO

DATE OF HEARING: MAY 14, 2014

REASONS FOR JUDGMENT BY: STRATAS J.A.

CONCURRED IN BY: WEBB J.A.
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