

Federal Court



Cour fédérale

Date: 20200117

Docket: T-896-15

Citation: 2020 FC 64

Ottawa, Ontario, January 17, 2020

PRESENT: The Honourable Mr. Justice Fothergill

BETWEEN:

**GEORGETOWN RAIL EQUIPMENT
COMPANY**

Plaintiff

and

TETRA TECH EBA INC

Defendant

JUDGMENT AND REASONS

I. Overview

[1] In 2011, Georgetown Rail Equipment Company [Georgetown] was issued Canadian Patent 2,572,082 [082 Patent] titled “System and Method for Inspecting Railroad Track”.

According to the “Summary of the Disclosure” contained in the 082 Patent:

... The disclosed system includes lasers, cameras, and a processor. The lasers are positioned adjacent to the track. The laser emits a beam of light across the railroad track, and the camera captures images of the railroad track having the beam of light emitted thereon. The processor formats the images so that they can be analyzed to determine various measurable aspects of the railroad track. The disclosed system can include a GPS receiver or a distance device for determining location data. The measurable aspects that can be determined by the disclosed system include but are not limited to: the spacing between crossties, the angle of ties with respect to rail, cracks and defects in surface of ties, missing tie plates, misaligned tie plates, sunken tie plates, missing fasteners, damaged fasteners, misaligned fasteners, worn or damaged insulators, rail wear, gage or rail, ballast height relative to ties, size of ballast stones, and a break or separation in the rail. The system includes one or more algorithms for determining these measurable aspects of the railroad track.

[2] In 2013, Georgetown was issued Canadian Patent 2,766,249 [249 Patent] titled “Tilt Correction System and Method for Rail Seat Abrasion”. According to the “Summary of Disclosure” contained in the 249 Patent:

... Embodiments of the disclosed system includes [*sic*] an inspection system comprising lasers, cameras, and processors adapted to determine whether rail seat abrasion is present along the track. The processor employs a mathematics based algorithm which compensates for tilt encountered as the inspection system moves along the track.

...

By mounting measurement devices on the inspection vehicle that traverses the track, taking precise measurements of the height of the rail and the tie, and adjusting these measurements for any expected tilt encountered, instances of rail track abrasion can be predicted without the need for hazardous raising of rails for unreliable and time-consuming manual measurements ...

[3] Tetra Tech EBA Inc [Tetra] also developed a system for inspecting railroad track, which it called the Three Dimensional Track Assessment System [3DTAS]. The 3DTAS is mounted on a rail car that moves along track. Two lasers are positioned adjacent the track. The 3DTAS uses algorithms to analyze track beds, including crossties, rails, rail bases, fasteners, ballast, and spikes. A 3D elevation map displays these features. A GPS receiver or an encoder may be used to identify geographical location data.

[4] On May 29, 2015, Georgetown commenced a civil action alleging that Tetra had infringed numerous claims of the 082 Patent and 249 Patent. Tetra denied that it had infringed the asserted claims, and also took the position that the 082 Patent and 249 Patent in their entirety were obvious and therefore invalid.

[5] On January 31, 2018, I held in *Georgetown Rail Equipment Company v Rail Radar Inc*, 2018 FC 70 [*Georgetown*] that the 082 Patent and 249 Patent were valid and infringed by Tetra. I therefore allowed Georgetown's claim for infringement and dismissed Tetra's counterclaim.

[6] On July 9, 2019, the Federal Court of Appeal [FCA] overturned my judgment in *Georgetown (Tetra Tech EBA Inc v Georgetown Rail Equipment Company*, 2019 FCA 203 [*Tetra*]). The FCA found that I had neglected to consider how a person of ordinary skill in the art [Skilled Person] would have responded to the invention disclosed in the 082 Patent in light of the prior art and common general knowledge. The FCA concluded that the Skilled Person would have been able to bridge the differences between the prior art and the asserted claims by applying only the common general knowledge. According to the FCA, this would have been an obvious

step, because human inspectors had resolved the very problem (*i.e.*, measuring tie plate defects) that the 082 Patent invention purported to solve, and had done so in the same manner. The FCA therefore held that it was not inventive to accomplish the same task previously performed by human beings through the use of machine vision.

[7] With respect to the 249 Patent, the FCA held that it teaches and claims two distinct systems and methods for determining the presence and extent of rail seat abrasion:

[122] The first uses positional data of the rail with respect to the crosstie, and also teaches and claims at least one processor that compensates for a tilt of the rail road track (claims 1 and 12). The second system and method does not compensate for tilt (claims 7 and 18). It is a system and method that uses the 3-D data describing the geometry of the track and its components to determine the difference in height between the rail base and the crosstie. Because rail seat abrasion causes the height of the rail to lessen as the tie abrades, the height differential is proportional to rail seat abrasion. More precisely, when there is no rail seat abrasion the height difference between the rail base and the crosstie will be a nominal value. After abrasion has occurred, the height of the rail will decrease and the difference in height between the rail base and the crosstie will be less than the nominal value.

[8] The FCA reasoned that the determination of an “actual delta”, *i.e.*, the difference or distance between two points, based on the application of a tilt correction factor was not an essential element of each claim asserted to be infringed, specifically claims 7, 11, and 18 (*Tetra* at para 123). Based on this construction, the FCA concluded that the second system (*i.e.*, the one that does not perform tilt correction) was non-inventive, and its claims were therefore obvious and invalid.

[9] The FCA remanded to this Court the determinations of obviousness and validity of the remaining claims of the 249 Patent, in light of its findings and analysis in *Tetra*.

[10] The claims of the 249 Patent that the FCA found to be obvious and invalid are claims 7, 11, and 18 [Invalid Claims]. The claims of the 249 Patent that have been remanded for this Court's further consideration are claims 1 to 6, 8 to 10, and 12 to 17 [Remanded Claims]. The Invalid Claims do not include tilt correction; the Remanded Claims do.

[11] Applying the presumption of validity and the burden of proof, I find that Tetra has not demonstrated that the inventive concepts of a tilt correction factor or a standard tilt correction factor, as these terms are used in the 249 Patent, were disclosed in the prior art. Nor is there sufficient evidence before this Court to support the conclusion that these concepts were within the common general knowledge of the Skilled Person as of the relevant date. Claims 2 to 6, 8 to 10, and 13 to 17 all refer specifically to a tilt correction factor or a standard tilt correction factor. Given the paucity of evidence before this Court, I am unable to conclude that these claims are obvious and therefore invalid.

[12] Claims 1 and 12 are independent claims. Each broadly contemplates a vehicle-mounted inspection system that adjusts for tilt encountered as it moves along the track. These claims do not include a tilt correction factor or a standard tilt correction factor as particularized in Claims 2 to 6, 8 to 10, and 13 to 17. The FCA found in *Tetra* that all other elements of Claims 1 and 12 were obvious (at paras 108-130), and the only remaining inventive concepts of Claims 1 and 12 therefore relate to tilt correction generally.

[13] As I held in *Georgetown* at subparagraph 90(b), the general concept of tilt correction as a feature of a machine vision system that could be used to inspect railroad track surfaces and identify defects was disclosed in the prior art. The FCA in *Tetra* did not take issue with this finding. Accordingly, the general concept of tilt correction, compensation, or adjustment was within the common general knowledge of the Skilled Person as of the relevant date, and would have enabled the Skilled Person to bridge the differences between the prior art and Claims 1 and 12 of the 249 Patent. These claims are therefore obvious and invalid.

II. Issue

[14] The sole issue before the Court is whether the Remanded Claims are obvious and therefore invalid.

III. Analysis

[15] The test for obviousness continues to be the one enunciated by the Supreme Court of Canada in *Apotex Inc v Sanofi-Synthelabo Canada Inc*, 2008 SCC 61 at para 70 [*Sanofi*]:

- (a) identify the notional Skilled Person and the relevant common general knowledge of that person;
- (b) identify the inventive concept of the claim in question or, if that cannot readily be done, construe it;

- (c) identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed; and
- (d) viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the Skilled Person or do they require any degree of invention?

[16] The fourth step of the inquiry may require consideration of whether the claimed invention was “obvious to try”. In *Georgetown* at paragraph 114, I observed that this analysis “tends to arise in areas of endeavour where advances are made through experimentation, and where numerous interrelated variables may affect the desired result, e.g., the development of pharmaceuticals (*Sanofi* at para 68)”. I found that the evidence tendered in this case did not establish that machine vision and railway inspection are comparable areas of endeavour. Tetra does not seek to revisit this conclusion in this proceeding.

[17] Tetra’s arguments may be summarized as follows:

- (a) The only thing that distinguishes the Remanded Claims from the Invalid Claims is tilt correction. The FCA found the Invalid Claims to be obvious. Accordingly, the only possible remaining inventive concept is tilt correction.

- (b) The expert witness called by Georgetown, Dr. Harley Myler, did not address the inventiveness of tilt correction. The evidence of the expert witness called by Tetra, Mr. Sébastien Parent, regarding tilt correction is therefore uncontested.

- (c) Mr. Parent's expert report referenced two pieces of prior art that are relevant here: Liviu Bursanescu & François Blais, "Automated Pavement Distress Data Collection and Analysis: a 3-D Approach" (1997) 41574 NRC 311 [Blais Article]; and Denis Gingras, "Optics and Photonics Used in Road Transportation" (Paper delivered at the Opto-Contact: Workshop on Technology Transfers, Start-Up Opportunities and Strategic Alliances, 24 September 1998), 3414 SPIE 264 [Gingras Article]. These two articles demonstrate that tilt correction techniques were disclosed in the prior art and formed a part of the Skilled Person's common general knowledge as of the relevant date.

- (d) The disclosure of the 249 Patent does not teach the specific manner in which a tilt correction factor is to be determined. It states only that a railroad track may be tilted, and refers to a standard tilt correction factor of 0.12 without specifying how this value was arrived at or when it should be used.

- (e) The Skilled Person would therefore know how to derive a tilt correction factor using the techniques described in the Blais Article or Gingras Article, or any other standard technique found in the prior art or common general knowledge.

[18] Georgetown responds that this Court is not in a position to construe the meaning of a tilt correction factor or a standard tilt correction factor as used in the 249 Patent relying solely on the Blais Article or the Gingras Article. Neither Mr. Parent nor Dr. Myler discussed the relevance of the two articles to the concept of tilt correction as used in the Remanded Claims. The Blais Article does not explicitly refer to “tilt correction” at all. Nor does the article explain what correction should be applied to account for the “roll and pitch” of the vehicle noted by Mr. Parent at paragraph 47 of his report.

[19] Georgetown maintains that Mr. Parent failed to explain how the Gingras Article’s references to “calibration corrections” or “pre-processing” relate to the Remanded Claims or to tilt correction. Georgetown also asserts that the 3DTAS does not apply tilt correction in the manner taught by the Remanded Claims.

A. *Person of Ordinary Skill in the Art*

[20] The FCA did not take issue with my findings respecting the Skilled Person. The Skilled Person therefore continues to be an electrical or computer engineer who has at least three years of experience working with image processing systems, or a Master’s degree, and who possesses a working knowledge of railways and track inspection techniques (*Georgetown* at paras 63-67).

B. *Common General Knowledge*

[21] The common general knowledge of the Skilled Person was described by the FCA in *Tetra* as follows:

[50] As previously explained, the skilled worker has sufficient knowledge of railway and track inspection techniques to be able to support the application of machine vision techniques to rail inspection. The skilled worker's common general knowledge includes knowledge that a machine vision system could be used to identify rail defects. Implicit in this finding is that the skilled worker has sufficient knowledge of the enumerated rail defects so as to be able to understand that a machine vision system would apply to, and be able to identify, these defects.

[22] As I said in *Georgetown* at paragraph 86, the common general knowledge of the Skilled Person encompasses the application of machine vision to “the inspection of railroads, as well as other comparable surfaces such as roads and pavement”.

[23] In subparagraph 90(b), I held that the Skilled Person would understand, using the common general knowledge, that surfaces could be inspected and defects could be identified using a system with attributes that included (vi) an inclinometer for gradient and camber and (vii) correcting the profile for roll and pitch of the vehicle.

[24] I concluded in subparagraph 90(c) that the Skilled Person, relying on the prior art and common general knowledge, would have known that “a machine vision system with these attributes could be used to inspect railway tracks and their components in order to identify defects”.

C. *Inventive Concepts of the Remanded Claims*

[25] Claim construction is a matter of law for the judge (*Whirlpool Corp v Camco Inc*, 2000 SCC 67 at para 61). Where the judge can construe the patent as it would be understood by the

Skilled Person, expert evidence is not required (*Canmar Foods Ltd v TA Foods Ltd*, 2019 FC 1233 at paras 80-94 [*Canmar*], citing *Pfizer Canada Inc v Canada (Health)*, 2007 FC 446 at paras 25, 35-36 and *Excalibre Oil Tools Ltd v Advantage Products Inc*, 2016 FC 1279 at para 119).

[26] Tetra says the following with respect to the inventive concepts of the Remanded Claims:

41. Claims 3, 6, 14 and 17 are dependent claims that only add limitations already present in the claims previously held to be obvious. In particular, Claims 3 and 14 add limitations with respect to pixel counts and normalizing based on a measurement index as also specified in already obvious Claim 18. Claim 6 and 17 require rail seat abrasion to be determined based on the actual delta as specified in already obvious Claim 11. For these reasons, Claims 3, 6, 14 and 17 do not add any limitations amounting to an inventive step and their validity will therefore require one of the claims they depend on to be valid.

42. For each of the remaining claims, the Court must consider whether the inclusion of the tilt limitation is sufficiently inventive to save it from the same fate as the previous claims. All other elements of the remaining claims have already been found to not constitute a non-obvious difference from the state of the art. In summary, the elements for consideration are:

- i. the processor compensates for a tilt of the rail road track (Claim 1);
- ii. the measurement of rail seat abrasion is adjusted for tilt encountered as the inspection system moves along the track and determining whether rail seat abrasion exists based upon the adjusted measurement (Claim 12);
- iii. determining a tilt correction factor (Claims 2, 8 and 13);

- iv. determining a tilt correction factor using left and right rail base heights and a standard tilt correction factor (Claims 4, 9 and 15); and
- v. determining actual delta using a tilt correction factor (Claims 5, 10 and 16).

[27] Georgetown maintains that there is insufficient evidence about the Remanded Claims to support Tetra's arguments at this stage of the analysis, or at all. Mr. Parent and Dr. Myler provided opinions only with respect to the Invalid Claims. This Court is therefore unable to assess the inventive concepts of the Remanded Claims in the manner proposed by Tetra.

[28] In its written argument, Georgetown says the following about the evidence before this Court regarding the Remanded Claims:

33. There was little or no evidence regarding the Remanded Claims. M. Parent did not give an opinion on what he considered to be the inventive concept of the Remanded Claims nor did he construe them. Likewise, M. Parent's opinion regarding validity was limited to the claims 7, 11 and 18. He was not asked for, and expressly did not provide, any opinion on the validity of the Remanded Claims.

[29] Tetra describes the evidence before the Court regarding tilt correction as follows:

21. Given his construction of Claims 7, 11 and 18 of the 249 Patent as requiring tilt correction, Mr. Parent did consider the obviousness of systems and methods that include tilt correction. Mr. Parent's evidence was that there was nothing inventive in these claims compared to the common general knowledge and the disclosure of the 082 Patent.

22. In contrast, Dr. Myler construed Claims 7, 11, and 18 of the 249 Patent as not requiring any tilt correction. As a result, he did

not provide opinions on whether the use of tilt correction was obvious or inventive.

[30] Tetra cites Mr. Parent's expert report as follows:

49. From my point of view, the Blais [A]rticle sums up what is described in Patent '082 and Patent '249, except for specific algorithms used to determine physical characteristics related to railway ties.

50. [The Gingras Article] is an example of a road inspection system developed by another team, using a laser-based triangulation system mounted on a vehicle, with an odometer and GPS for localization of the scans. Of particular interest is the processing task which includes calibration corrections due to the tilt and roll of the vehicle, a subject related to Patent '249.

[31] However, Mr. Parent goes on to say at paragraphs 135 and 138 to 139 of his expert report:

135. Claim 11 is a dependant claim, that depends on claim 7. Claim 11 specifies that the last step of claim 7 (step d) where the rail seat abrasion is determined, is "accomplished based upon the actual delta for the right and left rail bases". This claim seems awkward, as it appears to imply that the actual delta was calculated but not used in step d) of claim 7. It could also be meant to clarify that the rail seat abrasion value necessarily needs to take into account the actual delta values. I would opt for the second option, otherwise claim 11 wouldn't solve the problem described in the summary of the invention, that is, to compensate for tilt encountered as the inspection system moves along the track. **It is essential to both claims 7 and 11 that rail seat abrasion requires a tilt correction feature.**

...

138. From my understanding of the description, **it seems that a person skilled in the art would understand that the determination of the tilt correction is required to determine rail seat abrasion.** The examples provided all require the

determination of a tilt correction or delta to apply, and there are several statements in the description to the effect that not taking the tilt or lean of the tracks in the rail seat abrasion determination would lead to flawed results. See paragraph [0072] for example.

139. I believe the inclusion of the tilt correction is essential to the claim since the claim would not have enough information in it to be useful or to function. A person skilled in the art would not have been able to determine rail seat abrasion based solely on the rail track features measured in the height determination step.

[Underline in original, bold emphasis added.]

[32] These conclusions were rejected by both this Court and the FCA (*Georgetown* at paras 108 & 186; *Tetra* at paras 115, 117 & 123). Counsel for Tetra acknowledges that Mr. Parent’s statement about tilt correction being essential to the Invalid Claims was mistaken or confused.

[33] The disclosure of the 249 Patent does not provide any meaningful teachings regarding how to compensate for tilt. The 249 Patent teaches that the track, including crossties, may be tilted resulting in one side being higher than the other. The 249 Patent refers to “empirical and mathematical research” that determined a “standard tilt correction factor of 0.12”, but does not provide details of how this number was arrived at or when it can be appropriately used.

[34] Claim 1 is a system for determining rail seat abrasion in which a processor “compensates for a tilt of the rail road track”.

[35] Claim 2 further particularizes the system of Claim 1 to include the following steps to compensate for tilt of the rail road track:

- (a) determining a height of a left rail base, right rail base, left crosstie, and right crosstie;
- (b) determining a tilt correction factor;
- (c) determining an actual delta for the right and left rail bases; and
- (d) determining a rail seat abrasion value for the right and left rail bases.

[36] Claim 3 further particularizes the first step in claim 2, wherein the step of determining the rail base and crosstie heights further comprises the steps of (a) determining vertical pixel counts for each of the heights of the left rail base, right rail base, left crosstie and right crosstie; and (b) normalizing those vertical pixel counts based upon a measurement index. The FCA held in *Tetra* that this was obvious (at paras 108(a), 116, 118-119 & 126-130).

[37] Claim 4 further particularizes the second step in claim 2, *i.e.*, determining a tilt correction factor, wherein that step “is accomplished based upon the left and right rail base heights and a standard tilt correction factor”.

[38] Claim 5 further particularizes the third step in claim 2, *i.e.*, determining an actual delta for the right and left rail bases, wherein that step “is accomplished based upon the tilt correction factor”.

[39] Claim 6 further particularizes the fourth and final step of claim 2, *i.e.*, determining a rail seat abrasion value for the right and left rail bases, wherein that step “is accomplished based upon the actual delta”. This is the actual delta referred to in claim 5, which again requires a tilt correction factor.

[40] Claim 12 is a method for determining rail seat abrasion comprised of the following steps:

- (a) moving an inspection system along the track;
- (b) receiving image data corresponding to at least a portion of the track;
- (c) determining a measurement of the rail seat abrasion for the portion of the track, wherein the measurement of rail seat abrasion is adjusted for tilt encountered as the inspection system moves along the track; and
- (d) determining whether rail seat abrasion exists based upon the adjusted measurement.

[41] Claim 13 further particularizes the method of Claim 12 wherein the step of measuring rail seat abrasion by adjusting for tilt encountered as the inspection system moves along the track is comprised of nearly identical steps to those in Claim 2:

- (a) determining a height of a left rail base, right rail base, left crosstie and right crosstie;

- (b) determining a tilt correction factor;
- (c) determining an actual delta for the right and left rail bases; and
- (d) determining a rail seat abrasion value.

[42] Claim 14 further particularizes the first step in claim 13 in the same manner as that of Claim 3 for the first step of Claim 2: determining the rail base heights further comprises the steps of (a) determining vertical pixel counts for each of the heights of the left rail base, right rail base, left crosstie and right crosstie; and (b) normalizing the vertical pixel counts based upon a measurement index. As noted above, the FCA held in *Tetra* that this is obvious.

[43] Claim 15 further particularizes the second step in claim 13 in the same manner as that of Claim 4 for the second step of Claim 2: “determining the tilt correction factor is accomplished based upon the left and right rail base heights and a standard tilt correction factor”.

[44] Claim 16 further particularizes the third step in claim 13 in the same manner as that of Claim 5 for the third step of Claim 2: “determining the actual delta is accomplished based upon the tilt correction factor”.

[45] Claim 17 further particularizes the fourth step of claim 13 in the same manner as that of Claim 6 for the fourth step of Claim 2: “the step of determining the rail seat abrasion value is accomplished based upon the actual delta”. This is the actual delta referred to in claim 16, which again requires a tilt correction factor.

[46] The remaining Remanded Claims describe a “tilt correction factor” or “standard tilt correction factor”. Neither of these terms is defined or explained in the 249 Patent.

[47] A significant impediment to this Court’s ability to understand the inventive concepts of the Remanded Claims is that neither Tetra nor Georgetown devoted much time or effort at trial to these questions. Having considered the Blais Article and Gingras Article, the limited guidance provided by Mr. Parent in his expert report and testimony, and the arguments of counsel, I am left in considerable doubt about the manner in which a “tilt correction factor” or a “standard tilt correction factor”, as used in the Remanded Claims, is to be construed.

D. *Whether Claims 2 to 6, 8 to 10, and 13 to 17 are Obvious*

[48] Claims 2, 4, 5, 8, 9, 10, 13, 15 and 16 each particularize the system in Claim 1, the method in Claim 12, or the method in Claim 7 to include a tilt correction factor, its determination, or a standard tilt correction factor. The disclosure of the 249 Patent provides no teachings regarding a “tilt correction factor” or “standard tilt correction factor”. There is no disclosure of how Georgetown arrived at its example of a standard tilt correction factor of 0.12, or the range of circumstances in which it can be applied.

[49] Claims 3 and 6 refer specifically to the system described in Claim 2. Claims 14 and 17 refer specifically to the method described in Claim 13. While the FCA in *Tetra* found the other elements of Claims 3, 6, 14, and 17 to be obvious, Claims 2 and 13 both include the

determination of a “tilt correction factor”. Claims 3, 6, 14, and 17 are therefore dependent on Claims 2 and 13.

[50] I am unable to identify or construe the inventive concepts of the Remanded Claims 2 to 6, 8 to 10, and 13 to 17 without the benefit of expert evidence. There is no evidence before this Court regarding the meaning of a “tilt correction factor” or a “standard tilt correction factor” as these terms are used in the 249 Patent. Nor is there any expert opinion, beyond the general conclusion offered by Mr. Parent, whether they differ from the use of “an inclinometer for gradient and camber”, “correcting the profile for roll and pitch of the vehicle”, or similar concepts disclosed in the prior art or within the general knowledge of the Skilled Person.

[51] As I noted in *Georgetown* at paragraph 109, a patent is presumed to be valid in the absence of evidence to the contrary (*Patent Act*, RSC, 1985, c P-4, s 43(2)). A party alleging invalidity bears the burden of establishing this on a balance of probabilities. Tetra has failed to meet its burden of demonstrating that the prior art, including the Blais Article and the Gingras Article, disclosed the concept of a tilt correction factor, its determination, or a standard tilt correction factor as used in the 249 Patent. There is insufficient evidence before this Court to support the conclusion that the inventive concepts of the Remanded Claims 2 to 6, 8 to 10, and 13 to 17 were within the common general knowledge of the Skilled Person as of the relevant date.

E. *Whether Claims 1 and 12 are Obvious*

[52] Claims 1 and 12 of the 249 Patent encompass any form of tilt correction that is used in a machine vision system that inspects railroad track and identifies defects. Claim 1 broadly claims a system that uses a processor to compensate for tilt in determining rail seat abrasion. Claim 12 broadly claims a method of determining rail seat abrasion wherein the measurement of rail seat abrasion is adjusted for tilt encountered as the inspection system moves along the track.

[53] There is a rebuttable presumption that claims in a patent are not redundant. This principle is referred to as “claim differentiation” (*Halford v Seek Hawk Inc*, 2004 FC 88 at para 92, rev’d in part on other grounds, 2006 FCA 275 [*Halford*]):

[93] In its simplest form, claim differentiation simply requires that “limitations of one claim not be ‘read into’ a general claim”. A more expansive comment on claim differentiation appears in *D.M.I., Inc. v. Deere & Co.*:

The district court said “As a general rule a limitation cannot be read into a claim to avoid infringement” ... Where, as here, the limitation sought to be “read into” a claim already appears in another claim, the rule is far more than “general”. It is fixed. It is long and well established. It enjoys an immutable and universally applicable status comparatively rare among rules of Law. Without it, the entire statutory and regulatory structure governing the drafting, submission, examination, allowance and enforceability of claims would crumble. This court has confirmed the continuing life of the rule ... Indeed, in *Kalman*, this court quoted with approval this clear statement of the rule found in *Deere & Co. v. International Harvester Co.*:

Where some claims are broad and others narrow, the narrow claim limitations cannot be read into the broad whether to avoid invalidity or to escape infringement.

[Citations omitted.]

[54] Justice George Locke recently said the following about the principle of claim differentiation in *Camsco Inc v Soucy International Inc*, 2019 FC 255 at paragraph 103:

It is well understood that where one claim differs from another in only a single feature it is difficult to argue that the different feature has not been made essential to the claim: *Whirlpool* at para 79. It follows from this that a dependent claim, which incorporates all of the elements of the independent claim on which it depends, will generally be construed more narrowly than the independent claim: *Halford v Seed Hawk Inc*, 2004 FC 88 at para 90 [*Halford*], aff'd 2006 FCA 275. The limitations of the dependent claim are generally not read into the independent claim: *Halford* at para 93. Moreover, the independent claim should not be construed in a manner that is inconsistent with the dependent claim: *Halford* at paras 91, 95.

[55] Applying the claim differentiation principle, Claims 1 and 12 of the 249 Patent must not be construed in a way that limits them to a “tilt correction factor” or a “standard tilt correction factor” found elsewhere in the 249 Patent. Claims 1 and 12 do not particularize any manner of accomplishing tilt correction. They do not specifically mention a tilt correction factor, much less a standard tilt correction factor. Moreover, Claims 2 to 6 and 13 to 17 contemplate and claim particularized systems and methods comprising a tilt correction factor, its determination, or a standard tilt correction factor. Claims 1 and 12 would be rendered redundant if I were to construe them to include a tilt correction factor, standard or otherwise.

[56] Claims 1 and 12 are therefore independent of the claims that particularize a system or method that compensates or adjusts for tilt of the railroad track using a tilt correction factor, its determination, or a standard tilt correction factor. The prior art disclosed the general concept of tilt correction as an aspect of machine vision systems that could be used to inspect railroad track surfaces and identify defects. The Skilled Person, using the common general knowledge, would therefore have been able to bridge the differences between the prior art and Claims 1 and 12 as of the relevant date. Claims 1 and 12 are obvious and invalid.

IV. Conclusion

[57] Applying the presumption of validity and the burden of proof, Tetra has not established that the Remanded Claims 2 to 6, 8 to 10, and 13 to 17 are obvious and therefore invalid. Tetra's counterclaim, insofar as it relates to these Remanded Claims, is dismissed.

[58] Applying the claim differentiation principle, Tetra has established that the Remanded Claims 1 and 12 are obvious and therefore invalid. Tetra's counterclaim, insofar as it relates to these Remanded Claims, is allowed.

V. Costs

[59] In keeping with the agreement of the parties, because success is divided there is no award of costs.

JUDGMENT

THIS COURT'S JUDGMENT is that:

1. Tetra's counterclaim, insofar as it relates to Remanded Claims 2 to 6, 8 to 10, and 13 to 17, is dismissed.

2. Tetra's counterclaim, insofar as it relates to Remanded Claims 1 and 12, is allowed.

3. There is no award of costs.

"Simon Fothergill"

Judge

FEDERAL COURT
SOLICITORS OF RECORD

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