March 2014 Issue

Foreseeability Does Not Bar the Doctrine of Equivalents, Including for Means-Plus-Function Limitations

by J. Derek McCorquindale

In the recent Ring & Pinion Service Inc. v. ARB Corp. decision, the U.S. Court of Appeals for the Federal Circuit held that the foreseeability of an equivalent at the time of filing does not, in itself, create a bar to reliance on the doctrine of equivalents (DOE). The unanimous Federal Circuit panel confirmed that infringement can indeed be found under the DOE, notwithstanding that, at the time of the application, the equivalent limitation in question was foreseeable to one of ordinary skill. Further, Ring & Pinion clarifies how the DOE applies to claims written with functional language, and dispels the notion that prior case law ever precluded the application of the DOE to foreseeable equivalents of means-plus-function claim limitations.

Under the DOE, “a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.” In another context, notions of “equivalence” are also analyzed when claim terms are drafted in “means-plus-function” form, as permitted by 35 U.S.C. § 112(f). When a means-plus-function limitation appears in a claim, it strictly covers only the structures “described in the specification and equivalents thereof.” There has thus been considerable debate over the last two decades on the application of the DOE to means-plus-function limitations. On the one hand, it is widely recognized that the DOE allows enforceable equivalents to read on insubstantial variations in after-arising technology, in effect compensating for the patent drafter’s inability to claim unforeseeable matter. On the other hand, it has been suggested that if alternative structures were foreseeable at the time of patenting, then means-plus-function claiming required their disclosure in the originally filed specification in the first place, and should bar reliance on the DOE. The apparent tension between these “equivalence” concepts was again on display in Ring & Pinion.

Declaratory judgment plaintiff Ring & Pinion (R&P) claimed before the trial court that its product did not infringe ARB’s patent directed to an improved automobile locking differential. Claim 1 was deemed representative:

- A locking differential comprising
  - a differential carrier . . . ,
  - a locking means . . . , [and]
  - cylinder means formed in said differential carrier and housing an actuator position[ed] to cause movement of said locking means relative to said carrier . . . .

There was no dispute that all limitations were literally met in R&P’s “Ziplocker” product except for one—the “cylinder means formed” element. The parties agreed, however, that the “Ziplocker” had an equivalent to the cylinder, albeit one that would have been foreseeable to a person having ordinary skill in the art at the time the patent application was filed. Accordingly, the parties entered a formal
stipulation that the infringement analysis hinged on a discrete question of law: whether an equivalent is barred under the DOE because it was foreseeable at the time of the patent application.

The district court held that foreseeability did not, as a matter of law, preclude ARB’s reliance on the DOE. However, the court granted summary judgment of noninfringement because of claim vitiation. On appeal, R&P argued that there was a general foreseeability bar to the DOE, relying mainly on an interpretation of Sage Products, Inc. v. Devon Industries, Inc. That nearly twenty-year-old case was thought by some to have created a new foreseeability rule that reined in the scope of the DOE. This foreseeability rule, if it existed, would have created a sort of “patent drafter estoppel” whereby equivalent structures that should have been foreseeable during prosecution would be precluded under the DOE. The primary rationale for such a rule is public notice. While the Federal Circuit has moved away from reading Sage Products to require that applicants literally identify all foreseeable equivalents in the claims, the well-worn argument persists. The Federal Circuit in Ring & Pinion addresses the question directly and, perhaps, permanently.

Judge Moore, writing for the unanimous Federal Circuit panel that included Judges Clevenger and Reyna, observed succinctly that “[t]here is not, nor has there ever been, a foreseeability limitation on the application of the doctrine of equivalents.” Quite to the contrary, the court noted that known interchangeability can in fact weigh in favor of finding infringement under clear DOE precedent, such that excluding equivalents that were foreseeable at the time of patenting would directly conflict with these holdings that “known interchangeability” supports infringement under the doctrine of equivalents. We conclude that the foreseeability of an equivalent at the time of patenting is not a bar to a finding of infringement under the doctrine of equivalents.

The court distinguished Sage Products, explaining that the scope of the claims there were limited in such a way that they necessarily excluded a structural feature that was the opposite of the one recited in the claim, precluding infringement under the DOE only because it would have entirely vitiating a claim limitation based on the facts of the case. Thus, Sage Products was seen as enforcing the traditional “all elements” rule and not creating a new foreseeable equivalents bar.

R&P’s fallback position was more modest, arguing that another prior case, Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc., established a foreseeability bar to the application of the DOE specifically for means-plus-function limitations. The court explained that this R&P argument was equally flawed, and that “[n]othing in Chiuminatta or in any other case cited by R&P supports its assertion that there exists a foreseeability exception to the doctrine of equivalents that applies to means-plus-function or any other claim terms.”

Recognizing that there could be confusion about the different types of “equivalents”—i.e., equivalents under the DOE and equivalents under § 112(f)—the Federal Circuit further explained that there are two distinctions between these two types of equivalents: differences in timing and differences in function. On timing, the court explained that because equivalence in the literal infringement context of § 112(f) is evaluated at the time of a patent’s issuance, whereas equivalence in the DOE context is evaluated at the time of infringement, an after-arising technology “can be found to be an equivalent under the doctrine of equivalents even though it cannot be an equivalent under the literal infringement analysis of § 112(f).”

On function, the court explained that literal infringement requires that the accused structures perform the identical function recited in the claim, whereas the DOE famously covers structures performing...
substantially the same function in substantially the same way with substantially the same result. The court explained that “[t]he doctrine of equivalents thus covers structures with equivalent, but not identical functions. This is true whether the accused equivalent was known at the time of patenting or later arising.”24 The DOE as applied to means-plus-function elements, therefore, requires only that the equivalent structure perform substantially the same function, whether known or unknown at patenting.25

The court reminded that “[w]here a finding of non-infringement under § 112(f) is based solely on the lack of identical function, it does not preclude a finding of equivalence under the doctrine of equivalents.” Accordingly, when the accused technology was known at the time of patenting and the functions are identical, the structural equivalence inquiries of the DOE and § 112 are coextensive.26 Nothing in Chiuminatta, reiterated the court, suggests a different approach as it applies to means-plus-function terms.27

Thus, the Federal Circuit agreed with the district court’s legal conclusion that foreseeability does not create a bar to the application of the DOE. Having correctly determined the foreseeability issue, however, the trial court should have just entered the stipulation as agreed to by the parties, according to the Federal Circuit, instead of indulging a further vitiation argument.28 The court reversed and remanded with instructions to grant summary judgment of infringement to ARB.29

Practitioners can perhaps rest more easily after Ring & Pinion. A restrictive “patent drafter estoppel” was again affirmatively rejected in this latest examination of the question. Applicants need not exhaustively list every known variation when claim limitations are drafted in means-plus-function format in order to later benefit from the DOE. Rejecting a per se bar for foreseeable equivalents tends to promote efficiency in claiming and avoids the need to literally cover each insubstantial difference to function in § 112(f) claiming.

---


2 Id. at *5-7.

3 Id. at *7-9.


5 Id. at 27 (“[A]n applicant can describe an element of his invention by the result accomplished or the function served, rather than describing the item or element to be used (e.g., ‘a means of connecting Part A to Part B,’ rather than ‘a two-penny nail’).”).


8 A differential is a mechanism that allows wheels to spin at different speeds. A locking differential distributes torque from the engine such that wheels spin at the same rate when locked. See Ring & Pinion, 2014 U.S. App. LEXIS 2962, at *1.

9 U.S. Patent No. 5,591,098, claim 1 (emphasis added).


11 126 F.3d 1420 (Fed. Cir. 1997).

13 Johnson & Johnston, 285 F.3d at 1056 (Rader, J., concurring) (“[T]he doctrine of equivalents does not capture subject matter that the patent drafter reasonably could have foreseen during the application process and included in the claims enhances the notice function of [the] claims by making them the sole definition of invention scope in all foreseeable circumstances.”).

14 See, e.g., Overhead Door Corp. v. Chamberlain Grp., Inc., 194 F.3d 1261, 1271 (Fed. Cir. 1999); WMS Gaming Inc. v. Int'l Game Tech., 184 F.3d 1339 (Fed. Cir. 1999); Al-Site Corp. v. VSI Int'l, Inc., 174 F.3d 1308, 1320-21 (Fed. Cir. 1999).


16 Id. at *6 (citing, inter alia, Warner-Jenkinson, 520 U.S. at 36 (“The known interchangeability of substitutes for an element of a patent is one of the express objective factors . . . bearing upon whether the accused device is substantially the same as the patented invention.”)).

17 Id. at *6-7 (quoting SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1346 (Fed. Cir. 2001)).

18 The “all elements” rule requires that the accused device contain each limitation of the claim, either literally or by an equivalent, to be infringing. TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc., 529 F.3d 1364, 1379 (Fed. Cir. 2008); Freedman Seating Co. v. Am. Seating Co., 420 F.3d 1350, 1358 (Fed. Cir. 2005). Most often, the “all elements” rule serves to prevent vitiation of a claim limitation when the infringement theory is based on the DOE. Trading Techs. Int'l, Inc. v. eSpeed, Inc., 595 F.3d 1340, 1355 (Fed. Cir. 2010) (quoting in Warner-Jenkinson, 520 U.S. at 39 n.8 (1997)).

19 Ring & Pinion, 2014 U.S. App. LEXIS 2962, at *6-7 (citing Overhead Door, 194 F.3d at 1271).

20 145 F.3d 1303 (Fed. Cir. 1998).


22 Id. at *8.

23 Id.

24 Id. at *9.

25 Id.

26 Id. (citing Al-Site, 174 F.3d at 1320 n.2 (holding that for preexisting structures where functions are identical, “any analysis for equivalent structure under the doctrine of equivalents collapses into the [§ 112(f)] analysis”).

27 Id. at *10.

28 Id. at *11-12 (“A stipulation of fact that is fairly entered into is controlling on the parties and the court is generally bound to enforce it. Here the partes stipulated to equivalence . . . ”).

29 Id. at *13.