

THE DOCTRINE OF EQUIVALENTS: A CALL FOR CONGRESSIONAL REINVIGORATION

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I. INTRODUCTION

Patent practitioners and courts struggle with the doctrine of equivalents. Some argue that the doctrine of equivalents breeds uncertainty by extending patent protection beyond the literal terms of the claim. Others argue that the doctrine of equivalents is necessary to promote fairness and innovation. The traditional function/way/result test, when applying the doctrine of equivalents, is widely regarded as unworkable. Judges themselves disagree as to the equitable origins of the doctrine. These questions and tensions are decades-old and need clarification.

The Supreme Court, in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*,^{40 IDEA 599} and ^{footnotes(n1);FTNT n1} sought to clarify the doctrine of equivalents. Part II of this article argues the Supreme Court's effort was largely a failure. The Court, aside from reaffirming the availability of the doctrine of equivalents, shied away from the doctrine's most pressing problems. Despite the Court's reaffirmance of the doctrine of equivalents, Part III demonstrates that some courts are still hesitant, or even biased, towards the doctrine. Part IV, as a result, calls for Congress to legislatively reinvigorate the doctrine of equivalents. This article calls for Congress to a) enact legislation requiring obviousness as the test for the doctrine of equivalents and b) enact legislation affirming the doctrine of equivalents as a legal conclusion. Part V summarizes this article.

II. THE SUPREME COURT'S RECENT WARNER-JENKINSON OPINION PROVIDED LITTLE CLARIFICATION

Part II argues that the Supreme Court's *Warner-Jenkinson* opinion was largely a failure. The Court tried to clarify the doctrine of equivalents, but practitioners and courts continue to struggle

with the same decades-old questions. Although the doctrine of equivalents is a judge-made tool, the Warner-Jenkinson Court shied away from its most perplexing problems. Congress, therefore, should legislatively resolve the lingering questions surrounding the doctrine of equivalents.

A. The Federal Circuit's en banc Hilton Davis

A Federal Circuit en banc decision offers a clear picture of these lingering questions surrounding the doctrine of equivalents. The Federal Circuit, in *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*,^{40 IDEA 599} and footnotes(n2);.FTNT n2 reheard an appeal en banc to specifically decide several plaguing questions surrounding the doctrine of equivalents.^{40 IDEA 599} and footnotes(n3);.FTNT n3 The court asked the parties to brief three important questions.^{40 IDEA 599} and footnotes(n4);.FTNT n4 First, does the doctrine of equivalents require more proof than the tripartite function/way/result test?^{40 IDEA 599} and footnotes(n5);.FTNT n5 Second, is the doctrine of equivalents a factual question for jury resolution or an equitable remedy for the court?^{40 IDEA 599} and footnotes(n6);.FTNT n6 Third, is the doctrine of equivalents available to every patentee, or is it only available at the court's discretion?^{40 IDEA 599} and footnotes(n7);.FTNT n7

The Hilton Davis case can be simply distilled. Hilton Davis was the assignee of a patented dye manufacturing process.^{40 IDEA 599} and footnotes(n8);.FTNT n8 This patent claimed an ultrafiltration process operating "at a pH from approximately 6.0 to 9.0."^{40 IDEA 599} and footnotes(n9);.FTNT n9 Warner-Jenkinson's competing ultrafiltration process, however, operated at a pH of 5.0.^{40 IDEA 599} and footnotes(n10);.FTNT n10 The jury heard evidence that Warner-Jenkinson's 5.0 pH process performed the same function, in the same way, and achieved the same result as the patented 6.0 pH process. This evidence convinced the jury that Warner-Jenkinson's 5.0 pH process was equivalent to Hilton Davis's 6.0 pH process.^{40 IDEA 599} and footnotes(n11);.FTNT n11 The jury found that Warner-Jenkinson infringed under the doctrine of equivalents, and Warner-Jenkinson appealed to the Federal Circuit.^{40 IDEA 599} and footnotes(n12);.FTNT n12

The en banc majority^{40 IDEA 599} and footnotes(n13);.FTNT n13 explicitly held that the doctrine of equivalents rests upon "insubstantial differences."^{40 IDEA 599} and footnotes(n14);.FTNT n14 The majority noted the language of Justice Story,^{40 IDEA 599} and footnotes(n15);.FTNT n15 "the leading intellectual property scholar of that era,"^{40 IDEA 599} and footnotes(n16);.FTNT n16 and said "the Supreme Court has consistently recognized the doctrine of equivalents as a protection for patent owners."^{40 IDEA 599} and footnotes(n17);.FTNT n17 The doctrine of equivalents, in most cases, is a question of whether the accused device has substantially the same function, way, and result as the patented device.^{40 IDEA 599} and footnotes(n18);.FTNT n18 Even the Supreme Court, in *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*,^{40 IDEA 599} and footnotes(n19);.FTNT n19 had endorsed the same test.^{40 IDEA 599} and footnotes(n20);.FTNT n20

As technology grows increasingly more sophisticated, however, the doctrine of equivalents must consider other factors beyond the function/way/result of *Graver Tank*.^{40 IDEA 599} and footnotes(n21);.FTNT n21 Because equivalence can never be reduced to a rigid formula, all evidence of the substantiality of the differences is relevant on a case-by-case basis.^{40 IDEA 599} and footnotes(n22);.FTNT n22 The known interchangeability of an element

is an important factor in determining equivalence.^{40_IDEA_599)_and_footnotes(n23);.FTNT n23} Evidence of copying may suggest that the differences between the patented and the accused are insubstantial.^{40_IDEA_599)_and_footnotes(n24);.FTNT n24} Intent is not a factor; one may infringe without having any knowledge of the patent.^{40_IDEA_599)_and_footnotes(n25);.FTNT n25} By contrast, designing around a patent is a factor of great benefit to the consumer and weighs against a finding of equivalence.^{40_IDEA_599)_and_footnotes(n26);.FTNT n26} Also, independent development is not a defense to infringement, but it may rebut an inference of copying.^{40_IDEA_599)_and_footnotes(n27);.FTNT n27}

The Hilton Davis en banc majority also decided that infringement, "whether literal or under the doctrine of equivalents, is a question of fact."^{40_IDEA_599)_and_footnotes(n28);.FTNT n28} The Supreme Court, in *Graver Tank*, made this determination "abundantly clear."^{40_IDEA_599)_and_footnotes(n29);.FTNT n29} "A finding of equivalence is a determination of fact."^{40_IDEA_599)_and_footnotes(n30);.FTNT n30} Although the doctrine of equivalents is available to every patentee, prosecution history estoppel limits its application.^{40_IDEA_599)_and_footnotes(n31);.FTNT n31} When the doctrine of equivalent is argued before a judge at a bench trial, the judge decides the issue of equivalents.^{40_IDEA_599)_and_footnotes(n32);.FTNT n32} When the doctrine of equivalents is tried before a jury, the jury decides the issue of equivalents.^{40_IDEA_599)_and_footnotes(n33);.FTNT n33} The trial judge's decision is reviewed for clear error,^{40_IDEA_599)_and_footnotes(n34);.FTNT n34} while the jury's verdict is reviewed for substantial evidence.^{40_IDEA_599)_and_footnotes(n35);.FTNT n35}

The answer to the en banc's last question must necessarily follow. The Supreme Court's *Graver Tank* holding forecloses any questions that the doctrine of equivalents is a matter of equity.^{40_IDEA_599)_and_footnotes(n36);.FTNT n36} In *Graver Tank* the Court explained that the doctrine prevents unfairness.^{40_IDEA_599)_and_footnotes(n37);.FTNT n37} Any previous Federal Circuit "allusions" to equity should be broadly interpreted as "general fairness."^{40_IDEA_599)_and_footnotes(n38);.FTNT n38} However, because the doctrine of equivalents is a factual determination available to every patentee, the trial judge has no discretion as to whether to apply the doctrine.^{40_IDEA_599)_and_footnotes(n39);.FTNT n39}

The Hilton Davis majority upheld the jury's finding of infringement under the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n40);.FTNT n40} Substantial evidence supported the jury's finding that Warner-Jenkinson's 5.0 pH process incorporated an insubstantial change from the Hilton Davis claimed 6.0 pH process.^{40_IDEA_599)_and_footnotes(n41);.FTNT n41} Even when the court reviewed the jury instructions, the instructions properly focused the jury on "insubstantial differences."^{40_IDEA_599)_and_footnotes(n42);.FTNT n42}

The dissenting opinions argued that the doctrine is found only within a court's equitable powers. Only in special cases where a competitor's product is literally, but insubstantially, different, may a court exercise their extraordinary equitable powers.^{40_IDEA_599)_and_footnotes(n43);.FTNT n43} When a court exercises those powers, the doctrine of equivalents is limited to equivalents known at the time the patent issues.^{40_IDEA_599)_and_footnotes(n44);.FTNT n44} The patentee's failure to claim the full extent of their rights, therefore, is a problem that lies with the drafter and not with the court.^{40_IDEA_599)_and_footnotes(n45);.FTNT n45} The dissent argues that recovering for

infringement under the doctrine of equivalents is a unique remedy that rests not with a jury, but solely with the courts of equity.^{40_IDEA_599)_and_footnotes(n46);FTNT n46}

The Federal Circuit's Hilton Davis case reflects diverging views of the doctrine of equivalents. For the en banc majority, the doctrine of equivalents posed a purely factual question. The doctrine of equivalents is available to every patentee, and the jury resolves the question. The dissent, however, would limit patentees to the literal terms of the claim. The dissenters argue, if the accused device falls beyond the scope of the literal claim wording, then the doctrine of equivalents should be an extraordinary equitable tool available only at the court's discretion. Because the Federal Circuit was "fractured,"^{40_IDEA_599)_and_footnotes(n47);FTNT n47} the Supreme Court granted certiorari.^{40_IDEA_599)_and_footnotes(n48);FTNT n48}

B. The Supreme Court's Warner-Jenkinson Decision

Although the Supreme Court granted certiorari, it offered very little clarification.^{40_IDEA_599)_and_footnotes(n49);FTNT n49} The Court declined, at the very outset, to "speak the death" of the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n50);FTNT n50} The doctrine has a long history, and the Graver Tank Court refused to find the doctrine conflicting with the 1952 Patent Act.^{40_IDEA_599)_and_footnotes(n51);FTNT n51} Congress can legislatively eliminate the doctrine of equivalents at any time Congress chooses.^{40_IDEA_599)_and_footnotes(n52);FTNT n52}

Although the doctrine is judge-made, the Court declined to resolve the internal inconsistencies of the doctrine. The tension between the claiming requirement,^{40_IDEA_599)_and_footnotes(n53);FTNT n53} and the doctrine's desire for fairness, would best be legislatively resolved.^{40_IDEA_599)_and_footnotes(n54);FTNT n54} Justice Thomas, writing for the majority, stated "The various policy arguments now made by both sides are thus best addressed to Congress, not this Court."^{40_IDEA_599)_and_footnotes(n55);FTNT n55} Although the Supreme Court created the doctrine, it was not the proper vehicle to alter the doctrine's long history.

The Warner-Jenkinson Court, however, shared the concerns of the en banc dissent. The Court agreed with the dissenting Federal Circuit judges that the doctrine has "taken on a life of its own, unbounded by the patent claims."^{40_IDEA_599)_and_footnotes(n56);FTNT n56} The Court echoed earlier dissenters who felt the doctrine of equivalents "conflicts with the definitional and public-notice functions" of patent claims.^{40_IDEA_599)_and_footnotes(n57);FTNT n57} The Court attempted to temper the tension by endorsing Judge Nies's element-by-element approach to the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n58);FTNT n58} As long as the doctrine of equivalents does not effectively eliminate a claimed element, the doctrine of equivalents will not spoil the function of claims.^{40_IDEA_599)_and_footnotes(n59);FTNT n59}

The Court, furthermore, did not resolve the judge/jury question. Warner-Jenkinson's primary argument asked the Court to overrule Graver Tank.^{40_IDEA_599)_and_footnotes(n60);FTNT n60} While Warner-Jenkinson argued in the Federal Circuit that the doctrine of equivalents was solely an equitable judicial remedy, it abandoned this argument on appeal.^{40_IDEA_599)_and_footnotes(n61);FTNT n61} Because resolving the judge/jury question was not necessary to the appeal, the Supreme Court declined to answer the question.^{40_IDEA_599)_and_footnotes(n62);FTNT n62} There is ample precedent supporting the

Federal Circuit's en banc majority decision that the doctrine of equivalents is a purely factual question for the jury.^{40_IDEA_599)_and_footnotes(n63);.FTNT n63}

Although the Supreme Court did not answer the judge/jury question, the Court did offer "guidance."^{40_IDEA_599)_and_footnotes(n64);.FTNT n64} If the evidence is such that no reasonable jury could find equivalence, then courts "are obliged to grant partial or complete summary judgment" to the accused infringer.^{40_IDEA_599)_and_footnotes(n65);.FTNT n65} If the district courts are reluctant to grant partial or complete summary judgment, due to unfamiliarity with the technological subject matter or the patent laws, then "the Federal Circuit can remedy the problem."^{40_IDEA_599)_and_footnotes(n66);.FTNT n66} Legal limitations, such as a motion for judgment as a matter of law, prosecution history estoppel, and element vitiation, may limit application of the doctrine.^{40_IDEA_599)_and_footnotes(n67);.FTNT n67} Special verdicts and interrogatories, narrowly focusing on each allegedly equivalent element, would be very helpful on appeal.^{40_IDEA_599)_and_footnotes(n68);.FTNT n68} These procedural and substantive limitations should promote "certainty, consistency, and reviewability" in application of the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n69);.FTNT n69}

Although the Court strove to clarify the doctrine of equivalents in Warner-Jenkinson, it largely failed. The patent bar and courts continue to struggle with the "insubstantial differences" of the function/way/result test. The polarity between the § 112 claiming requirement and the issue of fairness to the patentee remains. Practitioners and judges still argue whether Graver Tank was an equitable application of the doctrine. Although the Court created the doctrine of equivalents, it shies away from the doctrine's problems. Congress, therefore, should legislatively resolve the questions surrounding the application of the doctrine of equivalents.

III. DESPITE WARNER-JENKINSON, THE FEDERAL CIRCUIT PREMATURELY EXTINGUISHES THE DOCTRINE OF EQUIVALENTS

Although the Supreme Court, in Warner-Jenkinson, reaffirmed the availability of the doctrine of equivalents, Part III of this article shows that some courts still appear hesitant, or even biased, towards the doctrine. Some judges, for example, have even argued the Warner-Jenkinson Court meant to curtail the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n70);.FTNT n70} Two examples, Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc.^{40_IDEA_599)_and_footnotes(n71);.FTNT n71} and Vehicular Technologies Corp. v. Titan Wheel International, Inc.,^{40_IDEA_599)_and_footnotes(n72);.FTNT n72} demonstrate how the Federal Circuit prematurely extinguishes the doctrine of equivalents. Basic legal analytical flaws arise to defeat the doctrine. Sometimes almost absurd historical findings are made to preclude application of the doctrine. Moreover, some panels repeatedly insist, despite Supreme Court commands, that the patentee include equivalents in the specification. In both Chiuminatta and Vehicular Technologies the court ignores assertions of known interchangeability. New rules that preclude application of the doctrine blatantly ignore precedent. These lapses seem as if the panel wanted a certain outcome that did not include the doctrine of equivalents. Congress, therefore, should legislatively reinvigorate the doctrine of equivalents.

A. Chiuminatta Concrete Concepts

Chiuminatta Concrete Concepts illustrates the premature extinguishment of the doctrine of equivalents. In this case, the Federal Circuit panel's curious statements and basic legal errors precluded any application of the doctrine of equivalents. While the panel's literal infringement

analysis is straightforward, the panel's doctrine of equivalents analysis is blatantly flawed and contrary to Warner-Jenkinson. The panel, in fact, seems to openly avoid the doctrine of equivalents. As Chiuminatta Concrete Concepts shows, Congress needs to reinvigorate the doctrine of equivalents.

1. The Panel's Literal Infringement Analysis

Mr. Chiuminatta patented a soft concrete saw.^{40_IDEA_599)_and_footnotes(n73);.FTNT n73} This concrete saw cuts concrete "before the concrete attains its rock like hardness."^{40_IDEA_599)_and_footnotes(n74);.FTNT n74} The saw has "a base plate on which are mounted two wheels and a skid plate."^{40_IDEA_599)_and_footnotes(n75);.FTNT n75} The wheels and the skid plate each contact the concrete "to provide a three point support on the concrete."^{40_IDEA_599)_and_footnotes(n76);.FTNT n76} The apparatus claim of the patent includes two "significant features": a leading edge of the saw blade upwardly rotates to prevent wet concrete from accumulating in the blade groove, and a support surface prevents the upwardly rotating blade from damaging the wet concrete.^{40_IDEA_599)_and_footnotes(n77);.FTNT n77} The skid plate supports "the surface of the concrete immediately adjacent the groove being cut in the concrete."^{40_IDEA_599)_and_footnotes(n78);.FTNT n78} Claim 11, the only apparatus claim on appeal, reads as follows:

11. A saw for cutting concrete even before the concrete has hardened to its typical, rock-like hardness, comprising:

a circular concrete cutting blade having sides and a leading cutting edge;

a motor connected to rotate the concrete cutting blade in an up-cut rotation;

means connected to the saw for supporting the surface of the concrete adjacent the leading edge of the cutting blade to inhibit chipping, spalling, or cracking of the concrete surface during cutting;

wheel means for movably supporting the saw on the surface of the concrete during cutting.^{40_IDEA_599)_and_footnotes(n79);.FTNT n79}

FIG. 3 of the patent is reproduced below. FIGURE 3
[SEE TABLE IN ORIGINAL]

Cardinal Industries also manufactured a concrete saw.^{40_IDEA_599)_and_footnotes(n80);.FTNT n80} The Cardinal saw had a motor-driven blade, and the blade's leading edge upwardly rotated.^{40_IDEA_599)_and_footnotes(n81);.FTNT n81} Where, however, the Chiuminatta saw had a skid plate, the Cardinal saw had two wheels "mounted adjacent to the leading edge of the saw blade."^{40_IDEA_599)_and_footnotes(n82);.FTNT n82} Cardinal's saw, as depicted in the published reporter, is shown below. FIGURE 3
[SEE TABLE IN ORIGINAL]

ILLUSTRATION

Chiuminatta brought suit against Cardinal alleging patent infringement.^{40_IDEA_599)_and_footnotes(n83);FTNT n83} Chiuminatta argued the skid plate, and Cardinal's wheels, both had flat planes on each side of the saw blade, and the flat planes of Cardinal's wheels held the concrete in place.^{40_IDEA_599)_and_footnotes(n84);FTNT n84} The district court agreed and found that Cardinal infringed Chiuminatta's Claim 11.^{40_IDEA_599)_and_footnotes(n85);FTNT n85} The district court construed the "means . . . for supporting" limitation of Claim 11 to encompass the wheels of the Cardinal saw.^{40_IDEA_599)_and_footnotes(n86);FTNT n86} The district court also found Chiuminatta's patent to be valid and enforceable.^{40_IDEA_599)_and_footnotes(n87);FTNT n87} The district court thus entered a summary judgment of infringement in favor of Chiuminatta,^{40_IDEA_599)_and_footnotes(n88);FTNT n88} as well as a permanent injunction against Cardinal.^{40_IDEA_599)_and_footnotes(n89);FTNT n89} Cardinal then appealed to the Federal Circuit.^{40_IDEA_599)_and_footnotes(n90);FTNT n90}

Cardinal argued that Chiuminatta's "means . . . for supporting" claim element was limited to a skid plate.^{40_IDEA_599)_and_footnotes(n91);FTNT n91} Cardinal argued that § 112, Paragraph 6 means-plus-function claim elements are limited to the structure disclosed in the application and to equivalent structures.^{40_IDEA_599)_and_footnotes(n92);FTNT n92} Because Chiuminatta's patent disclosed only a skid plate and no other structures, the wheels of the Cardinal saw could not properly infringe.^{40_IDEA_599)_and_footnotes(n93);FTNT n93}

The Federal Circuit panel agreed with Cardinal. Literal infringement for a means plus function claim element requires "'identity . . . of function'" and equivalent structure.^{40_IDEA_599)_and_footnotes(n94);FTNT n94} Any allegedly equivalent structure must be insubstantially different from the claimed structure.^{40_IDEA_599)_and_footnotes(n95);FTNT n95} The function recited in Claim 11 "is 'supporting the surface of the concrete adjacent the leading edge of the cutting blade'"^{40_IDEA_599)_and_footnotes(n96);FTNT n96} The only structure recited in the patent, however, is the skid plate.^{40_IDEA_599)_and_footnotes(n97);FTNT n97} Moreover, the wheels of the Cardinal saw are substantially different from the disclosed skid plate.^{40_IDEA_599)_and_footnotes(n98);FTNT n98} The wheels roll over the concrete, whereas the skid plate skids over the concrete.^{40_IDEA_599)_and_footnotes(n99);FTNT n99} Cardinal's wheels are soft and round, while the skid plate is hard and flat.^{40_IDEA_599)_and_footnotes(n100);FTNT n100} Because the Cardinal wheels are substantially different from the disclosed skid plate, no reasonable jury could find literal infringement.^{40_IDEA_599)_and_footnotes(n101);FTNT n101} The district court, therefore, erred in granting Chiuminatta's motion for summary judgment of literal infringement.^{40_IDEA_599)_and_footnotes(n102);FTNT n102}

Chiuminatta also argued known interchangeability.^{40_IDEA_599)_and_footnotes(n103);FTNT n103} Chiuminatta argued that wheels were interchangeable with the skid plate, and this interchangeability is proof of equivalence.^{40_IDEA_599)_and_footnotes(n104);FTNT n104} This argument, according to the Federal Circuit, is not persuasive.^{40_IDEA_599)_and_footnotes(n105);FTNT n105} "The question of known interchangeability is not whether both structures serve the same function, but whether it was known that one structure was an equivalent of another."^{40_IDEA_599)_and_footnotes(n106);FTNT n106} Known interchangeability, while important, is not dispositive.^{40_IDEA_599)_and_footnotes(n107);FTNT n107} Known interchangeability does not eliminate the need for a structural

comparison.^{40_IDEA_599)_and_footnotes(n108);FTNT n108} Chiuminatta never alleged that one of ordinary skill in the art knew wheels were interchangeable with the skid plate.^{40_IDEA_599)_and_footnotes(n109);FTNT n109} "Significantly, the patent . . . never once suggests that wheels could perform the function of the skid plate. . . . There is no hint in the specification that the skid plate could be replaced by small wheels adjacent to the blade for supporting the concrete."^{40_IDEA_599)_and_footnotes(n110);FTNT n110}

The panel's literal infringement analysis was straightforward. The patentee's § 112, Paragraph 6, claim element confined and restricted the patentee. With no structural alternatives disclosed within the patent, and no hint of element equivalents, the court's finding of "substantial differences" between wheels and skids was inevitable.

2. Infringement Under the Doctrine of Equivalents

Chiuminatta also argued that Cardinal's saw infringed under the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n111);FTNT n111} The Federal Circuit, however, disagreed.^{40_IDEA_599)_and_footnotes(n112);FTNT n112} The doctrine of equivalents protects the patentee from insubstantial "after-developed technology" that "could not have been disclosed in the patent."^{40_IDEA_599)_and_footnotes(n113);FTNT n113} Cardinal's wheels, however, do "not involve later-developed technologies, but rather involves technology that predates the invention itself."^{40_IDEA_599)_and_footnotes(n114);FTNT n114} Because Cardinal's wheels are substantially different from the disclosed skid plate, "and given the prior knowledge of the technology asserted to be equivalent, [the wheels] could readily have been disclosed in the patent."^{40_IDEA_599)_and_footnotes(n115);FTNT n115} That the patentee could have disclosed the alleged equivalent, but did not, leads to the conclusion that the accused structure is not equivalent to the disclosed structure.^{40_IDEA_599)_and_footnotes(n116);FTNT n116} Consequently, the Federal Circuit directed the district court to enter summary judgment of non-infringement for Cardinal.^{40_IDEA_599)_and_footnotes(n117);FTNT n117}

This doctrine of equivalents analysis is extremely curious. The Federal Circuit panel labeled the Cardinal wheels as "technology that predates the invention."^{40_IDEA_599)_and_footnotes(n118);FTNT n118} Was the panel suggesting that a wheel, attached to a saw, was known in the art? The doctrine of equivalents cannot capture subject matter already disclosed in the prior art.^{40_IDEA_599)_and_footnotes(n119);FTNT n119} The Chiuminatta opinion, however, makes no mention that a wheeled concrete saw was part of the prior art.

The panel, therefore, seems to be saying that a wheel predates a skid! At first one might surely think the panel is not unilaterally declaring the developmental timeline of history. When we remember, however, that the doctrine of equivalents must be applied on an element-by-element basis,^{40_IDEA_599)_and_footnotes(n120);FTNT n120} the panel can only permissibly compare a wheel to a skid!

The Chiuminatta court's doctrine of equivalents analysis is also contrary to Warner-Jenkinson. The Supreme Court explicitly stated that "the proper time for evaluating equivalency -- and thus knowledge of interchangeability between elements -- is at the time of infringement, not at the time the patent was issued."^{40_IDEA_599)_and_footnotes(n121);FTNT n121} This "necessarily rejects the more severe proposition that equivalents must not only be known, but must also be actually disclosed in the patent."^{40_IDEA_599)_and_footnotes(n122);FTNT n122} The panel, however,

heavily relied on a lack of asserted equivalents in the patent.^{40_IDEA_599)_and_footnotes(n123);FTNT n123} If Chiuminatta felt a wheel was equivalent to the skid, according to the panel, then Chiuminatta should have included this asserted equivalency in the disclosure.^{40_IDEA_599)_and_footnotes(n124);FTNT n124} The panel never considered that, at the time of infringement, someone skilled in the art might have viewed Cardinal's wheel as functionally and structurally equivalent to the skid. The panel faults Chiuminatta for not including the asserted equivalent within the patent, yet this analysis contravenes Supreme Court precedent and is legally erroneous.

The Chiuminatta Federal Circuit panel also gives too little weight to known interchangeability. Chiuminatta, as mentioned earlier, argued that wheels were interchangeable with the skid plate, and this interchangeability was proof of equivalence.^{40_IDEA_599)_and_footnotes(n125);FTNT n125} Known interchangeability, according to the Supreme Court, bears "upon whether the accused device is substantially the same as the patented invention."^{40_IDEA_599)_and_footnotes(n126);FTNT n126} The Chiuminatta panel, however, says Chiuminatta never alleged that "those of ordinary skill in the art" knew wheels were interchangeable with the skid plate.^{40_IDEA_599)_and_footnotes(n127);FTNT n127} This certainly sounds like verbalism and, perhaps, a devious scheme. The court again states that the patent never mentioned equivalency between wheels and skids. There is no actual discussion of one skilled in the art recognizing the known interchangeability of wheels for skids.

This doctrine of equivalents analysis is flawed in one other aspect. The panel repeatedly relies on the structural differences between Chiuminatta's skid and Cardinal's wheels.^{40_IDEA_599)_and_footnotes(n128);FTNT n128} Because Cardinal's wheels are not § S 112, Paragraph 6 equivalent to Chiuminatta's skid plate, and wheels "predate[] the invention," then equivalence under the doctrine of equivalents is precluded.^{40_IDEA_599)_and_footnotes(n129);FTNT n129} The panel, again, neglects the Supreme Court's clear rule that equivalency, under the doctrine of equivalents, is determined "at the time of infringement."^{40_IDEA_599)_and_footnotes(n130);FTNT n130} A lack of § S 112, Paragraph 6 equivalency, at the time of filing, does not necessarily equate to a lack of doctrine of equivalents equivalency at the time of infringement. A substantially different structure, under a § S 112, Paragraph 6 analysis, does not imply that the same structure will be considered substantially different at the time of infringement. Courts must remember that claims are notice to competitors, not judges. Every patent is, by statute, novel and nonobvious. No one has seen the subject matter, so how can an inventor be expected to describe all equivalents? As the field progresses, things thought non-equivalent may, later, be recognized as equivalent.

When these basic flaws and historical declarations are combined, analysis of the doctrine of equivalents becomes controversial. The panel makes unfounded, almost whimsical, historical findings. It repeatedly insists that the patentee include equivalents in the specification, despite the Supreme Court's command. The patentee's assertions of known interchangeability are scrutinized for an exact verbal match. The panel also repeatedly ignores the rule that infringement, under the doctrine of equivalents, is measured at the time of infringement, not at the time of filing. These lapses arguably appear as if the panel wanted a certain outcome -- an outcome that did not include the doctrine of equivalents.

B. Vehicular Technologies

Vehicular Technologies is the assignee of a patented locking automotive differential.40_IDEA_599)_and_footnotes(n131);FTNT n131 The patented differential applies equal torque to each rear wheel of an automobile.40_IDEA_599)_and_footnotes(n132);.FTNT n132 Figures 4, 5, and 6 of the patent are reproduced below. FIGURE 4

[SEE TABLE IN ORIGINAL]

FIGURE 5

[SEE TABLE IN ORIGINAL]

FIGURE 6

[SEE TABLE IN ORIGINAL]

The differential has a pair of drive members, which will be referred to as a left drive member and an opposite right drive member. The left drive member is shown as reference numeral 12 in FIGS. 4 and 6, while the right drive member is shown as reference numeral 13.40_IDEA_599)_and_footnotes(n133);FTNT n133 The left drive member 12 has a recess, which will be referred to as the left recess. The left recess is shown as reference numeral 26 in FIG. 4.40_IDEA_599)_and_footnotes(n134);FTNT n134 The right drive member 13, likewise, has an opposite recess, which will be referred to as the right recess. The right recess is shown as reference numeral 25 in FIG. 4.40_IDEA_599)_and_footnotes(n135);.FTNT n135

The differential includes a pin and a spring assembly. The pin, shown in FIGS. 4 and 6 as reference numeral 24, resides in the right recess 25.40_IDEA_599)_and_footnotes(n136);.FTNT n136 The spring assembly, shown as reference numeral 23, resides in the left recess 26.40_IDEA_599)_and_footnotes(n137);.FTNT n137 The pin 24 outwardly extends from the right recess 25, across a space between the left drive member 12 and the right drive member 13, and into the left recess 26.40_IDEA_599)_and_footnotes(n138);.FTNT n138 The spring assembly 23 has one end bearing against the pin 24, while the spring assembly has an opposite end bearing against a solid end wall 30 of the left recess 26.40_IDEA_599)_and_footnotes(n139);.FTNT n139

The differential includes a right inspection hole and a left access hole. The right inspection hole, shown as reference numeral 31, allows visual inspection of the pin 24 residing in the right access 25.40_IDEA_599)_and_footnotes(n140);.FTNT n140 The left access hole, shown as reference numeral 32, allows access to the spring assembly 23 residing in the left access 26.40_IDEA_599)_and_footnotes(n141);.FTNT n141 The left access hole 32 is sized such that the spring assembly 23 may be compressed and inserted through the left access hole 32 and into the left access 26.40_IDEA_599)_and_footnotes(n142);.FTNT n142 The spring assembly 23 can thus be easily inserted into the left access 26, and the spring assembly can be easily removed from the right access 26.40_IDEA_599)_and_footnotes(n143);.FTNT n143 This easy insertion and removal eases assembly and repair efforts.40_IDEA_599)_and_footnotes(n144);.FTNT n144

As FIG. 5 shows, the spring assembly 23 is actually composed of two springs. A small diameter spring, shown as reference numeral 33, is concentric with a larger diameter spring, shown as reference numeral 34.40_IDEA_599)_and_footnotes(n145);.FTNT n145 If one of these springs should break, then the other concentric spring still bears against the pin 24.40_IDEA_599)_and_footnotes(n146);.FTNT n146 This concentric, double spring arrangement replaces the single spring found in conventional differentials.40_IDEA_599)_and_footnotes(n147);.FTNT n147 The concentric, double spring

arrangement permits the spring assembly 23 to bear directly against the pin 24.40_IDEA_599)_and_footnotes(n148);FTNT n148

Vehicular Technologies commercially introduced this differential design, and Titan reverse-engineered and copied the differential.40_IDEA_599)_and_footnotes(n149);FTNT n149 When Vehicular Technologies notified Titan of the patent, Titan immediately developed a modification to avoid the patent.40_IDEA_599)_and_footnotes(n150);FTNT n150 Titan replaced the two concentric springs 33 and 34 of Vehicular's design with a single spring and a plug.40_IDEA_599)_and_footnotes(n151);FTNT n151 Titan's modification, taken from the published opinion, is shown below. E-Z LOCKER ILLUSTRATION [SEE TABLE IN ORIGINAL]

Notwithstanding Titan's modifications, Vehicular Technologies still brought a patent infringement suit.40_IDEA_599)_and_footnotes(n152);FTNT n152 Vehicular Technologies, however, "limited its infringement argument to infringement under the doctrine of equivalents."40_IDEA_599)_and_footnotes(n153);FTNT n153 The disputed claim limitation required a "biasing means interposed between . . . driving surface faces comprising at least a pin in alignment with a spring assembly consisting of two concentric springs bearing against one end of said pin."40_IDEA_599)_and_footnotes(n154);FTNT n154 The district court found Titan's modification accomplished "the same functions, in substantially the same way, with the same result" as the Vehicular Technologies assembly.40_IDEA_599)_and_footnotes(n155);FTNT n155 Vehicular Technologies, therefore, had a reasonable likelihood of success in establishing infringement under the doctrine of equivalents, and the district court enjoined Titan.40_IDEA_599)_and_footnotes(n156);FTNT n156

The Federal Circuit panel, however, disagreed. As the Supreme Court stated in Warner-Jenkinson, "The role played by each element . . . will thus inform the inquiry as to whether a substitute element matches the function, way and result of the claimed element."40_IDEA_599)_and_footnotes(n157);FTNT n157 The role of a claim limitation may be identified from the patent prosecution history.40_IDEA_599)_and_footnotes(n158);FTNT n158 Although structure and function may be identified from patent prosecution, Vehicular Technologies did not amend the disputed claim language during prosecution.40_IDEA_599)_and_footnotes(n159);FTNT n159

Still Vehicular Technologies did make identifying statements in the patent. The Federal Circuit noted the patent's repeated statements concerning the advantages of the concentric, double-spring assembly 23.40_IDEA_599)_and_footnotes(n160);FTNT n160 These advantages, according to the court, affect claim interpretation.40_IDEA_599)_and_footnotes(n161);FTNT n161 The patentee's concentric double spring assembly 23 stays centered on the pin 24 and continues to function even when the outer spring 34 breaks.40_IDEA_599)_and_footnotes(n162);FTNT n162 These statements describe the role performed by the inner spring and the patentee's scope of intended protection.40_IDEA_599)_and_footnotes(n163);FTNT n163 These statements "affect the interpretation of the patent given by the patent examiner" during prosecution.40_IDEA_599)_and_footnotes(n164);FTNT n164 Likewise these statements affect the range of equivalents.40_IDEA_599)_and_footnotes(n165);FTNT n165

The role played by Titan's plug, according to the panel, was substantially different from the role played by Vehicular's inner spring.40_IDEA_599)_and_footnotes(n166);FTNT n166 Titan's

spring and plug combination was entirely incapable of performing a back-up role.40_IDEA_599)_and_footnotes(n167);FTNT n167 This incapability suggests Titan's spring and plug design was more than insubstantially different from Vehicular's design.40_IDEA_599)_and_footnotes(n168);FTNT n168 Although Vehicular also stressed an alternative role for the inner spring -the inner spring is designed to bear against the pin -- Titan's plug performs this role in a very different way.40_IDEA_599)_and_footnotes(n169);FTNT n169 Titan's plug, therefore, was likely substantially different from the claimed inner spring.40_IDEA_599)_and_footnotes(n170);FTNT n170 Any theory of equivalence would vitiate the claimed inner spring.40_IDEA_599)_and_footnotes(n171);FTNT n171

Judge Newman dissented.40_IDEA_599)_and_footnotes(n172);FTNT n172 She argued that the majority's new rule, the "All-Advantages" rule, impermissibly imports limitations from the specification into the claim.40_IDEA_599)_and_footnotes(n173);FTNT n173 If the accused device does not possess the unclaimed advantages, the technological facts of equivalency are irrelevant.40_IDEA_599)_and_footnotes(n174);FTNT n174 Any evidence of insubstantial differences, or similarity in function/way/result, is foreclosed without the unclaimed advantages.40_IDEA_599)_and_footnotes(n175);FTNT n175 Even more importantly, the patentee's competitor viewed the back-up function of the inner spring as a "minor significance."40_IDEA_599)_and_footnotes(n176);FTNT n176 There is no precedent to support the majority's "All-Advantages" rule.40_IDEA_599)_and_footnotes(n177);FTNT n177

Judge Newman also noted several factors that the majority failed to discuss. Titan, for example, conceded that the spring/plug modification "performed the same biasing function in the same way as the concentric spring assembly and achieved the same result."40_IDEA_599)_and_footnotes(n178);FTNT n178 Both parties agreed that Titan's modification was fully interchangeable.40_IDEA_599)_and_footnotes(n179);FTNT n179 Titan's own engineers failed to solve the same problem, so Titan intentionally copied Vehicular's design.40_IDEA_599)_and_footnotes(n180);FTNT n180 There was also strong circumstantial evidence that Titan's modification was an insubstantial change.40_IDEA_599)_and_footnotes(n181);FTNT n181

Judge Newman also pointed to procedural deficiencies. The district court found a sufficient likelihood that Vehicular would prevail on the merits40_IDEA_599)_and_footnotes(n182);FTNT n182 and granted a preliminary injunction.40_IDEA_599)_and_footnotes(n183);FTNT n183 The standard of review is whether the district court abused its discretion.40_IDEA_599)_and_footnotes(n184);FTNT n184 Although the only legal issue at this juncture is abuse of discretion, the panel majority made no review of this standard.40_IDEA_599)_and_footnotes(n185);FTNT n185

The majority, according to Judge Newman, "pre-judges" the question of equivalency.40_IDEA_599)_and_footnotes(n186);FTNT n186 Equivalency requires an element-by-element factual comparison.40_IDEA_599)_and_footnotes(n187);FTNT n187 A proper equivalency determination is performed on the entire record of insubstantial, and substantial, differences.40_IDEA_599)_and_footnotes(n188);FTNT n188 "Appellate caution is required lest [the panel] deprive the complainant of the opportunity to prove its case at trial, having prejudged it on unadmitted evidence and unfound facts."40_IDEA_599)_and_footnotes(n189);FTNT n189 Equivalency is not settled during claim construction.40_IDEA_599)_and_footnotes(n190);FTNT n190

The majority also neglected traditional claim construction analysis. The disputed claim element mixed "means" phraseology with structure. The disputed claim limitation, for example, required a "biasing means interposed between . . . driving surface faces comprising at least a pin in alignment with a spring assembly consisting of two concentric springs bearing against one end of said pin."^{40_IDEA_599)_and_footnotes(n191);FTNT n191} While the patentee presumptively uses the term "means," the claim limitation also recites elaborate structure.^{40_IDEA_599)_and_footnotes(n192);FTNT n192} The majority opinion, however, mentions no § S 112, Paragraph 6 analysis.^{40_IDEA_599)_and_footnotes(n193);FTNT n193} This lack of § S 112, Paragraph 6 analysis is especially peculiar, because the majority seems to rely on claim construction to dispose of the case.

Vehicular Technologies and Chiuminatta are instances where the Federal Circuit prematurely extinguishes the doctrine of equivalents. Basic legal flaws abound. Sometimes obscure historical findings are made to defeat the doctrine. Some panels repeatedly insist, despite Supreme Court commands, that the patentee include equivalents in the specification. Assertions of known interchangeability are ignored in both cases. New rules blatantly ignore established precedent. These lapses appear, even to Federal Circuit judges, as if the panel wanted a certain outcome -- an outcome that did not include the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n194);FTNT n194} Congress, therefore, should legislatively reinvigorate the doctrine of equivalents.

IV. CONGRESS SHOULD REINVIGORATE THE DOCTRINE OF EQUIVALENTS

As this article has shown, many unanswered questions surrounding the doctrine of equivalents remain. Although the Court accepted the Warner-Jenkinson case to clarify the doctrine of equivalents, the patent bar and the courts are still struggling with the same decades-old questions. Although the doctrine of equivalents is a judge-made doctrine, the Warner-Jenkinson Court shied away from its problems. Because the doctrine of equivalents has a long history, the Court invited Congress to resolve its most perplexing problems. This article, therefore, proposes that Congress take the task and legislatively reinvigorate the doctrine of equivalents.

A. Legislatively Enact "Obviousness" as the Test for "Insubstantial Changes"

Courts and practitioners have, for decades, struggled with the function/way/result test of Graver Tank.^{40_IDEA_599)_and_footnotes(n195);FTNT n195} The Federal Circuit's en banc "insubstantial changes" test is equally amorphous. A more objective test for insubstantial changes is the venerable obviousness determination. If the patentee wants to prove the accused is insubstantially different, the patentee must show the accused device or method would have been obvious to one of ordinary skill in the art. This article calls for Congress to enact legislation that requires obviousness as the test for the doctrine of equivalents.^{40_IDEA_599)_and_footnotes(n196);FTNT n196}

As the Supreme Court requires, this obviousness determination of insubstantial differences would be performed on an element-by-element basis. This article proposes that the patentee would have the initial burden, like the Patent and Trademark Office, of establishing a prima facie case of insubstantial differences.^{40_IDEA_599)_and_footnotes(n197);FTNT n197} The patentee must provide a suggestion or motivation to substitute or to modify an element of the patented device.^{40_IDEA_599)_and_footnotes(n198);FTNT n198} The patentee must provide some reasonable expectation of success for the elemental substitution or

modification.^{40 IDEA 599) and footnotes(n199);FTNT n199} The patentee, finally, must show the accused device, with the substituted or modified element, is not found in the prior art.^{40 IDEA 599) and footnotes(n200);FTNT n200} Once the patentee establishes a prima facie case of insubstantial differences, the accused would have a rebuttal opportunity.^{40 IDEA 599) and footnotes(n201);FTNT n201} The burden of persuasion, however, remains on the patentee to show, by clear and convincing evidence, that the accused product is an insubstantial difference from the claimed device.^{40 IDEA 599) and footnotes(n202);FTNT n202}

An obviousness test for insubstantial differences is far more objective and efficient. The current function/way/result test, and the "insubstantial differences" test, can resemble a subjective determination. An obviousness test for insubstantial differences, however, would require a patentee to produce prior art. This production of prior art would be required to support a doctrine of equivalents analysis. A doctrine of equivalents analysis, supported by and based upon prior art, would be a much more objective determination. An obviousness test would also promote trial efficiency. Litigators are forced to provide more than mere argument. Judges can resolve a doctrine of equivalents analysis on summary judgment in the pre-trial stage. An obviousness test for insubstantial differences turns the doctrine of equivalents into a legal conclusion.

An obviousness test for insubstantial differences also helps resolve policy tensions. The doctrine of equivalents is a very fragile compromise between the patent law claiming requirement^{40 IDEA 599) and footnotes(n203);FTNT n203} and the notions of fairness to the patentee.^{40 IDEA 599) and footnotes(n204);FTNT n204} An obviousness test would allow competitors to objectively measure the breadth of a patentee's claims. The competitor, for example, could readily identify prior art that would establish an obvious insubstantial change. The patentee, and the courts, can objectively determine patent protection. Both the "notice" function of claims, and the "fairness" emphasis of the doctrine of equivalents, are objectively strengthened. Congress, therefore, should enact legislation requiring obviousness as the test for the doctrine of equivalents.

B. Legislatively Resolve the Legal Remedy of Doctrine of Equivalents

The Federal Circuit has diverging views of the doctrine of equivalents. The Federal Circuit's Hilton Davis en banc majority saw the Graver Tank case as foreclosing any holding that the doctrine of equivalents is a matter of equity.^{40 IDEA 599) and footnotes(n205);FTNT n205} The trial judge, according to the en banc majority, does not have discretion to apply the doctrine.^{40 IDEA 599) and footnotes(n206);FTNT n206} The dissenters argued, however, that the doctrine is found only within a court's extraordinary equitable powers.^{40 IDEA 599) and footnotes(n207);FTNT n207} The doctrine of equivalents is a unique remedy that lies not with a jury, but, solely with the courts of equity.^{40 IDEA 599) and footnotes(n208);FTNT n208}

The Supreme Court, in Warner-Jenkinson,^{40 IDEA 599) and footnotes(n209);FTNT n209} failed to resolve this fracture. Because the judge/jury question was not necessary to the appeal, the Supreme Court declined to answer the question.^{40 IDEA 599) and footnotes(n210);FTNT n210} This article calls for Congress to enact legislation that affirms the doctrine of equivalents as a legal conclusion. This legislative remedy would also dovetail with the obviousness test proposed in the above section. The doctrine of equivalents, supported by prior art factual determinations, becomes a legal conclusion. Let the jury decide literal infringement while the judge decides the doctrine of equivalents.

V. SUMMARY

The Federal Circuit, in *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*,^{40 IDEA 599} and footnotes(n211); FTNT n211 decided to resolve several plaguing questions surrounding the doctrine of equivalents. The Federal Circuit judges had long-standing and diverging views of the doctrine of equivalents. The majority saw the doctrine as a purely factual question for the jury's resolution. The dissenters, however, saw the doctrine of equivalents as an extraordinary equitable tool available only at the court's discretion. Because of these diverging views, the Supreme Court, in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*,^{40 IDEA 599} and footnotes(n212); FTNT n212, sought to clarify the doctrine of equivalents.

Part II of this article argues the Supreme Court's effort was largely a failure. The Court, other than reaffirming the availability of the doctrine of equivalents, shied away from the doctrine's most pressing problems. The Court made no attempt to address the doctrine's policy tension between notice and fairness. The Court also declined to acknowledge the equitable origins of the doctrine. The Court simply noted the long history of the doctrine, reaffirmed its availability, and looked to Congress for any resolution.

Even though the Court reaffirmed the doctrine, Part III demonstrates that some courts still appear hesitant, or even biased, toward the doctrine. Two examples, *Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc.*,^{40 IDEA 599} and footnotes(n213); FTNT n213 and *Vehicular Technologies Corp. v. Titan Wheel International, Inc.*,^{40 IDEA 599} and footnotes(n214); FTNT n214 show the Federal Circuit prematurely extinguishes the doctrine of equivalents. Very basic legal flaws defeat the doctrine. Almost absurd historical findings are made to preclude the doctrine. Assertions of known interchangeability are ignored in both cases. New rules, that preclude application of the doctrine, blatantly ignore precedent. These lapses appear as if the panel wanted a certain outcome -- an outcome that did not include the doctrine of equivalents.

Part IV, as a result, calls for Congress to legislatively reinvigorate the doctrine of equivalents. This article calls for Congress to a) enact legislation requiring obviousness as the test for the doctrine of equivalents and b) enact legislation affirming the doctrine of equivalents as a legal conclusion. This article proposes that the patentee have the initial burden of establishing a prima facie case of insubstantial differences. The patentee must provide a suggestion or motivation from the prior art and some reasonable expectation of success from the prior art. The patentee, finally, must show that the accused device, with the substituted or modified element, is not found in the prior art. Once the patentee establishes a prima facie case of insubstantial differences, the accused would have a rebuttal opportunity. The burden of persuasion, however, remains on the patentee to show, by clear and convincing evidence, that the accused product is an insubstantial difference from the claimed device.

An obviousness test for insubstantial differences is far more objective and efficient. An obviousness test for insubstantial differences requires the patentee to produce prior art. A doctrine of equivalents analysis, supported by and based upon prior art, would be a much more objective determination. An obviousness test for insubstantial differences also turns the doctrine of equivalents into a legal conclusion.

An obviousness test for insubstantial differences also helps resolve policy tensions. The competitor, for example, could readily identify prior art that would establish an obvious

insubstantial change. The patentee, and the courts, can objectively determine patent protection. Both the "notice" function of claims, and the "fairness" emphasis of the doctrine of equivalents, are objectively strengthened. Congress, therefore, should enact legislation requiring obviousness as the test for the doctrine of equivalents.

n1 520 U.S. 17, 41 U.S.P.Q.2d (BNA) 1865 (1995).

n2 62 F.3d 1512, 35 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1995), cert. granted, 516 U.S. 1145 (1996), and rev.d, 117 S. Ct. 1040, 41 U.S.P.Q.2d (BNA) 1865 (1997). For the trial court's opinion, see *Hilton Davis Chem. Co. v. Warner-Jenkinson, Co.*, No. C-191-218 (S.D. Oh. June 22, 1992). The en banc Federal Circuit only considered the issue of the doctrine of equivalents and did not consider Warner-Jenkinson's patent invalidity arguments. *Id.* at 1515 n.1, 35 U.S.P.Q.2d at 1699 n.1. For the Federal Circuit's panel opinion deciding the validity of the patent-in-suit, see *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 64 F.3d 675, 35 U.S.P.Q.2d (BNA) 1700 (Fed. Cir. 1995).

n3 See *Hilton Davis*, 62 F.3d at 1516, 35 U.S.P.Q.2d at 1644.

n4 See *id.*

n5 See *id.* Also see *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608, 85 U.S.P.Q. (BNA) 328, 330 (1950), for the Court's endorsement of the function/way/result test for the doctrine of equivalents. The Federal Circuit also endorsed the same function/way/result test in *Pennwalt Corp. v. DurandWayland, Inc.*, 833 F.2d 931, 934, 4 U.S.P.Q.2d (BNA) 1737, 1739 (Fed. Cir. 1987).

n6 See *Hilton Davis*, 62 F.3d at 1516, 35 U.S.P.Q.2d at 1644.

n7 See *id.*

n8 See *id.* at 1515, 35 U.S.P.Q.2d at 1642-43; see also U.S. Patent 4,560,746 issued to Rebhahn et al. (Dec. 24, 1985).

n9 *Hilton Davis*, 62 F.3d at 1515, 35 U.S.P.Q.2d at 1644; see U.S. Patent 4,560,746 issued to Rebhahn et al. (Dec. 24, 1985) at Claim 1.

n10 See *Hilton Davis*, 62 F.3d at 1516, 35 U.S.P.Q.2d at 1643.

n11 See *id.* at 1524, 35 U.S.P.Q.2d at 1650.

n12 See *id.* at 1516, 35 U.S.P.Q.2d at 1643.

n13 Judges Newman, Cowen, Mayer, Michel, Clevenger, Rader, and Schall joined the per curium opinion. See *id.* at 1514, 35 U.S.P.Q.2d at 1642. Chief Judge Archer and Judges Rich, Nies, Plager, and Lourie dissented. See *id.*

n14 *Hilton Davis*, 62 F.3d at 1517, 35 U.S.P.Q.2d at 1645. The en banc majority traces the "function, way, result" test to Justice Bushrod Washington in *Gray v. James*, 10 F. Cas. 1015, 1016 (C.C.D. Pa. 1817) (No. 5,718). The author, however, has previously shown that the "function, way, result" test can actually be traced to Justice Story in *Odiorne v. Winkley*, 18 F. Cas. 581, 582 (C.C.D. Mass. 1814) (No. 10, 432). See Scott P. Zimmerman, *Hughes Aircraft and the Warner-Jenkinson Presumption: The Certiorari That Should Have Been*, 40 *IDEA* 131, 135-36 (2000).

n15 See *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1517, 35 U.S.P.Q.2d (BNA) 1641, 1644 (Fed. Cir. 1995) (quoting *Odiorne v. Winkley*, 18 F. Cas. 581, 582 (C.C.D. Mass. 1814)). Justice Story's "mere colorable differences" language was noted.

n16 Id. at 1516, 35 U.S.P.Q.2d at 1644.

n17 Id. at 1517, 35 U.S.P.Q.2d at 1644.

n18 See id. at 1518, 35 U.S.P.Q.2d at 1645.

n19 339 U.S. 605, 608, 85 U.S.P.Q. (BNA) 328, 330 (1950).

n20 See *Hilton Davis*, 62 F.3d at 1518, 35 U.S.P.Q.2d at 1645.

n21 See id.

n22 See id.

n23 See id. at 1519, 35 U.S.P.Q.2d at 1646.

n24 See id.

n25 See id. at 1519, 35 U.S.P.Q.2d at 1646.

n26 See id. at 1520, 35 U.S.P.Q.2d at 1646.

n27 See id., 35 U.S.P.Q.2d at 1647.

n28 Id.

n29 Id.

n30 Id. (quoting *Graver Tank & Mfg. Co., v. Linde Air Prods. Co.*, 339 U.S. 605, 609, 85 U.S.P.Q. (BNA) 328, 331 (1950)).

n31 See id. at 1524, 35 U.S.P.Q.2d at 1651.

n32 See id. at 1522, 35 U.S.P.Q.2d at 1648.

n33 See id.

n34 See id. at 1521, 35 U.S.P.Q.2d at 1647.

n35 See id.

n36 See id., 35 U.S.P.Q.2d at 1648.

n37 See id.

n38 Id.

n39 See id. at 1522, 35 U.S.P.Q.2d at 1648.

n40 Id. at 1525, 35 U.S.P.Q.2d at 1651.

n41 See id.

n42 Id. at 1523 n.3, 35 U.S.P.Q.2d at 1654 n.3.

n43 See id. at 1540, 35 U.S.P.Q.2d at 1664 (Plager, J., dissenting).

n44 See id. at 1562, 35 U.S.P.Q.2d at 1683 (Nies, J., dissenting).

n45 *Id. at 1541, 35 U.S.P.Q.2d at 1665* (Plager, J., dissenting).

n46 See *id. at 1543, 35 U.S.P.Q.2d at 1664* (Plager, J., dissenting); see also *id. at 1549, 35 U.S.P.Q.2d at 1671* (Lourie, J., dissenting).

n47 *Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 23, 41 U.S.P.Q.2d (BNA) 1865, 1869 (1997)*.

n48 *Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 516 U.S. 1145 (1996)*.

n49 The Supreme Court sought to "clarify the proper scope of the doctrine." *Warner-Jenkinson, 520 U.S. at 21, 41 U.S.P.Q.2d at 1868*. As this article explains, the Court's effort largely failed.

n50 *Id.*

n51 See *id. at 28, 41 U.S.P.Q.2d at 1871*.

n52 See *id.*

n53 See 35 U.S.C. § 112, Paragraph 2 (1994).

n54 *Warner-Jenkinson, 520 U.S. at 28, 41 U.S.P.Q.2d at 1871*.

n55 *Id.*

n56 *Id. at 28, 41 U.S.P.Q.2d at 1871*.

n57 *Id. at 29, 41 U.S.P.Q.2d at 1871*. The dissent in *Winans v. Denmead*, for example, argued that the patentee's "precise and definite specification and claim were designed to ascertain exactly the limits of his invention." 56 U.S. (15 How.) 330, 345 (1853) (Campbell, J., dissenting, joined by Taney, C.J. and Catron & Daniel, JJ.). "The patentee is obliged, by law, to describe his invention, in such full, clear, and exact terms, that . . . the invention may be constructed and used." *Id. at 347*.

n58 See *Warner-Jenkinson, 520 U.S. at 29, 41 U.S.P.Q.2d at 1871*.

n59 See *id.*

n60 See *id. at 25, 41 U.S.P.Q.2d at 1869*; see also *Graver Tank & Mfg. Co., v. Linde Air Prods. Co., 339 U.S. 605, 85 U.S.P.Q. (BNA) 328 (1950)*.

n61 See *Warner-Jenkinson, 520 U.S. at 37, 41 U.S.P.Q.2d at 1874*.

n62 See *id. at 38, 41 U.S.P.Q.2d at 1875*.

n63 See *id.*

n64 *Id. at 39 n.8, 41 U.S.P.Q.2d at 1876 n.8*.

n65 *Id.*

n66 *Id.*

n67 See *id.*

n68 See *id.*

n69 *Id.*

n70 See Judge Gajarsa's dissent from an order denying rehearing en banc in *Litton Systems, Inc. v. Honeywell, Inc., 145 F.3d 1472, 1474, 47 U.S.P.Q.2d (BNA) 1106, 1108 (Fed. Cir. 1998)*. Also

see Judge Plager's dissent in the same denial, *id. at 1472, 47 U.S.P.Q.2d at 1106* (stating perhaps the Court did intend to rein in the doctrine of equivalents), as well as Judge Clevenger's dissent from the same denial, *id. at 1473, 47 U.S.P.Q.2d at 1107*. Judges Clevenger and Gajarsa continued to maintain the Supreme Court's Warner-Jenkinson opinion meant to "whittle" the doctrine down in size. See also *Hughes Aircraft Co. v. United States, 148 F.3d 1384, 1386, 47 U.S.P.Q.2d (BNA) 1542, 1543 (Fed. Cir. 1998)* (Clevenger & Gajarsa, JJ., dissenting from an order denying rehearing en banc).

n71 *145 F.3d 1303, 46 U.S.P.Q.2d (BNA) 1752 (Fed. Cir. 1998)*.

n72 *141 F.3d 1084, 46 U.S.P.Q.2d (BNA) 1257 (Fed. Cir. 1998)* aff'd upon appeal after remand *212 F.3d 1377, 54 U.S.P.Q.2d (BNA) 1841 (Fed. Cir. 2000)*.

n73 See *Chiuminatta Concrete Concepts, 145 F.3d at 1305, 46 U.S.P.Q.2d at 1753*; see also U.S. Patent 5,056,499 issued to Chiuminatta et al. (Oct. 15, 1991) at column 3, lines 8-14 and column 15, lines 11-22.

n74 *Id. at 1306, 46 U.S.P.Q.2d at 1754* (quoting U.S. Patent 5,056,499 issued to Chiuminatta et al. (Oct. 15, 1991) at column 3, lines 10-11).

n75 *Id.* (quoting U.S. Patent 5,056,499 issued to Chiuminatta et al. (Oct. 15, 1991) at column 3, lines 15-16).

n76 *Id.* (quoting U.S. Patent 5,056,499 issued to Chiuminatta et al. (Oct. 15, 1991) at column 3, lines 16-17).

n77 *Chiuminatta Concrete Concepts, 145 F.3d at 1305, 46 U.S.P.Q.2d at 1753-54*.

n78 *Id. at 1308, 46 U.S.P.Q.2d at 1756* (quoting U.S. Patent 5,056,499 issued to Chiuminatta et al. (Oct. 15, 1991) at column 4, lines 55-58).

n79 *Id. at 1305-06, 46 U.S.P.Q.2d at 1754* (quoting U.S. Patent No. 5,056,499 issued to Chiuminatta et al. (Oct. 15, 1991) at Claim 11).

n80 See *Chiuminatta Concrete Concepts, 145 F.3d at 1306, 46 U.S.P.Q.2d at 1754*.

n81 See *id.*

n82 *Id.*

n83 See *id. at 1303, 46 U.S.P.Q.2d at 1753*.

n84 See *id. at 1307, 46 U.S.P.Q.2d at 1755*.

n85 See *id. at, 1305, 46 U.S.P.Q.2d at 1753*.

n86 See *id. at 1307, 46 U.S.P.Q.2d at 1755*.

n87 See *id.*

n88 See *id. at 1303, 46 U.S.P.Q.2d at 1753*.

n89 See *id. at 1305, 46 U.S.P.Q.2d at 1753*.

n90 See *id.*

n91 *Id. at 1307, 46 U.S.P.Q.2d at 1755*.

n92 See id; see also 35 U.S.C. § 112, Paragraph 6 (1994).

n93 See *Chiuminatta Concrete Concepts*, 145 F.3d at 1307, 46 U.S.P.Q.2d at 1755.

n94 *Id.* at 1308, 46 U.S.P.Q.2d at 1755 (quoting *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934, 4 U.S.P.Q.2d (BNA) 1737, 1739 (Fed. Cir. 1987) (en banc)).

n95 See id. at 1309, 46 U.S.P.Q.2d at 1756.

n96 *Id.* at 1308, 46 U.S.P.Q.2d at 1756 (quoting U.S. Patent 5,056,499 issued to Chiuminatta et al. (Oct. 15, 1991) at Claim 11).

n97 See id.

n98 See id. at 1309, 46 U.S.P.Q.2d at 1757.

n99 See id.

n100 See id.

n101 See id.

n102 See id. at 1310, 46 U.S.P.Q.2d at 1757.

n103 See id. at 1309, 46 U.S.P.Q.2d at 1757.

n104 See id.

n105 See id.

n106 *Id.*

n107 See id.

n108 See id. at 1310, 46 U.S.P.Q.2d at 1757.

n109 See id.

n110 *Id.*

n111 See id.

n112 See id.

n113 *Id.*, 46 U.S.P.Q.2d at 1758.

n114 *Id.* at 1311, 46 U.S.P.Q.2d at 1758.

n115 *Id.*

n116 See id.

n117 See id.

n118 *Id.*

n119 See, e.g., *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 31, 41 U.S.P.Q.2d (BNA) 1865, 1872 (1997).

n120 *Id.* at 29, 41 U.S.P.Q.2d at 1871 (saying the doctrine of equivalents is to be applied "to individual elements of the claim, not to the invention as a whole").

n121 See *id.* at 37, 41 U.S.P.Q.2d at 1874.

n122 *Id.*

n123 See *Chiuminatta Concrete Concepts*, 145 F.3d at 1311, 46 U.S.P.Q.2d at 1758.

n124 See *id.*

n125 See *id.* at 1309, 46 U.S.P.Q.2d at 1757.

n126 *Warner-Jenkinson*, 520 U.S. at 36, 41 U.S.P.Q.2d at 1874.

n127 *Chiuminatta Concrete Concepts*, 145 F.3d at 1310, 46 U.S.P.Q.2d at 1757 (emphasis added).

n128 See *id.* at 1311, 46 U.S.P.Q.2d at 1758.

n129 See *id.*

n130 *Warner-Jenkinson*, 520 U.S. at 37, 41 U.S.P.Q.2d at 1874 (emphasis added).

n131 See *Vehicular Technologies Corp. v. Titan Wheel Int'l, Inc.*, 141 F.3d 1084, 46 U.S.P.Q.2d (BNA) 1257 (Fed. Cir. 1998); see also U.S. Patent No. 5,413,015 issued to Zentmyer (May 9, 1995).

n132 See U.S. Patent No. 5,413,015 issued to Zentmyer (May 9, 1995) at column 3, lines 9-12.

n133 See *id.* at column 3, lines 25-26.

n134 See *id.* at column 3, line 53.

n135 See *id.* at column 3, lines 50-51.

n136 See *id.* at column 3, lines 50-54.

n137 See *id.* at column 4, lines 7-9.

n138 See *id.* at column 3, lines 51-54 and column 4, lines 4-6.

n139 See *id.* at column 4, lines 7-9.

n140 See *id.* at column 4, lines 13-14 and lines 30-34.

n141 See *id.* at column 4, lines 14-15 and lines 32-33.

n142 See *id.* at column 4, lines 34-37.

n143 See *id.*

n144 See *id.* at column 4, lines 34-37.

n145 See *id.* at column 4, lines 21-25.

n146 See *id.* at column 4, lines 25-29.

n147 See *id.* at column 4, lines 37-40.

n148 See *id.* at column 4, lines 42-44.

n149 See *Vehicular Technologies Corp. v. Titan Wheel Int'l, Inc.*, 141 F.3d 1084, 1087, 46 U.S.P.Q.2d (BNA) 1257, 1259 (Fed. Cir. 1998) *aff.d.* 212 F.3d 1377, 54 U.S.P.Q.2d (BNA) 1841 (Fed. Cir. 2000).

n150 See *id.*

n151 See *id.*

n152 See *id.*

n153 *Id.*

n154 *Id.* at 1088, 46 U.S.P.Q.2d at 1260 (quoting U.S. Patent No. 5,413,015 issued to Zentmyer (May 9, 1995) at Claim 1).

n155 See *id.* at 1089, 46 U.S.P.Q.2d at 1261.

n156 See *id.* at 1085, 46 U.S.P.Q.2d at 1258.

n157 *Id.* at 1089, 46 U.S.P.Q.2d at 1261 (quoting *WarnerJenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 40, 41 U.S.P.Q.2d (BNA) 1865, 1875 (1997)).

n158 See *id.* at 1090, 46 U.S.P.Q.2d at 1261.

n159 See *id.*

n160 See *id.*, 46 U.S.P.Q.2d at 1262.

n161 See *id.*

n162 See *id.* at 1091, 46 U.S.P.Q.2d at 1262.

n163 See *id.*

n164 *Id.*

n165 See *id.*

n166 See *id.*

n167 See *id.*

n168 See *id.*

n169 See *id.*

n170 See *id.*, 46 U.S.P.Q.2d at 1263.

n171 See *id.* at 1092, 46 U.S.P.Q.2d at 1263.

n172 See *id.* at 1093, 46 U.S.P.Q.2d at 1264. Judges Clevenger and Plager formed the majority of the panel. See *id.* at 1085, 46 U.S.P.Q.2d at 1257.

n173 See *id.* at 1093, 46 U.S.P.Q.2d at 1264 (Newman, J., dissenting).

n174 See *id.*

n175 See *id.* at 1095, 46 U.S.P.Q.2d at 1266 (Newman, J., dissenting).

n176 *Id.*

n177 See *id.*

n178 *Id.*, 46 U.S.P.Q.2d at 1265.

n179 See *id.* at 1094, 46 U.S.P.Q.2d at 1264 (Newman, J., dissenting).

n180 See *id. at 1097, 46 U.S.P.Q.2d at 1267* (Newman, J., dissenting).

n181 See *id.*

n182 See *id.*

n183 See *id.*

n184 See *id. at 1087, 46 U.S.P.Q.2d at 1259.*

n185 See *id. at 1097, 46 U.S.P.Q.2d at 1267* (Newman, J., dissenting).

n186 *Id. at 1096, 46 U.S.P.Q.2d at 1266* (Newman, J., dissenting).

n187 See *id. at 1097, 46 U.S.P.Q.2d at 1268* (Newman, J., dissenting).

n188 *Id.*

n189 *Id.*

n190 See *id.*

n191 *Id. at 1088, 46 U.S.P.Q.2d at 1260* (quoting U.S. Patent No. 5,413,015 issued to Zentmyer (May 9, 1995) at Claim 1).

n192 The use of the word "means," for example, "triggers a presumption that the inventor used this term . . . to invoke . . . means-plus-function clauses." *York Prods., Inc. v. Central Tractor Farm & Family Center, 99 F.3d 1568, 1574, 40 U.S.P.Q.2d (BNA) 1619, 1623 (Fed. Cir. 1996)*; see *Greenberg, M.D. v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1584, 39 U.S.P.Q.2d (BNA) 1783, 1786-87 (Fed. Cir. 1996)* (patentee's claimed element did not use conventional means-plus-function format). Even though the claim uses the term "means," claim recitation of elaborate structure can remove the term from means-plus-function format. See *Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1427-28, 44 U.S.P.Q.2d (BNA) 1103, 1109 (Fed. Cir. 1997)* (patentee's claimed "means" element does not explicitly recite structure to perform function).

n193 3 See 35 U.S.C. § 112, Paragraph 6 (1994).

n194 See *Vehicular Technologies, 141 F.3d at 1093, 46 U.S.P.Q.2d at 1264* (Newman, J., dissenting) (asking whether continuous judicial withdrawal of the availability of the doctrine of equivalents is in the national interest, and asking the Federal Circuit to implement the law as the Supreme Court intended.)

n195 *Graver Tank & Mfg. Co., Inc. v. Linde Air Prods. Co., 339 U.S. 605, 608, 85 U.S.P.Q. (BNA) 328, 330 (1950).*

n196 While the author would like to claim the genesis of this proposal, obviousness is really nothing more than a moments reflection upon Judge Rich's hypothetical claim analysis. See *Wilson Sporting Goods Co. v. David Geoffrey & Associates, 904 F.2d 677, 684, 14 U.S.P.Q.2d 1942, 1948 (Fed. Cir. 1990)*. Senior Judge Nies, in *Roton Barrier, Inc. v. Stanley Works, 79 F.3d 1112, 1128, 37 U.S.P.Q.2d (BNA) 1816, 1828 (Fed. Cir. 1996)*, suggests "nonobviousness" as a test for insubstantial changes.

n197 The party attacking the validity of a patent has the burden of proof. See 35 U.S.C. § 282 (1994 & Supp. IV 1998). An obviousness test for insubstantial differences would, however, put the burden on the patentee asserting the doctrine of equivalents. See, e.g. PATENT & TRADEMARK

OFFICE, U.S. DEP.T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE, § 2142 (orig. 7th ed. 1998).

n198 See PATENT & TRADEMARK OFFICE, U.S. DEP.T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE, § 2143.01 (orig. 7th ed. 1998).

n199 See id. § 2143.02.

n200 See id. § 2143.03.

n201 See id. § 2142.

n202 A patent is presumed valid. See 35 U.S.C. § 282 (1994 & Supp. IV 1998). The burden of proving invalidity rests with the challenger. See id.; see also *Astra-Sjuco, A.B. v. United States Int.l Trade Comm.n*, 629 F.2d 682, 688, 207 U.S.P.Q. (BNA) 1, 276 (C.C.P.A. 1980); *Stevenson v. United States Int.l Trade Comm.n*, 612 F.2d 546, 550, 204 U.S.P.Q. (BNA) 276, 280 (C.C.P.A. 1979);

n203 See 35 U.S.C. § 112, Paragraph 2 (1994).

n204 See, e.g., *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1517, 35 U.S.P.Q.2d (BNA) 1641, 1644 (Fed. Cir. 1995).

n205 See *id. at 1521*, 35 U.S.P.Q.2d at 1648.

n206 See *id. at 1522*, 35 U.S.P.Q.2d at 1648.

n207 See *id. at 1540*, 35 U.S.P.Q.2d at 1663 (Plager, J., dissenting).

n208 *Id. at 1543*, 35 U.S.P.Q.2d at 1666 (Plager, J. dissenting); see also, *id. at 1549*, 35 U.S.P.Q.2d at 1671 (Lourie, J., dissenting).

n209 *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 41 U.S.P.Q.2d (BNA) 1865 (1997).

n210 *Id. at 39*, 41 U.S.P.Q.2d at 1875.

n211 62 F.3d 1512, 35 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1995) (en banc).

n212 520 U.S. 17, 41 U.S.P.Q.2d (BNA) 1865 (1995).

n213 145 F.3d 1303, 46 U.S.P.Q.2d (BNA) 1752 (Fed. Cir. 1998).

n214 141 F.3d 1084, 46 U.S.P.Q.2d (BNA) 1257 (Fed. Cir. 1998).