Simplifying / Clarifying the Equivalents Analysis through Legislation

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ABSTRACT

Legislation is proposed which would simplify and clarify the equivalents analysis in patent litigation. Other proposed legislation could provide a basis for establishing a desired scope of patent protection.

I. INTRODUCTION

In recent years, the Federal Circuit and Supreme Court have dramatically changed the patent infringement analysis. Claims are now construed by the court as a matter of law, and the doctrine of equivalents is applied on an element-by-element basis (the All Elements Rule). In the course of these developments, though, some aspects of the infringement analysis have become more complex and less clear. For example, the determination of whether claim language is in means plus function form has spawned a body of law which is hard to understand and even harder to explain to laypeople. The determination is not susceptible to bright line tests, in part because of the innumerable permutations of language which can be and are used by patent practitioners. Moreover, the entire analysis is in my view unnecessary. One purpose of this paper is to suggest legislative changes which would simplify this and other aspects of the equivalents analysis.

One of the Federal Circuit's objectives has been to increase certainty and predictability of result. The fly in the ointment is that no matter how much certainty is achieved through the claim construction process and the All Elements Rule, the ultimate question of equivalents is factual, and is often determined by a jury. Thus, if a theory of infringement is viable, i.e., it can survive summary judgment, a jury can find infringement by equivalents (or noninfringement due to lack of equivalence) in an unpredictable manner. To that degree, the uncertainty the Federal Circuit has worked so hard to eliminate remains.

The Federal Circuit's apparent response to this dilemma has been to define a relatively narrow range of available equivalents, i.e., the range of equivalents within which a reasonable jury can find equivalents. Compare, for example, the facts in *Hughes Aircraft Co. v. U.S.*, 717 F.2d 1351, 219 USPQ 473 (Fed. Cir. 1983) with *Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc.*, 145 F.3d 1303, 46 USPQ2d 1752 (Fed. Cir. 1998). Arguably, though, the Court's decisions have not given patents in suit the same scope of protection in all cases, and there is even incongruities within the Court as to how equivalents should be determined. *See, e.g., Odetics, Inc. v. Storage Technology Corp.*, 185 F.3d 1259, 51 USPQ2d (Fed. Cir. 1999). Perhaps the Court can eventually resolve such internal disagreements itself, but Congress can also resolve them through legislation, and consider the scope of patent protection, as well.

In *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1529, 35 USPQ2d 1639, 1654 (Fed. Cir. 1995) (*in banc*), Judge Newman discussed the effect of the scope of patent protection on technological development, and urged further exploration of the topic. Congress is best able to study such questions, and of course it can implement its conclusions through legislation.

Accordingly, another purpose of this paper is to suggest legislation which might clarify the equivalents analysis and define different scopes of patent protection. The scope of patent protection which would best serve the Constitutional mandate of promoting innovation and technological development will not be addressed, but this paper will raise the issue and suggest some framework for establishing a desired scope of patent protection through legislation.

II. SIMPLIFYING AND CLARIFYING THE ANALYSIS

A. Equating The Scope Of Structural And Means Plus Function Elements

For years, there was a widely-held view that the scope of means plus function claim elements was broader than the scope of non-means plus function claim elements. Recently, though, the Federal Circuit has given strong indications that means plus function claim elements might be interpreted more narrowly than claim elements

which define structure, material or acts.[1] Either way, the existence of a potential difference in scope or treatment of the two types of claim elements makes questions such as "What constitutes means plus function language?" important.

In my view, the scope of equivalents under § 112(6) should be the same as the scope of equivalents for a structural claim element under the doctrine of equivalents. In other words, a means plus function claim element should cover the disclosed structure and equivalents thereof, and structural claim elements should cover the disclosed structure and equivalents thereof (Appendix A). The question of the available range of equivalents, which is a separate question, would at least be only one question, not two, as it is now.

A statute adopting this principle could be drafted using § 112(6) itself as a template, as seen below.

> An element in a claim for a combination may be expressed as [a means or step for performing a specified function without the recital of] structure, material, or acts [in support thereof,] and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

In finished form, the statute would look like this.

> An element in a claim for a combination may be expressed as structure, material, or acts and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

For the most part, this is a mere codification of the All Elements Rule of *Warner-Jenkinson v. Hilton Davis*, 520 U.S. 17, 41 USPQ2d 1865 (1997), because *Warner-Jenkinson* allows a claim element to cover equivalents of that element through the doctrine of equivalents. However, how an "element" is defined and interpreted was not addressed in *Warner-Jenkinson*. Unlike § 112(6), which defines claim coverage for means plus function elements with clear reference to the specification, courts have not expressly adopted a similar approach to "elements" in non-means plus function form.

Some would argue that interpretation of structural limitations should not be grounded in the specification, and therefore be construed differently than corresponding means plus function language. But if the specification should not provide the base line for the analysis, as it does under § 112(6), what should? Extrinsic evidence such as a dictionary? If so, which one? Inventor testimony? Expert testimony? Where would that leave us with respect to notice, predictability, certainty, etc.?

I think that the specification should provide the starting point in the analysis of structural claim elements, as it does under § 112(6). Extrinsic evidence might be very helpful, but it should not be the base line. This approach would be consistent with the scope of available equivalents allowed by Congress in § 112(6), and it would greatly simplify the equivalents analysis by eliminating the need to determine whether a claim element is or is not in means plus function form.

This proposal would also end the endless debate as to whether there is a difference between the range of equivalents under § 112(6) and the range of equivalents under the doctrine of equivalents. In both cases, each claim element would by statute cover the supporting structure in the specification and equivalents of that structure. Under the function-way-result test for equivalents, equivalent functions which are now protected under the doctrine of equivalents would still be protected (Appendix A). In these and other respects, the equivalents analysis would be simpler, easier to understand and easier to explain.

B. Should The Equivalents Analysis Be Structural, Functional Or Both?

[1]The statute (§ 112(6)) uses the familiar phrase "structure, material or acts," and it is applicable to accused methods and compositions, as well as accused devices. For simplicity, this paper will generally only refer to "structure" and accused "devices."

Recent Federal Circuit cases have considered whether the equivalents analysis should be made in terms of physical characteristics, functional characteristics, or both.

In *Odetics* (Appendix B), the majority gave the patent in suit relatively broad protection by considering both a structural and functional analysis of components in the patent and accused device to support a finding of infringement. The dissent argued that only structural characteristics should have been considered, and concluded that on that basis there should be no infringement as a matter of law.

A statute which addressed this question would serve several purposes. First, it would clarify the analysis. Second, it would affirmatively set the scope of available patent protection in this regard. Third, and perhaps most important, it would increase the likelihood that the evidence would be better directed to the issues, and that a jury would receive an instruction on the point, all of which might increase predictability.

In this regard, Congress could set the scope of available patent protection along the following lines:

> Equivalents or a lack of equivalents may be established solely by a comparison of physical characteristics of claim elements and corresponding components of an accused device.

This would probably result in more narrow patent protection and make designing around easier and more certain. It probably would not extend patent protection to the next generation of an invention, so to speak, and it might not even protect refinements of the invention, although some refinements of the preferred embodiment would undoubtedly be covered by equivalents.

Broader protection which should at least cover most refinements of an invention might be provided by the following statute.

> Equivalents or a lack of equivalents may be established by a comparison of either or both physical and functional characteristics of claim elements and corresponding components of an accused device.

C. Codifying Existing Law

Other aspects of the equivalents analysis could be addressed by Congress, if for no other reason than to spare district courts the often arduous task of digesting and distilling Federal Circuit case law. Those of you familiar with a line of cases starting with *Corning Glass v. Sumitomo*, 868 F.2d 1251, 9 USPQ 1962 (Fed. Cir. 1989), will recognize its codification in the following draft language:

> A claim element may be literally or equivalently satisfied by a single component or combination of components, and a single component may literally or equivalently satisfy one or more claim elements.

There are many possibilities along these lines, and of course prosecution history estoppel, etc. could be codified, as well.

III. FURTHER DEFINING THE SCOPE OF PATENT PROTECTION

I just proposed statutes which I believe (hope) would simplify the equivalents analysis. The optimum range of available equivalents is a different question which I will explore later in this paper, but frankly am not prepared to answer. A threshold question, though, is how, and to what extent can the scope of available equivalents be defined by legislation, without simply re-stating the issues? I will address that question now.

A. Presumptions

While the scope of equivalents is hard to legislate, it is possible to some extent. Presumptions are one tool which can accomplish this purpose. For example, if interchangeability is considered important, its importance might be codified as follows:

> Proof by a preponderance of the evidence of interchangeability without undue experimentation at the time of alleged infringement shall create a presumption of equivalents rebuttable only by clear and convincing evidence.

This might result in relatively broad protection. On the other hand, narrower protection might be codified as follows:

> The absence of proof by a preponderance of the evidence of interchangeability without undue experimentation at the time of alleged infringement shall create a presumption of non-equivalents rebuttable only by clear and convincing evidence.

Actually, both statutes might have a place in the analysis. In any event, the use of this concept, or a *per se* rule of some sort, might be helpful in setting a desired scope of protection in a way which would produce relatively consistent results.

B. Defining A Universe Of Equivalents

Recent case law has led many practitioners to draft robust patent specifications which include as many interchangeable or otherwise equivalent components as possible, in an effort to avoid equivalents questions altogether. This virtually impossible task adds to the cost of prosecution, but does not necessarily advance technology, particularly if the equivalent components are well known and are unrelated to important aspects of the invention. A statute along the following lines would provide welcome relief to anxious patent practitioners, and would provide a relatively solid, predictable base for patent protection.

> A claim element shall cover all structures which perform the same or substantially the same function performed by corresponding structures described in the specification which were commercially available on or before the earliest effective filing date of a patent, and later developed structures which are equivalent to the structures described in the specification.

This proposal would provide broader protection than § 112(6), but perhaps that should be considered.

C. Single Means Claims

I think that so-called single means (or single element) claims which essentially define the point of novelty warrant serious consideration. First, they better focus our attention on the heart of the invention, where it really belongs. They reduce the risk of unfair results due to unnecessary limitations, yet they do not broadly cover more than the true invention because they define a point of novelty. Moreover, they are close to the claim format used in other countries, which has favorable implications with respect to harmonization. [2]

The problem is that single means claims are illegal. Single means claims are not permitted on the basis that § 112(1) requires that the enabling scope of the specification be commensurate in scope with the claim. The rationale is that a claim which only recites a single function covers every conceivable means for achieving the stated result, so the specification must be insufficient. *In re Hyatt*, 708 F.2d 712, 218 USPQ 195 (Fed. Cir. 1983).

Since *Hyatt* was decided, the Federal Circuit has reiterated time and time again that means plus function elements are limited to structures disclosed in the specification and equivalents thereof. Their scope is simply not unlimited. For this reason, single element claims should be reconsidered. The following statute might codify this concept.

> A claim may include one or more elements, each of which shall be construed to cover corresponding structure, material, or acts described in the specification and equivalents thereof.

This would allow single element claims, but would not preclude multiple element claims, which are often needed to establish patentability.

D. Prior Art

Courts have acknowledged that the prior art affects the scope of patent protection, but the role of the prior art in the analysis is not easy to define. Perhaps the judge should determine whether an invention is a pioneer invention or an improvement in a crowded art and instruct the jury accordingly.

IV. BALANCING INCENTIVE TO INNOVATE AGAINST COST

A constructive discussion about the scope of patent protection must consider the social and

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[2]Like Jepson claims, though, there is a greater risk in invalidity.

economic impact of various levels of protection, ranging from the preferred embodiment on one end of the spectrum to the prior art at the other end.

One question is, "What scope of patent protection will provide the most incentive to innovate and disclose?" Another valid question is, "What will it cost society in terms of royalties and higher prices?" Still another consideration is whether Congress wants to encourage incremental innovation or quantum leaps in technology. Viewed from yet another perspective, the question might be framed as whether Congress wants to protect only the preferred embodiment, mere refinements of the preferred embodiment, the next generation of products based on the invention, and/or subsequent generations of products.

Frankly, I do not feel qualified to authoritatively comment on these questions at this time. What I will do, though, is discuss how the questions might be approached.

Appendix C graphs an inventor's incentive to innovate and disclose as a function of the scope of patent protection. One curve considers the inventor's incentive to make incremental advances in technology, and the other considers the inventor's incentive to make quantum leaps in technology, based only on patent considerations.

Appendix C suggests that if patent protection is narrow, the inventor's incentive to make incremental advances is high (to make designing around more difficult), while the incentive to make quantum leaps is low (designing around is relatively easy). On the other hand, as the scope of patent protection becomes more broad, the patentee's incentive to make incremental advances in technology is much lower (designing around is more difficult when patent protection is broad), and the incentive to make quantum leaps is high (the rewards are more likely to be great).

Appendix D is similar to Appendix C, but considers a third party's perspective, assuming that the third party will do what is necessary (and only what is necessary) to avoid the patents of others. Interestingly, the graphs look similar. If patent protection is narrow, the incentive to make incremental advances in technology is high (designing around is relatively easy), but there is little incentive to make quantum leaps (it is not necessary to avoid patents). As the scope of patent protection increases, the incentive to make small advances decreases (small advances are less likely to avoid the patent), and the incentive to make quantum leaps increases (there is no choice).

Appendix E considers certainty or predictability of result, incentive to innovate and cost to society as a function of the scope of patent protection. Certainty would likely go down as the scope increases, but perhaps would go up again if the scope of protection were somehow the actual limits of the prior art. On the other hand, of course, incentive (and cost) increases with broader patent protection.

V. ALTERNATIVE PROCEDURES

A fundamental problem with the equivalents analysis is that a typical jury and even most judges have no perspective on what is or is not an equivalent. We learn something about crime, negligence, etc. through everyday experiences, but we simply do not encounter equivalents.

One possibility is to provide the judge and jury with the benefit of an administrative determination on infringement, including equivalents, similar to the administrative determination on patentability, which of course includes nonobviousness. As seen in Appendix F, the concepts of nonobviousness and equivalents have several things in common. The administrative determination of non-obviousness and the accompanying presumption of validity have been very helpful in stabilizing the patent system without compromising the right to a jury trial, and a similar determination on the infringement issue might have the same effect.

In addition to supplementing and assisting the judge and jury, an administrative finding on equivalents might facilitate efforts to peg the scope of protection at one level or another. On the other hand, bureaucracies have tendencies which might defeat such efforts. In all, though, I think it is a concept worth considering.

CONCLUSION

In my view, the Federal Circuit and Supreme Court have truly improved the infringement analysis. More improvement is possible, though, and perhaps the next changes should be legislative.

APPENDIX A

Equating Structural & Means Plus Function Claim Elements

CURRENT LAW

Structural Elements	Means Plus Function Elements
Structure	Structure in Spec. + Equivalents
	id.f eq.w eq.r

Doctrine of Equivalents

eq.f eq.w eq.r	eq. f later developed technology

PROPOSED LAW

Structural Elements	Means Plus Function Elements
Structure in Spec. + Equivalents	Structure in Spec. + Equivalents
eq.f eq.w eq.r	eq.f eq.w eq.r

APPENDIX B

Odetics, Inc. v. Storage Technology Corp., 51 USPQ2d 1225 (Fed. Cir. 1999) (By Judge Gajarsa, joined by Judge Clevenger; dissent by Judge Lourie).

Patent: Tape cassette handling system

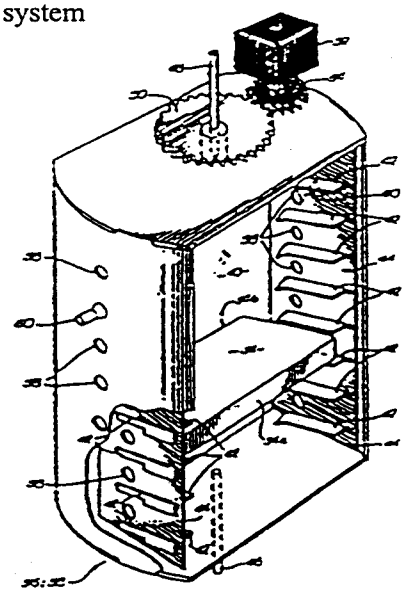


Fig. 3, U.S. Patent No. 4,779,151

Important Claim Language:

a rotary means rotatably mounted within the library adjacent the access opening for providing access to the storage library, the rotary means having

one or more holding bins each having an opening for receiving a cassette, wherein the rotary means is rotatable from a first position in which the opening of at least one holding bin is accessible from outside of the housing to a second position in which the opening of at least one holding bin is accessible from inside of the housing;. . . .

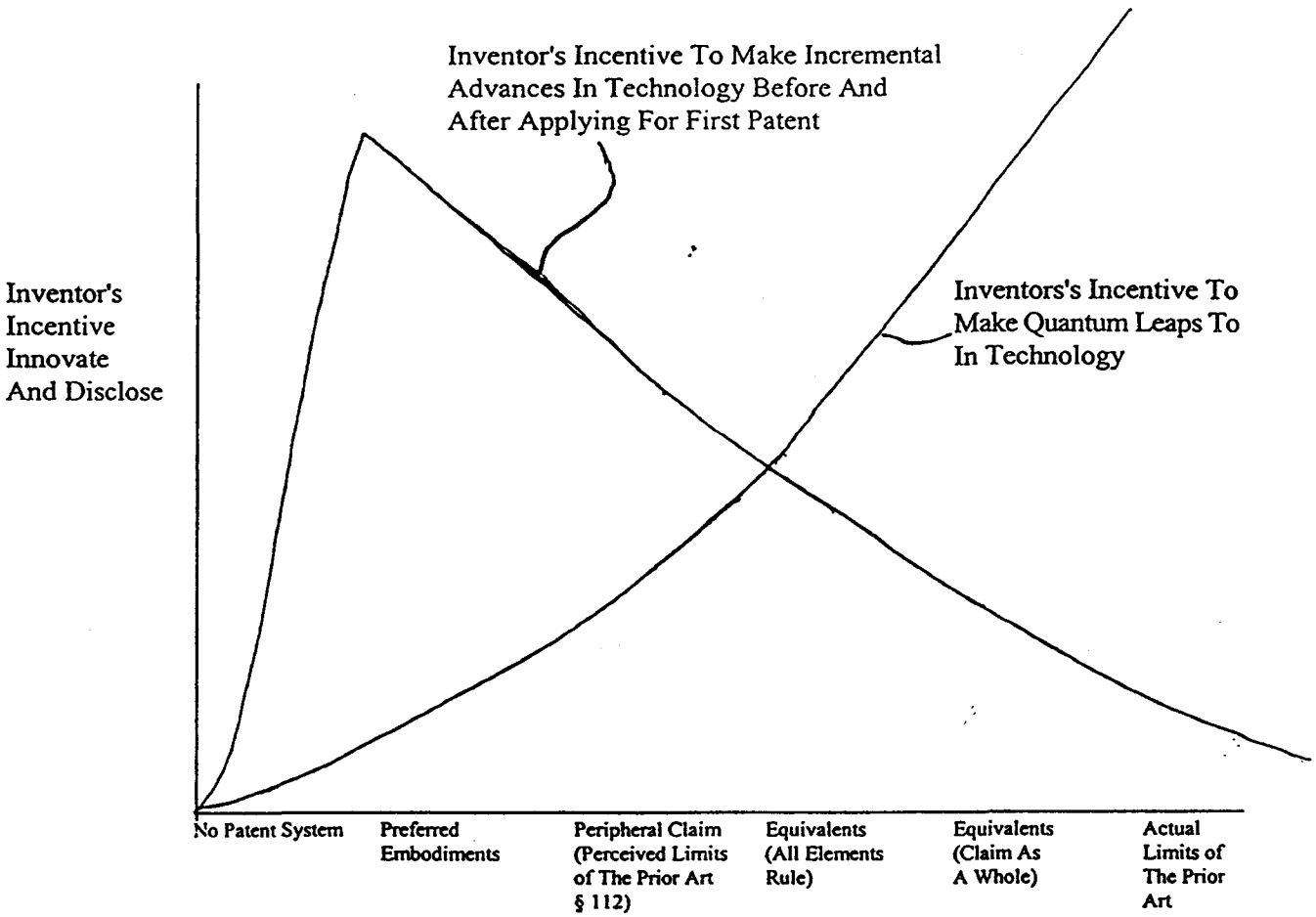
Issue: Whether the bins, rod and pins/cam follower used by the defendants were equivalent to the bins, rod and gear disclosed in the patent.

Jury: Infringement.

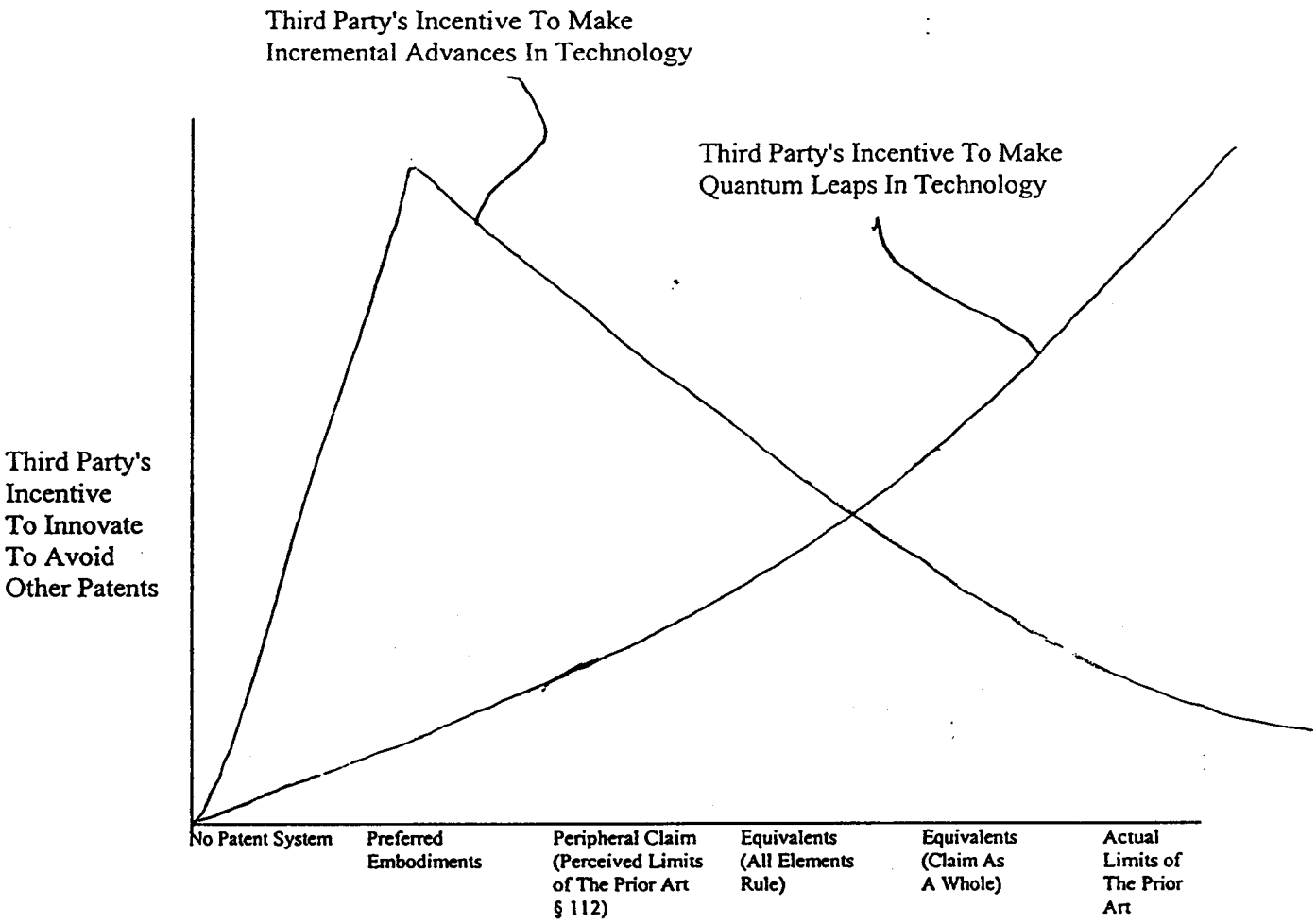
Trial Court: No infringement, based on *Chiuminatta*.

Federal Circuit: Trial court reversed and jury verdict of infringement reinstated.

APPENDIX C


Inventor's Incentive To Make Incremental Advances In Technology Before And After Applying For First Patent
Inventor's Incentive Innovate And Disclose
Inventors's Incentive To Make Quantum Leaps To In Technology
No Patent System
Preferred Embodiments
Peripheral Claim (Perceived Limits of The Prior Art § 112)
Equivalents (All Elements Rule)
Equivalents (Claim As A Whole)
Actual Limits of The Prior Art
Increasing Scope of Patent Protection
→ → →

APPENDIX D

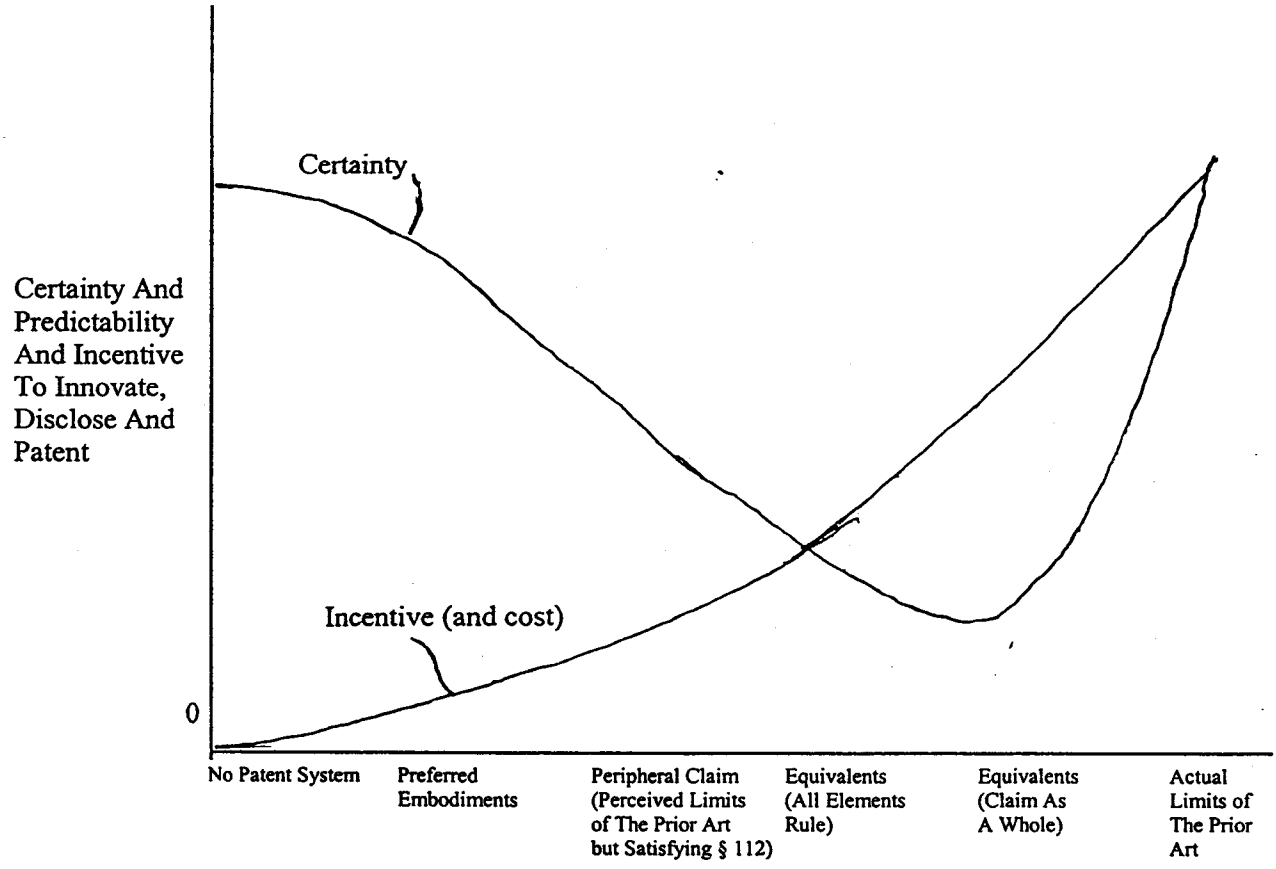


Increasing Scope of Patent Protection

→ → →

Assumption: Third party will do only what is needed to avoid the patents of others

APPENDIX E


Certainty
Certainty And Predictability And Incentive To Innovate, Disclose And Patent
Incentive (and cost)
0
No Patent System
Preferred Embodiments
Peripheral Claim (Perceived Limits of The Prior Art but Satisfying § 112)
Equivalents (All Elements Rule)
Equivalents (Claim As A Whole)
Actual Limits of The Prior Art
Increasing Scope of Patent Protection

APPENDIX F

COMPARISON OF OBVIOUSNESS AND EQUIVALENTS

OBVIOUSNESS	EQUIVALENTS
Special meaning in the law	Special meaning in the law
Esoteric concept - not easily understood	Esoteric concept - not easily understood
Some subjectivity	Some subjectivity
Requires claim construction	Requires claim construction
Jury has the benefit of an administrative determination on claim construction	Jury has the benefit of a judicial determination on claim construction
Jury has the benefit of an administrative decision on nonobviousness (both underlying facts and legal conclusion)	No administrative decision on infringement, including equivalents or other factual inquires
Right to a jury trial is preserved	Right to a jury trial is preserved
The standard for nonovbiousness may be relatively low, but it is relatively consistent and predictable	If a case survives summary judgment, the standards for equivalents/ infringement and nonequivalents/ noninfringement are whatever a particular jury chooses