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A Definite Claim on Claim Indefiniteness: An Empirical Study of Definiteness Cases of the Past Decade with a Focus on the Federal Circuit and the Insolubly Ambiguous Standard

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**A DEFINITE CLAIM ON CLAIM INDEFINITENESS:
AN EMPIRICAL STUDY OF DEFINITENESS CASES OF THE PAST
DECADE WITH A FOCUS ON THE FEDERAL CIRCUIT AND THE
INSOLUBLY AMBIGUOUS STANDARD**

Christa J. Laser*

Abstract

This empirical study of patent claim definiteness cases of the past decade makes several novel findings including: (1) slightly more than half of final Federal Circuit definiteness cases hold the asserted claims not indefinite; (2) the percentage of non-Federal Circuit definiteness cases holding claims not indefinite increased approximately 60 percentage points over the ten-year period focused on in this analysis; (3) the Federal Circuit more often held chemical claims not indefinite, but electrical claims indefinite; and (4) the Federal Circuit more often held claims with term clarity issues not indefinite, but claims with means-plus-function issues indefinite. These differences partially result from the Federal Circuit incorporating an evidentiary burden into the “insolubly ambiguous” standard and inconsistently applying the “insolubly ambiguous” standard. After describing other effects of this standard, this Article recommends that the Federal Circuit modify, clarify, or abolish the “insolubly ambiguous” standard.

* Article won second place in the Marcus B. Finnegan Writing Competition.

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Introduction

A patent claim must “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.”¹ This definiteness requirement has two purposes: primarily, “to provide clear warning to others as to what constitutes infringement of the patent,” and, secondarily, “to provide a clear measure of the invention in order to facilitate determinations of patentability.”² This empirical study shows that recent Federal Circuit cases have limited the doctrine of claim indefiniteness, contrary to public policy and to the intent of § 112, ¶ 2.

Section I of this Article provides an introductory background of claim indefiniteness. Section II of this Article reports the results of an empirical study of claim indefiniteness over a one decade period. Part A of Section II analyzes whether the Federal Circuit and other courts more often held claims not indefinite or indefinite. Part B further analyzes indefiniteness decisions in the Federal Circuit by subject-area: biochemical, chemical, electrical, or general and mechanical. Part C analyzes indefiniteness decisions in the Federal Circuit by reason for the court’s indefiniteness determination.

Section III argues that the different percentages of claims found indefinite between these categories are due to the Federal Circuit’s disparate treatment of means-plus-function issues and term clarity issues. This Section shows that when courts find a term clarity issue, they apply the “insolubly ambiguous” standard, which incorrectly incorporates the evidentiary burden of clear and convincing evidence. This incorporation, while it may achieve the desired result in court, ties the hands of the Patent and Trademark Office, requiring the Patent and Trademark Office to apply the incorrect burden of proof in some instances. Furthermore, this Section argues that evidentiary burdens should not be used to modify purely legal standards.

Accordingly, the Federal Circuit should abolish the “insolubly ambiguous” standard or modify it to ensure that it does not incorporate the burden of clear and convincing evidence. Courts should instead adopt a simpler indefiniteness standard: if a party seeking to demonstrate invalidity can show by clear and convincing evidence that the claim does not meet § 112 (by “particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention”) then courts should invalidate the patent for indefiniteness.³ If the Federal Circuit does not correct this trend soon, a competitor’s ability to accurately determine the metes and bounds of current patents might deteriorate further, leading to possible unintended infringement.

I. Background: Policy on Claim Indefiniteness

Public policy supports a strict standard for claim indefiniteness. Precision is “essential to warn the industry concerned of the precise scope of the monopoly asserted.”⁴ For this reason, unclear metes and bounds of patent claims undermine the very purpose of the patent system, a

¹ 35 U.S.C. § 112 ¶ 2 (2006).

² 3 DONALD S. CHISUM, CHISUM ON PATENTS § 8.03 (2009).

³ See 35 U.S.C. § 112 ¶ 2.

⁴ Universal Oil Prods. Co. v. Globe Oil & Refining Co., 322 U.S. 471, 484 (1944).

system based upon an exchange of information for monopoly rights.⁵ The Patent and Trademark Office likewise sees the primary purpose of the definiteness requirement as to inform the public of these metes and bounds.⁶ Indeed, indefinite claims can be harmful by: (1) giving the patentee an unreasonably large scope to the detriment of the public; (2) creating risk of uncertainty to other inventors, who then decrease experimentation and invention; and (3) increasing litigation after competitors incorrectly judge the scope of an indefinite patent.⁷

Definite claims serve an additional, “secondary” purpose: to clearly identify the invention to enable easier application of other standards of patentability such as nonobviousness and novelty.⁸ Such clarity helps both examiners during the application stage⁹ and courts that must make validity determinations during subsequent litigation.¹⁰ Ideally, if patent examiners demand definiteness in claims upfront, that demand reduces litigation later.¹¹

However, courts have not extensively incorporated the public policy demand for the clearest possible patents into the requirement of claim indefiniteness.¹² Most recently, the Federal Circuit set forth the “insolubly ambiguous” standard of claim indefiniteness in *Exxon Research and Engineering Co. v. United States*.¹³ The court in *Exxon* opined, “We have not insisted that claims be plain on their face in order to avoid condemnation for indefiniteness; rather, what we have asked is that the claims be amenable to construction, however difficult that task may be.”¹⁴ The court admitted it is difficult to find a claim indefinite using such a standard, but stated that the standard was mandated by the statutory presumption of patent validity under § 282.¹⁵

Yet on other issues of validity, such as obviousness, courts do not alter the doctrine in response to the statutory presumption of validity.¹⁶ Instead, they simply require that a party seeking to demonstrate invalidity do so by clear and convincing evidence.¹⁷ The current Federal

⁵ *See id.*

⁶ *See* U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2173 (8th ed. 2008) [hereinafter M.P.E.P.].

⁷ *See* *Athletic Alts., Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996).

⁸ 3 CHISUM, *supra* note 2, § 8.03.

⁹ *Energizer Holdings, Inc. v. International Trade Comm'n*, 435 F.3d 1366, 1369 (Fed. Cir. 2006).

¹⁰ *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942).

¹¹ *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1255 (Fed. Cir. 2008) (“We note that the patent drafter is in the best position to resolve the ambiguity in the patent claims, and it is highly desirable that patent examiners demand that applicants do so in appropriate circumstances so that the patent can be amended during prosecution rather than attempting to resolve the ambiguity in litigation.”).

¹² *See, e.g., Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1575-76 (Fed. Cir. 1986) (where a patent on a wheelchair of a size capable of fitting in the back seat of a vehicle was held valid because the claim was “as precise as the subject matter permits”); *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1341 (Fed. Cir. 2008) (citing *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1214 (Fed. Cir. 2003)) (stating that the Federal Circuit “does not impose a lofty standard in its indefiniteness cases”).

¹³ 265 F.3d 1371, 1375 (Fed. Cir. 2001).

¹⁴ *Id.*

¹⁵ *Id.* (“By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity.”); 35 U.S.C. § 282 (2006).

¹⁶ *See* *Proctor & Gamble Co. v. Teva Pharm. USA, Inc.*, 566 F.3d 989, 993-94 (Fed. Cir. 2009) (citing *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1238-39 (Fed. Cir. 2003)).

¹⁷ *Id.*

Circuit doctrine on indefiniteness requires a far more rigorous test than that of nonobviousness: a party seeking to demonstrate invalidity must demonstrate that the claims are “insolubly ambiguous, and no narrowing construction can properly be adopted.”¹⁸

Because the policy arguments seem to differ from the current standard set forth by the Federal Circuit, one might hope that the Supreme Court would grant certiorari in a claim indefiniteness case. However, in the last fifty years, the Supreme Court has only once tangentially addressed claim indefiniteness, in the case of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*¹⁹ The Court noted that claim indefiniteness policy requires a balance between clarity and flexibility.²⁰ In support of clarity, the Court noted:

The [patent] monopoly is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation. A patent holder should know what he owns, and the public should know what he does not. For this reason, the patent laws require inventors to describe their work in “full, clear, concise, and exact terms,” 35 U.S.C. § 112, as part of the delicate balance the law attempts to maintain between inventors, who rely on the promise of the law to bring the invention forth, and the public, which should be encouraged to pursue innovations, creations, and new ideas beyond the inventor’s exclusive rights.²¹

However, the Court also noted that patent claims are necessarily imprecise because an invention is a “tangible” thing, with its verbal description merely an “afterthought written to satisfy the requirements of patent law.”²² As the *Festo* Court explained, “[t]hings are not made for the sake of words, but words for things.”²³

The courts must weigh these competing interests. On one hand, if competitors are uncertain about a patent’s breadth, they may be deterred from engaging in legitimate activities outside its limits, or they may invest by mistake in competing products that are within the patent’s scope. In addition, competitors may engage in wasteful litigation that a stricter rule might prevent.²⁴ On the other hand, the Court acknowledged that this lack of clarity is a necessary evil of ensuring incentives for innovation, and literalism leaves the patent unsecured from copiers who seek to exploit the limits of language.²⁵

¹⁸ *Exxon*, 265 F.3d at 1375.

¹⁹ 535 U.S. 722 (2002). See 3 CHISUM, *supra* note 2, § 8.03. Before *Festo*, the last case on claim indefiniteness was *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 55 USPQ 381 (1942)). This case was about the doctrine of equivalents, and thus the U.S.P.Q. did not index it under 115.1109, but the same policy espoused by the Court applies to claim indefiniteness.

²⁰ *Festo*, 535 U.S. at 722.

²¹ *Id.* at 730-31.

²² *Id.* at 731.

²³ *Id.* (quoting *Autogiro Co. of Am. v. United States* 384 F.2d 391, 397 (Ct. Cl. 1967)).

²⁴ *Id.* at 732.

²⁵ *Id.* at 732 (citing *Winans v. Denmead*, 56 U.S. 330, 15 How. 330, 343, 14 L. Ed. 717 (1854) (“The exclusive right to the thing patented is not secured, if the public are at liberty to make substantial copies of it, varying its form or proportions.”)).

II. Results

A. *Slightly More Than Half of Final Federal Circuit Decisions on Claim Indefiniteness Hold the Claim Not Indefinite*²⁶

During the period from December, 1998 to December, 2008,²⁷ the Federal Circuit heard forty-eight²⁸ cases that contained a claim indefiniteness issue.²⁹ Over the same period of time, the Federal Circuit heard a total of 1,171 cases on intellectual property issues.³⁰ Thus, claim indefiniteness issues appeared in 3.84% of Federal Circuit intellectual property cases.³¹

In those forty-eight cases, the Federal Circuit found claims definite in thirty-two cases but indefinite in sixteen cases. In other words, 66.67% of all Federal Circuit claim indefiniteness cases found claims definite and 33.33% of cases found claims indefinite.

Table 1 shows how many and what percentages of Federal Circuit indefiniteness cases were held definite and indefinite each year. Figure 1 shows how the percentage of Federal Circuit indefiniteness cases that held claims definite decreased slightly from 1998 to 2008.³²

²⁶ “Definite” will be used in text, graphs, and tables to mean “not indefinite.” This alteration is designed to make the data easier to understand for readers not familiar with patent law’s technically correct double negatives and to make tables fit more easily onto the page.

²⁷ The time period was measured from volume 49 to volume 88 of the second edition of U.S.P.Q. (BNA), inclusive. Volume 49 contains some cases from late December 1998, while volume 88 excludes some cases from late December 2008.

²⁸ One case, *SmithKline Beecham Corp. v. Apotex Corp.*, 365 F.3d 1306 (Fed. Cir. 2004), is excluded from all of this Article’s data; due to procedural issues, including a rehearing en banc, its inclusion would have caused data from the same situation to be counted twice. Also note that the data labeled as “all Federal Circuit indefiniteness cases” or any data not otherwise noted includes cases of all procedural types, including reversals of summary judgment, which operate by a different standard than, for example, reversal of the district court’s judgment of indefiniteness.

²⁹ Cases that contained a claim indefiniteness issue, for the purposes of this paper, are those indexed in the U.S.P.Q. (BNA) under 115.1109, “claim indefiniteness.” The following data only account for the particular claim of the particular patent with definiteness issues. Some cases were remanded for issues with other patents or other claims discussed in the case. While some cases contained multiple claims with definiteness issues, in the particular cases in this study, the court either held all claims with definiteness issues definite or all such claims indefinite, typically because the contested language appeared in all such claims. Therefore, it was unnecessary to separate data according to total number of claims held definite or indefinite, although such an inquiry might produce valuable insights.

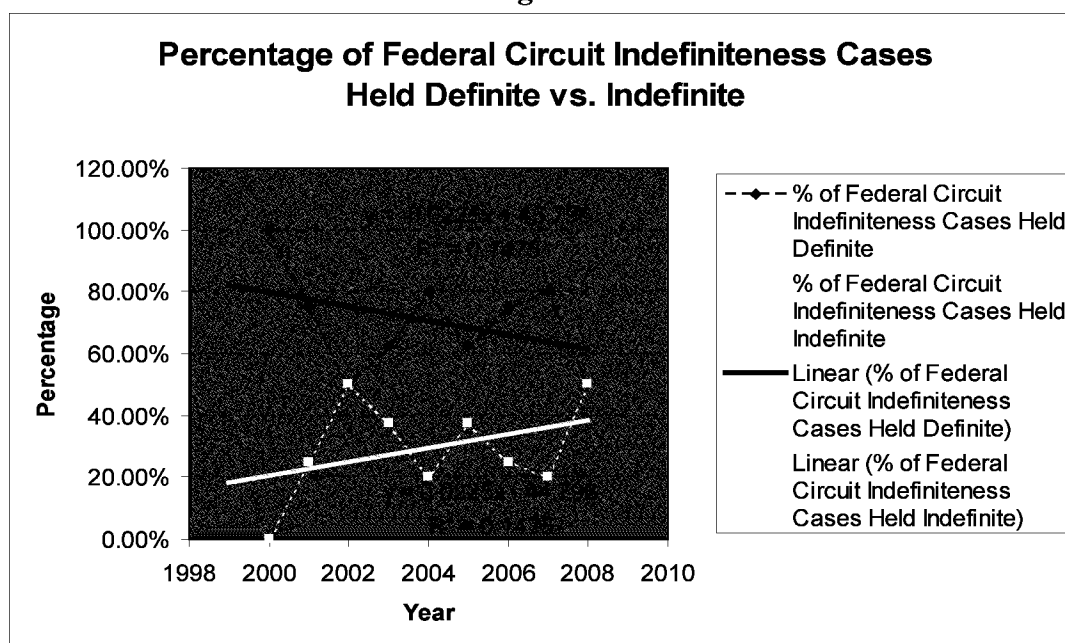
³⁰ This is the number of Federal Circuit cases reported under volumes 49 to 88, inclusive, of the U.S.P.Q.

³¹ A valuable inquiry might ask how many Federal Circuit intellectual property cases were patent cases in order to determine what percentage of Federal Circuit patent cases contained a claim indefiniteness issue.

³² Where $y=mx+b$, m is the slope of the trendline. A negative slope indicates a decrease and the more negative, the more severe the decrease. Here, the slope is -0.0225, or, in other words, each year the percentage of Federal Circuit indefiniteness cases that held claims definite decreased by 2.25%. Over the ten year period of the study, that percentage decreased from approximately 82% to approximately 60%. The R squared value here, however, is 0.1475, where 1.0 is a trendline that perfectly overlaps each data point. R squared values should be considered in the context of the study, because some contexts are more predictable than others. Litigation statistics are somewhat unpredictable, so an R squared value this low might still mean that the trendline is a relatively accurate representation of the data points given the field. To serve the most certain value, the accuracy of the trendlines used in this study should be considered relative to other trendlines in this study. Note that all of the graphs in this Article exclude data points that are non-real numbers, such as those that occur when a percentage of zero cases is determined; this adjustment allows trendlines to be plotted and does not decrease the accuracy of the data.

Table 1

Federal Circuit Cases in U.S.P.Q. (BNA) on Subject of Claim Indefiniteness (Index Number 115.1109)					
Year	Indefiniteness Cases ³³	Held Definite	% Definite	Held Indefinite	% Indefinite
2008	8	4	50.00%	4	50.00%
2007	5	4	80.00%	1	20.00%
2006	4	3	75.00%	1	25.00%
2005	8	5	62.50%	3	37.50%
2004	5	4	80.00%	1	20.00%
2003	8	5	62.50%	3	37.50%
2002	4	2	50.00%	2	50.00%
2001	4	3	75.00%	1	25.00%
2000	2	2	100.00%	0	0.00%
1999	0	0	N/A	0	N/A
Total:	48	32	66.67%	16	33.33%

Figure 1

These forty-eight cases, however, include a variety of procedural scenarios; only thirty-three were final decisions on the issue of claim indefiniteness.³⁴ For example, some cases

³³ “Indefiniteness cases” in tables and charts means those cases that are indexed in 115.1109 of the U.S.P.Q. (BNA).

³⁴ For purposes of this Article, “final” means that the Federal Circuit performed one of the following actions with regard to the claim indefiniteness issue: affirmed a judgment of indefiniteness, affirmed a judgment of definiteness, reversed a judgment of indefiniteness, affirmed a judgment of indefiniteness, affirmed a summary judgment of indefiniteness, or affirmed a summary judgment of definiteness. “Final” does not include cases where, with regard to the claim indefiniteness issue, the Federal Circuit later reheard en banc, reversed or vacated summary judgment of indefiniteness, reversed or vacated summary judgment of definiteness, affirmed a preliminary injunction, or vacated and remanded a judgment of definiteness or indefiniteness.

reversed a lower court's grant of summary judgment and therefore might reach a different conclusion once all of the facts are determined. Another case merely affirmed a preliminary injunction.

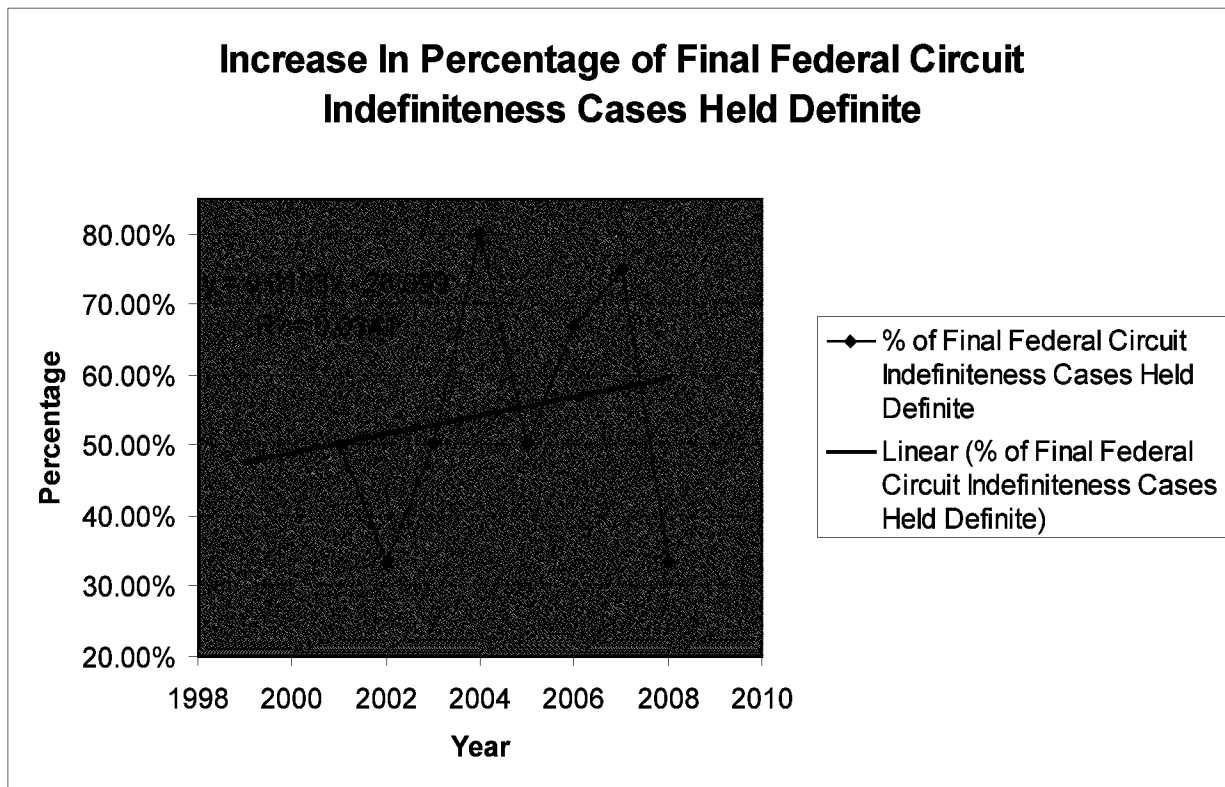
In these thirty-three final cases, the Federal Circuit found claims definite in eighteen cases but indefinite in fifteen cases. In other words, 54.55% of all final Federal Circuit claim indefiniteness cases found claims definite and 45.45% of final cases found claims indefinite.

Table 2 shows how many and what percentages of final Federal Circuit indefiniteness cases were held definite and indefinite each year. Figure 2 shows the percentage of final Federal Circuit indefiniteness cases that held claims definite increased slightly from 1998 to 2008.³⁵

Table 2

Final Federal Circuit Cases in U.S.P.Q. (BNA) on the Subject of Claim Indefiniteness (Index Number 115.1109)					
Year	Final Federal Circuit Indefiniteness Cases	Final Federal Circuit Indefiniteness Cases Held Definite	% of Final Federal Circuit Indefiniteness Cases Held Definite	Final Federal Circuit Indefiniteness Cases Held Indefinite	% of Final Federal Circuit Indefiniteness Cases Held Indefinite
2008	6	2	33.33%	4	66.67%
2007	4	3	75.00%	1	25.00%
2006	3	2	66.67%	1	33.33%
2005	6	3	50.00%	3	50.00%
2004	5	4	80.00%	1	20.00%
2003	4	2	50.00%	2	50.00%
2002	3	1	33.33%	2	66.67%
2001	2	1	50.00%	1	50.00%
2000	0	0	N/A	0	N/A
1999	0	0	N/A	0	N/A
Total:	33	18	54.55%	15	45.45%

³⁵ Here, the slope is positive 0.0133, or, in other words, the percentage of final Federal Circuit indefiniteness cases that held claims definite increased from approximately 46% to approximately 59% over the period of study. The R squared value here is 0.0341, meaning the data points varied widely from this trendline.

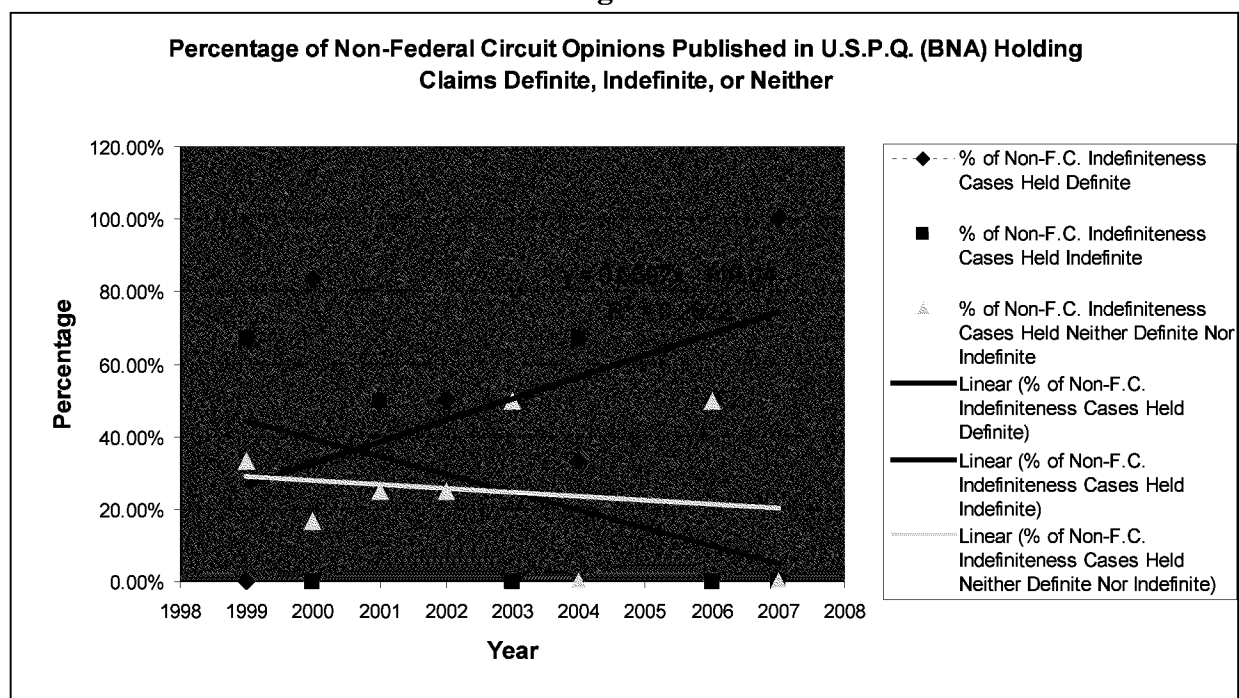
Figure 2

However, the percentage of non-Federal Circuit cases³⁶ holding claims definite increased dramatically. As shown in Figure 3, the trendline indicates that non-Federal Circuit cases holding claims definite increased by approximately 60 percentage-points over the ten-year period from December 1998 to December 2008.³⁷ Table 3 shows how many and what percentages of non-Federal Circuit indefiniteness cases were held definite, indefinite, or neither³⁸ per year.

³⁶ Non-Federal Circuit cases used in this study only include those published in U.S.P.Q. (BNA). U.S.P.Q. (BNA) does not publish all lower-court decisions, as it does with all precedential Federal Circuit decisions. Therefore, the significance of this data is not certain because not only does it not include all cases but it is not likely to be a representative sample. The Supreme Court did not hear any cases on indefiniteness during this period. Other circuits do not hear patent invalidity appeals. This data only includes cases from various district courts, the US Court of Federal Claims, and the Board of Patent Appeals and Interferences (which hears the case before the patent is issued and therefore does not apply the statutory presumption of validity granted only to issued patents).

³⁷ Here, the slope is positive 0.0597, or, in other words, each year the percentage of all non-Federal Circuit indefiniteness cases that held claims definite increased 5.97%. Over the ten year period of study, this percentage increased from approximately 24% to approximately 84%. The R squared value here is 0.2822. As discussed in footnote 32, a perfect R squared value is 1.0. However, R squared values should be considered in the context of the study, because some contexts are more predictable than others. Litigation statistics are somewhat unpredictable, so this R squared value might still mean that the trendline is a relatively accurate representation of the data points given the field. This R squared value of 0.2822 means that, relative to other trendlines in the study, this trendline did not vary widely from the data points, and therefore should be considered reliable.

³⁸ “Neither” here means that the court did not make a determination on the issue of definiteness, usually because some other issue in the case was more dispositive.

Figure 3**Table 3**

Non-Federal Circuit Indefiniteness Cases Published in U.S.P.Q. (BNA)								
Year	Total Non-F.C. IP Cases	Total Non-F.C. Indefiniteness Cases	Held Definite	% Held Definite	Held Indefinite	% Held Indefinite	Held Neither Definite Nor Indefinite	% Held Neither
2008	360	0	0	N/A	0	N/A	0	N/A
2007	390	2	2	100.00%	0	0.00%	0	0.00%
2006	372	2	1	50.00%	0	0.00%	1	50.00%
2005	374	0	0	N/A	0	N/A	0	N/A
2004	379	3	1	33.33%	2	66.67%	0	0.00%
2003	354	2	1	50.00%	0	0.00%	1	50.00%
2002	379	4	2	50.00%	1	25.00%	1	25.00%
2001	386	4	1	25.00%	2	50.00%	1	25.00%
2000	434	6	5	83.33%	0	0.00%	1	16.67%
1999	504	3	0	0.00%	2	66.67%	1	33.33%

B. Chemical Cases More Often Contained Claims Held Not Indefinite; Electrical Cases More Often Contained Claims Held Indefinite

The forty-eight Federal Circuit decisions on claim indefiniteness covered four subject-areas³⁹: biochemical, chemical, electrical, and general and mechanical. Table 4 shows how many and what percentages of all Federal Circuit indefiniteness cases were held definite and indefinite by subject area.

Table 4

All Federal Circuit Decisions on Indefiniteness by Subject Area from 1998-2008					
Subject Area	Case Total	Held Definite	% Definite	Held Indefinite	% Indefinite
Biochemical	1	1	100.00%	0	0.00%
Chemical	14	10	71.43%	4	28.57%
Electrical	16	10	62.50%	6	37.50%
General and Mechanical	17	11	64.71%	6	35.29%

Because non-final decisions often apply different standards than final decisions, the following statistics on final decisions should be considered more relevant than the statistics on non-final decisions. Table 5 shows how many and what percentages of final Federal Circuit indefiniteness cases were held definite and indefinite by subject area. Chemical claims and general and mechanical claims were more often held definite than indefinite, while electrical claims were more often held indefinite than definite. The only biochemical case held the claim definite.

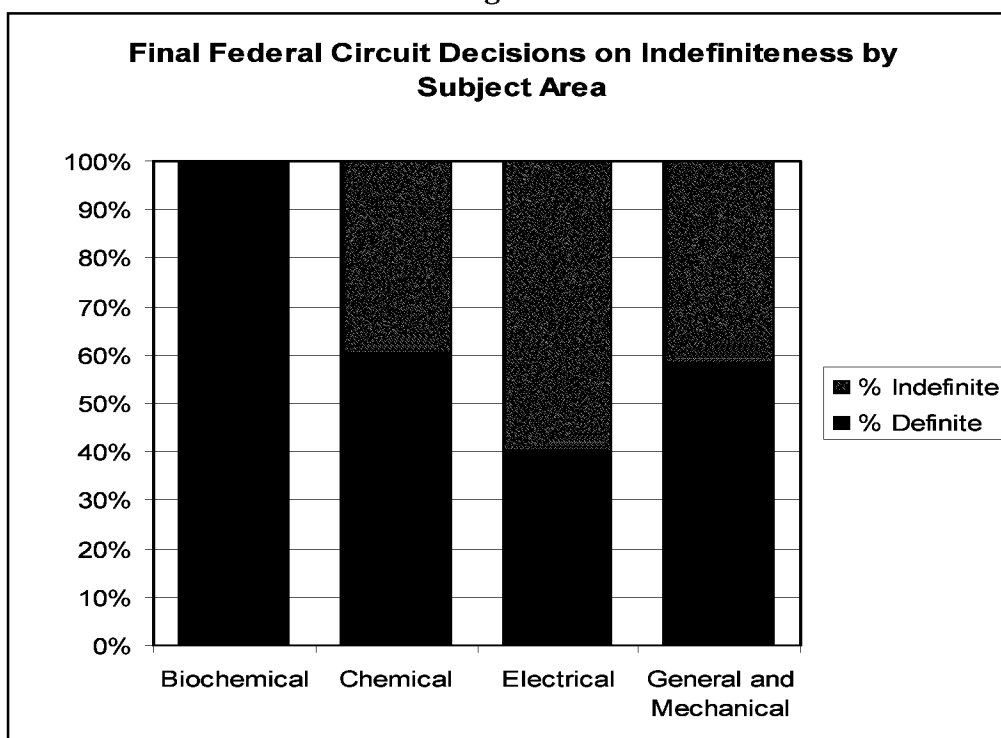
Figure 4 shows these comparisons graphically. Note that prior studies have also analyzed indefiniteness cases by subject area.⁴⁰

³⁹ Subject-areas used in this Article are those defined by the U.S.P.Q. (BNA) for each patent. The U.S.P.Q. also provides sub-subject-areas, and for the cases used in this Article the subject areas included some of the following sub-subject-areas: for biochemical--transformable cells; for chemical--antidepressants, antibiotics, immunoassays, and heart surgery solution; for electrical-- defibrillator, internet processing of credit card transactions, voice recognition technology, and a computer network and user interface; for general and mechanical-- air mattress, feline surgical method, and geosteering wells.

⁴⁰ John R. Allison and Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 194, 209, 221 (1998) (From 1989 to 1996, of 239 total Federal Circuit and District Court patent cases involving 299 patents, eight, or 5.8% of invalid patents (139 total) were held invalid on claim indefiniteness grounds. Of 23 cases with claim indefiniteness issues, eight, or 34.8% held the patent invalid. Of biotech patents with claims definiteness issues, one, or 25% was held invalid. Of chemical patents with claims definiteness issues, three, or 9.4% were held invalid. Of computer-related patents with claims definiteness issues, two, or 22.2% were held invalid. Of electrical patents with claims definiteness issues, two, or 7.4% were held invalid. Of general patents with claims definiteness issues, three, or 3.8% were held invalid. Of pharmaceutical patents with claims definiteness issues, zero were held invalid. Of software patents with claims definiteness issues, zero were held invalid.) Note that the cited article uses different standards for its empirical research and thus cannot be accurately compared to the current data.

Table 5

Final Federal Circuit Decisions on Indefiniteness by Subject Area					
Subject Area	Case Total	Held Definite	% Definite	Held Indefinite	% Indefinite
Biochemical	1	1	100.00%	0	0.00%
Chemical	10	6	60.00%	4	40.00%
Electrical	10	4	40.00%	6	60.00%
General and Mechanical	12	7	58.33%	5	41.67%

Figure 4

The result that chemical claims and general and mechanical claims were more often held definite than indefinite, while electrical claims were more often held indefinite than definite, may be related to inherent differences in the nature of the subject matter. For example, chemical inventions of a particular molecular structure can be sufficiently definitely claimed by simply listing the proper chemical name in the claim and including the corresponding structure in the specification.⁴¹ Electrical inventions, on the other hand, may involve user interfaces where subjective terms are necessary⁴² or may involve longer, more complicated claims or means-plus-function claims, which, as shown below, are more often held indefinite. Different judicial treatment likely also influences these results, and is addressed in Section IV.

⁴¹ See *SmithKline Beecham Corp. v. Apotex Corp.*, 365 F.3d 1306, 1328 (Fed. Cir. 2004).

⁴² *Datamize LLC v. Plumtree Software Inc.*, 417 F.3d 1342 (Fed. Cir. 2005).

C. *Claims with Means-Plus-Function Issues Are More Often Held Indefinite, While Claims with Term Clarity Issues Are More Often Held Not Indefinite.*

This study separates claim indefiniteness issues into three categories: (1) clerical or semantic error; (2) means-plus-function; and (3) term clarity.⁴³ These categories are based on those suggested by *Chisum*⁴⁴ and *Halliburton Energy Services, Inc. v. M-I L.L.C.*⁴⁵ The clerical or semantic error category will be referred to in the tables and charts as “Error;” likewise, the term clarity category will be referred to in tables and charts as “Terms.” Term clarity is the broadest category and includes terms that are not easily understood, measurements that are unclear, and *Chisum*’s category of “words of degree, relational terms, and ranges.”

Table 6 and Table 7 show how many and what percentages of non-final and final Federal Circuit indefiniteness cases were held definite or indefinite, and by what category. Of final Federal Circuit decisions, claims with means-plus-function issues were slightly more often held indefinite than not indefinite. Claims with term clarity issues were held not indefinite more than two-thirds of the time, the most frequent of any category. Figure 5 shows these comparisons graphically.

Table 6

All Federal Circuit Decisions on Indefiniteness by Reason					
Reason	All F.C. Cases	Held Definite	% Definite	Held Indefinite	% Indefinite
Error	6	2	33.33%	4	66.67%
Means-plus-function	16	9	56.25%	7	43.75%
Terms	28	23	82.14%	5	17.86%

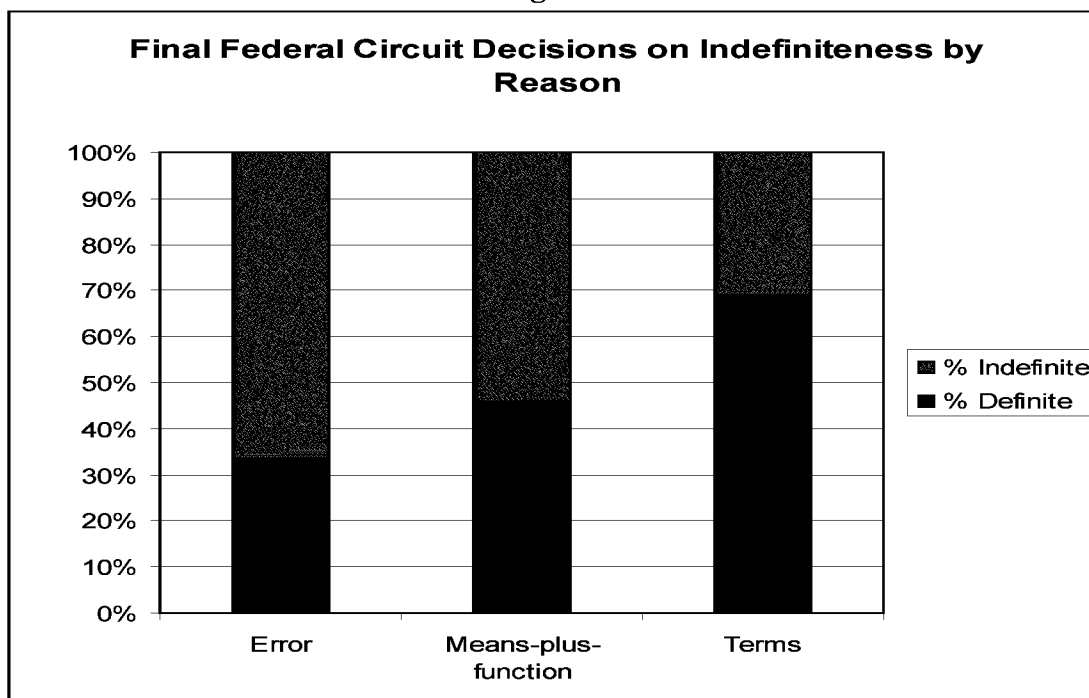
Table 7

Final Federal Circuit Decisions on Indefiniteness by Reason					
Reason	Final F.C. Cases	Held Definite	% Definite	Held Indefinite	% Indefinite
Error	6	2	33.33%	4	66.67%
Means-plus-function	11	5	45.45%	6	54.55%
Terms	16	11	68.75%	5	31.25%

⁴³ Some cases in the non-final decisions data fell into both means-plus-function and terms categories because multiple claims had indefiniteness issues for different reasons.

⁴⁴ 3 CHISUM, *supra* note 2, § 8.03.

⁴⁵ 514 F.3d 1244, 1249 (Fed. Cir. 2008).

Figure 5

III. Discussion

A. *The “Insolubly Ambiguous” Standard Incorporates the Burden of Clear and Convincing Evidence*

Section 112 requires that claims “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.”⁴⁶ However, § 282 gives issued patents a presumption of validity.⁴⁷ Therefore, courts must consider both the requirement that claims be clear to be valid and the presumption of validity.

The Federal Circuit in *Exxon Research and Engineering Co. v. United States* set forth the “insolubly ambiguous” standard for indefiniteness.⁴⁸ This standard incorporates the statutory presumption of validity.⁴⁹ The likely reason that the *Exxon* court joined the two standards is that it is easier, faster, and more concise for a court to apply the “insolubly ambiguous” standard than it would be for the court to explicitly apply both § 112’s requirement for clarity and § 282’s presumption of validity.⁵⁰ However, as shown *infra*, problems arise when courts do not clearly delineate the legal standard from the presumption of validity.

⁴⁶ 35 U.S.C. § 112.

⁴⁷ 35 U.S.C. § 282.

⁴⁸ 265 F.3d 1371, 1375 (Fed. Cir. 2001).

⁴⁹ A. Meaghin Burke, Comment, *New Approaches to Pharmaceutical Patent Law: Why Current Patent Jurisprudence is Inappropriate as Applied to the Unique Characteristics of Chemical Compounds*, 75 Miss. L.J. 1143, 1150 n.38 (2006).

⁵⁰ See generally, 35 U.S.C. §§ 112, 282.

The *Exxon* court's opinion provides ample evidence that the "insolubly ambiguous" standard incorporates the presumption of validity. The *Exxon* court stated the following when formulating the "insolubly ambiguous" standard: "By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal."⁵¹ Note that the indefiniteness issue in *Exxon* was in the term clarity category.⁵² Because courts often apply those rules that other courts developed in cases with similar fact patterns, courts more often apply *Exxon*'s "insolubly ambiguous" standard to cases where the indefiniteness issue is in the term clarity category.⁵³

B. Means-Plus-Function Claims Are More Often Held Indefinite Because the Federal Circuit Does Not Apply the "Insolubly Ambiguous" Standard to Them

One significant problem that arises when courts do not clearly differentiate the legal standard of claim indefiniteness from the statutory presumption of validity is that later courts do not seem to remain aware of the parts that make up the hybrid "insolubly ambiguous" standard. Sometimes, when a court does not recognize that the "insolubly ambiguous" standard already incorporates the presumption of validity, it applies a double burden on those seeking to invalidate the patent on grounds of claim indefiniteness.⁵⁴ In other words, some courts will incorrectly require that the party challenging the patent must overcome the presumption of validity by presenting clear and convincing evidence that the claim is "insolubly ambiguous."⁵⁵

If this double-burden theory is correct, courts that apply the "insolubly ambiguous" standard would be less likely to find claims indefinite than courts that do not apply the "insolubly ambiguous" standard. Not surprisingly, this is precisely the result that this empirical study demonstrates. As shown *supra* in Section III C, claims with indefiniteness issues in the means-plus-function category are more often held indefinite than definite. On the other hand, claims with indefiniteness issues in the term clarity category were more often held definite than indefinite.

This result is significant because the Federal Circuit applies the "insolubly ambiguous" standard to claims with indefiniteness issues in the term clarity category. But on the other hand, the court never applies the "insolubly ambiguous" standard to claims with indefiniteness issues

⁵¹ *Exxon Research and Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001) (citations omitted).

⁵² *Id.*

⁵³ In the current study, the words "insolubly," "insoluble," and other variants were found regularly in term clarity cases.

⁵⁴ See, e.g., *Tech. Patents LLC v. Deutsche Telekom AG*, No. 07-3012, 2010 U.S. Dist. LEXIS 88534, at *78-79 (D. Md. Aug. 25, 2010) ("[T]here must be clear and convincing evidence that some insoluble ambiguity exists."); *ACQIS LLC v. Appro Int'l, Inc.*, No. 09-148, 2010 U.S. Dist. LEXIS 77548, at *28 (E.D. Tex. Aug. 2, 2010) ("Defendants have not shown by clear and convincing evidence that the terms . . . are insolubly ambiguous."); *Media Queue, LLC v. Netflix, Inc.*, 672 F. Supp. 2d 1022, 1032 (N.D. Cal. 2009) ("[D]efendants have not provided clear and convincing evidence that the claim terms are insolubly ambiguous."); *VDP Patent, LLC v. Welch Allyn Holdings, Inc.*, 623 F. Supp. 2d 414, 429-30 (S.D.N.Y. 2008) ("They have failed to demonstrate by clear and convincing evidence that the language of the claim is insolubly ambiguous, and their motion must fail.").

⁵⁵ *Id.*

in the means-plus-function category. None of the cases in this study designated as mean-plus-function cases ever mention the term “insoluble,” “insolubly,” or any other derivative of the word. Some means-plus-function cases do not even mention the presumption of validity or the burden of clear and convincing evidence.⁵⁶ But those cases that do mention the burden of proof differentiate the burden of proof from the legal standard, saying, for example, “[A] challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of structure sufficient to be understood by one skilled in the art as being adequate to perform the recited function.”⁵⁷

One possible explanation for why means-plus-function cases are more often held not indefinite is precisely because courts do not always mention the presumption of validity. However, particularly in means-plus-function cases, courts may not mention the presumption of validity or the burden of clear and convincing evidence. Rather, the patent itself may provide the quantum of evidence that is necessary to invalidate the patent for indefiniteness—for example, a means that lacks a corresponding structure.

In mean-plus-function cases, a claim is definite only if the claimed function corresponds to a structure that performs the claimed function and the specification clearly associates the two, from the perspective of a person having ordinary skill in the art.⁵⁸ But if the specification discloses no corresponding structure at all, then the claim containing the function can be held indefinite without additional external evidence.⁵⁹ This is because for means-plus-function claims, a lack of a structure is all that is required to show indefiniteness, so a patent without a structure would, itself, provide the quantum of evidence necessary to meet the burden of clear and convincing evidence (here, evidence of a lack of a structure).⁶⁰

Nonetheless, the reason that means-plus-function cases more often hold claims indefinite is that in means-plus-function cases the courts do not alter the legal standard of claim indefiniteness to incorporate the presumption of validity. Instead, means-plus-function cases define the standard for indefiniteness using language similar to the standard proposed by this Article: if a party seeking to demonstrate invalidity can show by clear and convincing evidence that the claim does not meet § 112 (by “particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention”)⁶¹ then courts should invalidate the patent for indefiniteness.

In cases where the indefiniteness issue is in the term clarity category, however, the court applies the “insolubly ambiguous” standard nearly every time, particularly in the more recent cases.⁶² And some term clarity cases apply the “insolubly ambiguous” standard and, separately,

⁵⁶ See, e.g., *Aristocrat Technologies Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328 (Fed. Cir. 2008).

⁵⁷ *Intellectual Prop. Dev., Inc. v. UA-Columbia Cablevision of Westchester Inc.*, 336 F.3d 1308 (Fed. Cir. 2003).

⁵⁸ *Cardiac Pacemakers Inc. v. St. Jude Med. Inc.*, 296 F.3d 1106 (Fed. Cir. 2002).

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ 35 U.S.C. § 112.

⁶² See e.g., *Praxair Inc. v. ATMI Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008); *Star Scientific Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1371 (Fed. Cir. 2008); *Microprocessor Enhancement Corp. v. Texas Instruments Inc.*,

the burden of clear and convincing evidence, thereby explicitly imposing a double burden on the party seeking to invalidate the patent.⁶³ Even though most cases do not apply the double burden explicitly, the empirical evidence, while not conclusive on this issue, tends to suggest that courts either apply the double burden implicitly whenever they apply the “insolubly ambiguous” standard or at least that the “insolubly ambiguous” standard is a higher standard of indefiniteness than other standards of indefiniteness.⁶⁴

C. Incorporating the Burden of Clear and Convincing Evidence Is Inappropriate in Cases Where That Burden Does Not Apply, such as Patent and Trademark Office Proceedings, and Is Contrary to the Law of Evidence

As shown *supra*, the Federal Circuit modified a legal standard of indefiniteness by incorporating the presumption of validity of issued patents. This is problematic for two reasons: (1) evidentiary burdens should not apply to the law, but rather courts should use them to determine what quantum of factual evidence is necessary to prove facts to which the court can then apply the appropriate legal standard; and (2) when the Federal Circuit incorporates the presumption of validity into the legal standard of claim indefiniteness, the Patent and Trademark Office gives unissued patent applications a presumption of validity.

Claim indefiniteness under § 112 is a question of law.⁶⁵ The statutory presumption of validity imposes an evidentiary burden of clear and convincing evidence upon the party challenging the issued patent.⁶⁶ In other words, only the *facts* supporting a finding of invalidity should be proven with clear and convincing evidence;⁶⁷ neither the burden of clear and convincing evidence nor the presumption of validity (embodied by the burden) ought to affect the application of the legal standard. An evidentiary burden is separate from a legal standard; it “exists only in connection with an issue of fact.”⁶⁸ Therefore, the Federal Circuit acts contrary to established laws of evidence by incorporating an evidentiary burden into a legal standard.

86 U.S.P.Q.2d 1225, 1229-31 (Fed. Cir. 2008); *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008).

⁶³ See e.g., *Halliburton*, 514 F.3d at 1249.

⁶⁴ One alternative explanation for the results is simply that term clarity issues tend not to seriously detract from the ability of a person of skill in the art to understand the meaning of the patent compared to means-plus-function issues or clerical or semantic errors. However, the language that courts use provides evidence that it is the standard of law, rather than the type of claims, that generates the disparate results. Note, for example, language such as: “If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.” *Praxair Inc. v. ATMI Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008) (quoting *Exxon Research and Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001)).

⁶⁵ *Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1365 (Fed. Cir. 2008).

⁶⁶ *Iovate Health Sciences, Inc. v. Bio-Engineered Supplements & Nutrition, Inc.*, 586 F.3d 1376, 1380 (Fed. Cir. 2009) (“Patents enjoy a presumption of validity, 35 U.S.C. § 282 (2006), and a party seeking to invalidate a patent must overcome this presumption by facts supported by clear and convincing evidence.”) (citing *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1374 (Fed. Cir. 2001)).

⁶⁷ *Intellectual Prop. Dev., Inc. v. UA-Columbia Cablevision of Westchester Inc.*, 336 F.3d 1308 (Fed. Cir. 2003).

⁶⁸ 31A C.J.S. Evidence § 191 (2009) (citing *Walling v. Cal. Conserving Co.*, 74 F. Supp. 182 (N.D. Cal. 1945), *aff'd*, 167 F.2d 905 (9th Cir. 1948)).

Furthermore, § 282 grants the statutory presumption of validity only to issued patents.⁶⁹ Because the Patent and Trademark Office considers only patents which have not yet been issued, the Patent and Trademark Office should not apply § 282's presumption of validity. Nonetheless, the guidelines for patent examiners note that a claim is indefinite only if it is "insolubly ambiguous."⁷⁰ The Patent and Trademark Office therefore gives patent applications a presumption of validity whenever it applies the "insolubly ambiguous" standard because, as shown *supra*, the "insolubly ambiguous" standard incorporates § 282's presumption of validity. In other words, by using the "insolubly ambiguous" standard, the Patent and Trademark Office is granting patents even when the claims are less clear than what § 112 requires, namely that claims "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention."⁷¹ Even assuming, *arguendo*, that the "insolubly ambiguous" standard yields the correct result when the evidentiary burden is one of clear and convincing evidence, when an evidentiary burden other than "clear and convincing evidence" is required, as in Patent and Trademark Office proceedings, the "insolubly ambiguous" standard differs from the statutorily mandated standard under § 112.

D. The Patent and Trademark Office Cannot Solve the Problem Locally Because Applying a Different Standard than "Insolubly Ambiguous" Would Be Improper Substantive Rulemaking

The Patent and Trademark Office should not give patent applications a presumption of validity.⁷² However, the Patent and Trademark Office may only follow the laws of courts as they are presented because the Patent and Trademark Office lacks the explicit grant from Congress that is necessary to permit it to engage in substantive rulemaking.⁷³ Therefore, if the courts hold that a patent is not invalid for indefiniteness unless it is "insolubly ambiguous," the Patent and Trademark Office must also hold that a patent is not invalid for indefiniteness unless it is "insolubly ambiguous." Thus, the Federal Circuit, by setting forth a legal standard for indefiniteness that incorporates the presumption of validity, essentially forces the Patent and Trademark Office to apply an incorrect standard to patent applications.

E. The Federal Circuit Should Abolish the "Insolubly Ambiguous" Standard or Modify It to a Lower Standard That Does Not Reflect the Burden of Clear and Convincing Evidence

There are three possible solutions. First, the Patent and Trademark Office could recognize that the insolubly ambiguous standard was set forth only in light of the burden of clear and convincing evidence, ignore it, and choose to apply only legal standards that do not incorporate an evidentiary burden. This, however, might be seen as substantive rulemaking. Second, Congress or the Supreme Court could step in to abolish or modify the "insolubly ambiguous"

⁶⁹ 35 U.S.C. § 282.

⁷⁰ M.P.E.P. § 2173.02.

⁷¹ 35 U.S.C. § 112 ¶ 2.

⁷² See 35 U.S.C. § 282.

⁷³ *Merck & Co., Inc. v. Kessler*, 80 F.3d 1543, 1549-50 (Fed. Cir. 1996) ("[T]he broadest of the PATENT AND TRADEMARK OFFICE's rulemaking powers-35 U.S.C. § 6(a)-authorizes the Commissioner to promulgate regulations directed only to 'the conduct of proceedings in the [PATENT AND TRADEMARK OFFICE]'; it does NOT grant the Commissioner the authority to issue substantive rules") (quoting *Animal Legal Def. Fund v. Quigg*, 932 F.2d 920, 930 (Fed. Cir. 1991)).

standard. This result is unlikely, particularly because the Supreme Court has not heard an indefiniteness case for over half a century.⁷⁴

Instead, the Federal Circuit should abolish or modify the insolubly ambiguous standard. The Federal Circuit should do this by simply no longer incorporating the presumption of validity and thus the burden of clear and convincing evidence into the legal standard of indefiniteness. There are situations when the standard of proof should differ despite the need to apply the same law. The difference between the standards of proof before the Patent and Trademark Office and before the Federal Circuit is the prime example.

While the Federal Circuit could simply clarify that the “insolubly ambiguous” standard should not apply in Patent and Trademark Office proceedings and that courts should not apply a clear and convincing evidence standard when utilizing the “insolubly ambiguous” standard, such a clarification would also not be ideal. Such an approach defeats the original purpose of the “insolubly ambiguous” standard because it is more complicated than separate applications under §§ 112 and 282. Furthermore, telling the Patent and Trademark Office and lower courts only which burden does not apply provides insufficient guidance for what burden does apply; if the party seeking to invalidate a patent need not provide clear and convincing evidence of its factual assertions concerning indefiniteness, what burden should apply? Therefore, the Federal Circuit should simply abolish the standard or modify it to not include an evidentiary burden.

Conclusion

This Article’s empirical data show that, of final Federal Circuit decisions and of all lower court decisions published in U.S.P.Q. (BNA), the percentage of cases holding claims definite increased over the ten-year period of study. Using data from final Federal Circuit decisions, electrical patents, which often contain more subjective descriptions than chemical patents or which often use means-plus-function claims, are more often held indefinite than patents in any other subject area. Additionally, in final Federal Circuit decisions, means-plus-function claims are most often held indefinite, while claims with a term clarity issue are most often held definite.

This different percentages of claims found indefinite between these two categories is due to the court’s differential treatment of means-plus-function issues and term clarity issues. When courts confront a term clarity issue, they apply the “insolubly ambiguous” standard, which incorrectly incorporates the evidentiary burden of clear and convincing evidence. This incorporation, while it may achieve the desired result in court, has negative effects elsewhere. Most significantly, this hybrid standard ties the hands of the Patent and Trademark Office, requiring the Patent and Trademark Office to apply the incorrect burden of proof in some instances. This effect demonstrates why evidentiary burdens should not be used to modify purely legal standards. In conclusion, the Federal Circuit should abolish, modify, or clarify the “insolubly ambiguous” standard to ensure that the burden of clear and convincing evidence is not incorporated into a legal standard but that the policy behind indefiniteness is.

⁷⁴ See 3 CHISUM, *supra* note 2, § 8.03 (noting that the most recent Supreme Court case on directly on claim indefiniteness was *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228 (1942)).