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THROWING JUDGE BRYSON'S CURVEBALL: A PRO PATENT VIEW OF
PROCESS CLAIMS AS PATENT-ELIGIBLE SUBJECT MATTER

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ABSTRACT

Can a baseball pitcher patent a method of throwing a curveball? On May 8, 2008, Judge Bryson posed that hypothetical as a way of stressing a point during the oral argument of *In re Bilski*, one of the most highly-attended hearings in the twenty-five year history of the Federal Circuit. In the *Bilski* case, the Federal Circuit will decide whether to embrace a new patentability test that redefines what is patent-eligible subject matter in the United States, or to create a fourth no-no to patent eligibility. At stake are many computer software patents and business method patents that form the lifeblood of financial services and software companies. In a very real sense, the hypothetical highlights the ultimate tension between diametrically opposing views of patents—as protecting inventions through financial incentives that encourage innovation or as spurring excessive litigation through overprotection that stifles innovation.

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THROWING JUDGE BRYSON'S CURVEBALL: A PRO PATENT VIEW OF PROCESS CLAIMS AS PATENT-ELIGIBLE SUBJECT MATTER

CHRISTOPHER A. HARKINS*

INTRODUCTION

Judge Bryson's hypothetical—joined by Judges Lourie and Rader—hints at a remarkable move to silence a growing anti-patent sentiment. Reading the tea leaves from the oral argument, one might predict that the hypothetical shows a willingness to embrace a progressive, open view of patent eligibility notwithstanding the trend of stricter requirements of patentability¹ that have arisen amidst the swelling public disapproval of the patent system.

The recent criticism of patents can trace its roots to many events. Certainly, two events occurring in 1998 and 2001 are responsible for much of the current attack on the patent system.

In 1998, the Federal Circuit held that patent claims directed to so-called business methods are statutory subject matter and, therefore, patent eligible.² Prior users feared that they would either have to incur the expense of filing patent applications on every method of conducting business or else risk liability for patent infringement if others should later patent the same method. The outcry from businesses led to a Congressional amendment of the Patent Statute the following year, whereby Congress created a “prior user” defense to business method patents.³

In 2001, the pejorative label of “patent troll” was coined.⁴ The label described a

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¹ *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1746 (2007) (finding claims invalid for failing to comply with the non-obviousness requirement); *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1311 (Fed. Cir. 2008) (finding claims invalid for failing to comply with the written description requirement); *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 518 F.3d 1353, 1367 (Fed. Cir. 2008) (finding claims invalid for failing to comply with the best mode requirement); *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 1002 (Fed. Cir. 2008) (finding claims invalid for failing to comply with the enablement requirement); *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1256 (Fed. Cir. 2008) (finding claims invalid for failing to comply with the definiteness requirement); *SRI Int'l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1198 (Fed. Cir. 2008) (finding claims invalid for failing to comply with the novelty requirement); *In re Comiskey*, 499 F.3d 1365 (Fed. Cir. 2007) (finding claims invalid for failing to comply with the utility requirement).

² *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.* 149 F.3d 1368, 1377 (Fed. Cir. 1998); see also *AT&T Corp. v. Excel Commc'ns, Inc.*, 172 F.3d 1352, 1361 (Fed. Cir. 1999).

³ See American Inventors Protection Act of 1999, Pub. L. No. 106-113, § 4302, 113 Stat. 1501A-555 (codified as amended at 35 U.S.C. § 273(a)(3) (2006)).

⁴ Steve Seidenberg, *Troll Control: The Supreme Court's eBay Decision Sets Back Pesky Patent Trolls' or American Innovation, Depending upon Which Side You're On*, A.B.A. J., Sept. 2006, at 51, 53. “[The term patent troll] was first used in 2001 by Peter Detkin, then an in-house counsel at

patent model by which a company does not manufacture or invent anything but, instead, merely buys up patents for the purpose of extorting nuisance settlements from companies that do manufacture or sell goods in the marketplace.⁵

Those critical of the patent system have argued that business method patents and patent trolls cripple legitimate research and development, stymie innovation, and chill healthy competition.⁶ However, criticism of the patent system was not always the case.

For over two centuries since it was founded in 1790, the patent system was recognized as providing financial rewards that drove inventors, entrepreneurs, and scientists to innovate.⁷ The protagonists of the patent system argued that fertile minds influence the well-being of a nation and its people. The protagonists insisted that patent laws create new products, good jobs, and economic prosperity. They argued that patent laws should protect the innovators—not undermine them. One famous protagonist was Abraham Lincoln.

In 1859, Abraham Lincoln extolled the value of patents: “The patent system . . . added the fuel of interest to the fire of genius.”⁸ On 15th Street NW overlooking Pennsylvania Avenue NW and the White House in Washington, D.C., those words are carved in the stone atop the Commerce Building specially designed to house the United States Patent and Trademark Office (“Patent Office”).⁹ Lincoln understood the importance and prosperity that intellectual property brings to a nation, as did the Constitution’s framers in 1787 by giving Congress the power to “promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹⁰

Against this backdrop, the Federal Circuit in *Bilski* has the great potential to create sweeping changes that restrict the scope of statutory subject matter or that expand patent-eligibility with a view toward promoting future innovations. The outcome will depend on how the court ultimately frames the issue. Will the court curb the coverage of patentable subject matter by drawing a bright-line rule that strictly circumscribes the four statutory categories enumerated under 35 U.S.C.

Intel Corp., to describe the small companies that were suing Intel for patent infringement.” *Id.* “[T]he term applies only to an entity that owns a single patent or a small group of patents and essentially is looking for nuisance-value settlements.” *Id.*

⁵ See Raymond P. Niro & Paul K. Vickrey, *The Patent Troll Myth*, 7 SEDONA CONF. J. 153, 153 (2006); see also Seidenberg, *supra* note 4, at 53.

⁶ Seidenberg, *supra* note 4, at 53.

⁷ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730 (2002).

⁸ See Jay I. Alexander, *Cabining the Doctrine of Equivalents in Festo: A Historical Perspective on the Relationship Between the Doctrines of Equivalents and Prosecution History Estoppel*, 51 AM. U. L. REV. 553, 554 (2002); Diana D. McCall, Note, *Stating the Obvious: Patents and Biological Material*, 2003 U. ILL. J.L. TECH. & POL’Y 239, 242 (2003); Steven L. Nichols, Comment, *Hippocrates, the Patent-Holder: The Unenforceability Of Medical Procedure Patents*, 5 GEO. MASON L. REV. 227, 227 (1997).

⁹ See Alexander, *supra* note 8, at 554 n.4. The United States Patent and Trademark Office (“USPTO”) is an agency of the United States Department of Commerce. JANICE M. MUELLER, AN INTRODUCTION TO PATENT LAW 23 (2d ed. 2006). The offices of the Patent Office have outgrown the Commerce Building and have since moved to a campus in Alexandria, Virginia. See Alexander, *supra* note 8, at 554 n.4.

¹⁰ U.S. CONST. art. I, § 8, cl. 8.

§ 101? Or, will the court construe those categories in broad terms, recognizing that process claims and business method patents are as important to innovation and to stimulating the economy as any category under § 101?

This Article argues that, amidst the legitimate debate about patents, the Federal Circuit should tread carefully before it overturns the intellectual property interests of entire industries. Companies that are investing heavily in financial services and computer software depend on patent protection.¹¹ Plainly stated, they deserve the full protection under § 101 as other industries, so long as their patent application meets the requirements of “utility,”¹² “novelty,”¹³ “non-obviousness,”¹⁴ and support from the specification.¹⁵

Specifically, Part I provides a background discussion on the rationale of the patent system and a brief history of the patent statutes. Part II explores a public interest rationale for invalidating so-called “bad” patents. It offers an overview of the staggering costs of patent litigation, and an analysis of how some argue that patent trolls hurt the economy by diverting resources away from research. Part III addresses the tumultuous history of business method patents. Part IV discusses the *Bilski* case and predicts that Judge Bryson’s hypothetical indicates the Federal Circuit appears ready to return to the pro-patent foundation of the Constitution. Also, Part IV proposes a two-part test for assessing patent eligibility that applies familiar principles of patent law and, therefore, is easily applied in practice.

I. ADDING THE FUEL OF INTEREST TO THE FIRE OF GENIUS

A. Abraham Lincoln’s 1859 Lecture Promoting a Patent System

As true today as when he gave it on February 11, 1859, Abraham Lincoln delivered one of the most stirring defenses to the patent system in a “Lecture on Discoveries and Inventions.”¹⁶

Lincoln set the backdrop for his lecture by juxtaposing the technological advances flowing from a “Young America,” in contrast to the considerably fewer advances from an “Old Foggy,” by giving a brief account of the history of a world that was slow to change and lumbering along years between advances.¹⁷ Lincoln urged that the great difference between Young America and Old Foggy was the result of “Discoveries, Inventions, and Improvements,” which followed from “observation, reflection and experiment.”¹⁸ He summoned an example:

¹¹ See *Patent Issues and Small Business: Hearing on H.R. 2975 and H.R. 2795 Before the H. Comm. on Small Businesses*, 110th Cong. (2007) (statement Kevin W. Kirsch, Patent Attorney, Taft Stettinius & Hollister LLP) [hereinafter *Hearing*].

¹² 35 U.S.C. § 101 (2006).

¹³ *Id.* § 102.

¹⁴ *Id.* § 103.

¹⁵ *Id.* § 112.

¹⁶ See LINCOLN: SPEECHES AND WRITINGS 1859–1865 3–11 (11th prtg., The Library of America 1989).

¹⁷ *Id.* at 3–4.

¹⁸ *Id.* at 4.

For instance, it is quite certain that ever since water has been boiled in covered vessels, men have seen the lids of the vessels rise and fall a little, with a sort of fluttering motion, by force of the steam; but so long as this was not specially observed, and reflected and experimented upon, it came to nothing. At length however, after many thousand years, some man observes this long-known effect of hot water lifting a pot-lid, and begins a train of reflection upon it. He says "Why, to be sure, the force that lifts the pot-lid, will lift any thing else, which is no heavier than the pot-lid." "And, as man has much hard lifting to do, can not this hot-water power be made to help him?" He has become a little excited on the subject, and he fancies he hears a voice answering "Try me." He does try it; and the *observation*, *reflection*, and *trial* gives to the world the control of that tremendous, and now well known agent, called steam-power. This is not the actual history in detail, but the general principle.¹⁹

According to Lincoln, the "first inventor"²⁰ would be that person who, through experimentation, trial and error, succeeded in making the thing work.²¹ Indeed, a person who merely described the effects of steam or prophetically announced the use of steam to move a heretofore inconceivable locomotive was not the person who made the steam engine operable.²² Giving sole credit to the person who described steam ignored reality, according to Lincoln.²³ "What one observes, and would himself infer nothing from, he tells to another, and that other at once sees a valuable hint in it. A result is thus reached which neither *alone* would have arrived at."²⁴

After intimating his opinion, Lincoln then made clear the point that discoveries, inventions, and improvements followed more rapidly with "the introduction of Patent-laws" in 1624.²⁵ And so it was that old-fogyism, of which Lincoln spoke as smothering the intellects and energies of the inventor, gave way to a young America motivated by the patent laws.

Lincoln's conclusion perfectly epitomizes the rationale for patent laws. In that conclusion, he paid tribute in a manner that best sums up the value, indeed the essence, of a Constitution that paved the way for our patent system:

Next came the Patent laws. These began in England in 1624; and, in this country, with the adoption of our constitution. Before then, any man might instantly use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, the exclusive use of his invention; and thereby added the fuel of *interest* to the *fire* of genius, in the

¹⁹ *Id.* at 4–5.

²⁰ *Id.* at 5 ("But was this first inventor of the application of steam, wiser or more ingenious than those who had gone before him? Not at all. Had he not learned much of them, he never would have succeeded—probably, never would have thought of making the attempt.")

²¹ *Id.* at 4–5.

²² *See, e.g., id.* at 5.

²³ *Id.*

²⁴ *Id.* at 6.

²⁵ *Id.* at 8–9.

discovery and production of new and useful things.²⁶

Perhaps voices discontent with the present Patent Office are justified, or quite possibly their criticisms are misplaced. Still, Lincoln made a strong case for the patent system.²⁷ Lincoln's words are as apt today as they were when written nearly 150 years ago. It is one thing to be genius, but being motivated is a quite different matter—the patent system accounts for the difference.

B. A Brief History of the United States Patent Statutes

The current Patent Act of 1952 is over fifty years old, but traces its roots to April 10, 1790, when President George Washington signed into law a bill that would provide the framework of the American patent system.²⁸

Under Section 1 of the 1790 Statute, any person could petition the Secretary of State, the Secretary for the Department of War, and the Attorney General of the United States for a patent.²⁹ The petition was required to meet one of several categories of patentable subject matter: “he, she, or they, hath or have invented or discovered any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used.”³⁰

The first patent statute was repealed by statute in 1793.³¹ Like its predecessor, the second patent statute required an applicant to demonstrate that the invention satisfied one of several categories of patent eligible subject matter. Specifically, the 1793 Statute identified four categories: “new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement.”³²

Over concern that the second patent statute was little more than a registration system whereby the patent issued upon payment of the application fee,³³ the third patent statute in 1836 repealed the 1793 Statute.³⁴ An examination system substituted for a registration system that had resulted in many patents without “merit” and “lawsuits” that were both “onerous to the courts, ruinous to the [defendants], and injurious to society.”³⁵ The 1836 Statute contained the fundamental principles of modern patent law.³⁶ As with the patent statutes before it, the 1836 Statute kept the requirement that the claimed invention must be a new and useful art, machine, manufacture, or composition of matter, or improvement

²⁶ *Id.* at 10–11.

²⁷ *See generally id.* at 3–11 (discussing Lincoln's favorable view of patents and the patent system).

²⁸ *See* Act of April 10, 1790, ch. 7, 1 Stat. 109 (repealed 1793).

²⁹ *Id.* at 109–10; *see* KENNETH W. DOBYNS, HISTORY OF THE UNITED STATES PATENT OFFICE 41 (1994) (noting that the Patent Office was not formed until at least 1802).

³⁰ Ch. 7, § 1, 1 Stat. at 110.

³¹ Act of Feb. 21, 1793, ch. 11, 1 Stat. 318 (repealed 1836).

³² *Id.* at 319.

³³ S. DOC. NO. 24-338, at 2 (1st Sess. 1836).

³⁴ Act of July 4, 1836, ch. 357, 5 Stat. 117 (amended 1870) (repealed 1952).

³⁵ S. DOC. NO. 24-338, at 3.

³⁶ P.J. Federico, *Commentary on the New Patent Act*, 35 U.S.C.A. 1, 4 (West 1954), *reprinted in* 75 J. PAT & TRADEMARK OFF. SOC'Y 161, 164–65 (1993).

thereof.³⁷

The third patent statute was amended by statute in 1870,³⁸ which was repealed in 1952.³⁹ The Patent Act of 1952,⁴⁰ as amended from time to time, exists to this day as the latest patent statute.⁴¹ Like the various incarnations before it, the Patent Act of 1952 expressly retained, with one broadening amendment, the four patent-eligible categories.⁴²

In particular, the Patent Act of 1952, specifically 35 U.S.C. § 101, replaced the patent category of “arts”⁴³ with the word “process”⁴⁴ as follows: “Whoever invents or discovers new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement therefore, may obtain a patent therefor.”⁴⁵ In § 100(b), the statute provided a definition of process as meaning a “process, art or method.”⁴⁶

Pasquale J. Federico was the primary author of the Patent Act of 1952.⁴⁷ Federico characterized the primary significance of the word “process” in describing patentable subject matter. He believed that the definition of “process” did not modify the categories of machine, manufacture, or composition of matter.⁴⁸

Rather, the primary significance of “process,” according to Federico, was twofold. First, the word was intended to be more encompassing than “art,” so as to include a process, art, or method.⁴⁹ Second, the Patent Act made clear that “a method claim is not vulnerable to attack, on the ground of not being within the field of patentable subject matter, merely because it may recite steps conventional from a procedural standpoint and the novelty resides in the recitation of a particular substance, which is old as such, used in the process.”⁵⁰

II. WHEN GOOD INTENTIONS GO “BAD”

Above, we discussed the laudatory policies that favor a strong patent system. However, now, more than ever before, the challenge to a company wishing to compete in the U.S. market is not with Lincoln’s fuel of interest or fire of genius, but with a patent system that awards—and rewards—patent monopolies for “bad”⁵¹ patents.

³⁷ Ch. 357, § 6, 5 Stat. at 119.

³⁸ Act of July 8, 1870, ch. 230, 16 Stat. 198 (repealed 1952).

³⁹ Act of July 19, 1952, ch. 950, 66 Stat. 792 (codified as amended at 35 U.S.C. § 1 (2006)).

⁴⁰ *Id.*

⁴¹ *See* 35 U.S.C. §§ 1–376 (2006).

⁴² *Id.* § 101.

⁴³ *See* Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117 (amended 1870) (repealed 1952).

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.* § 100(b).

⁴⁷ *See* Federico, *supra* note 36, at 1–2, 75 J. PAT & TRADEMARK OFF. SOC’Y at 162–63.

⁴⁸ *Id.* at 176.

⁴⁹ *Id.*

⁵⁰ *Id.* at 177.

⁵¹ *See* Jay P. Kesan & Andres A. Gallo, *Why “Bad” Patents Survive in the Market and How Should We Change?—The Private and Social Costs of Patents*, 55 EMORY L.J. 61, 70, 77 (2006) (defining “bad” patents as “incorrectly issued patents”).

A. The Public Interest in Purging Invalid Patents

A patent and its monopoly is a privilege.⁵² Because patent validity affects not only the accused infringer but raises issues of great importance to the public as well, it is as important to uphold a “good patent” as it is “that a bad one be definitely stricken.”⁵³

Indeed, “[a] patent by its very nature is affected with a public interest. . . . (It) is an exception to the general rule against monopolies and to the right to access to a free and open market.”⁵⁴ Due in large measure to the monopolistic power that the patent wields, the Supreme Court favors “invalidation of specious patents.”⁵⁵ Therefore, the public interest is fostered by freedom from invalid patents and their improper restraint on free trade.⁵⁶

According to the Supreme Court, the patent system was carefully crafted in order to strike a “balance between the interest in motivating innovation and enlightenment by rewarding invention with patent protection on the one hand, and the interest in avoiding monopolies that unnecessarily stifle competition on the other.”⁵⁷ This balance “has been a feature of the federal patent laws since their inception.”⁵⁸

The reason why abstract ideas are excluded from patent protection “is that sometimes *too much* patent protection can impede rather than ‘promote the Progress of Science and useful Arts,’ the constitutional objective of patent and copyright protection.”⁵⁹ This results in prohibitively “raising the costs of using [allegedly] patented information.”⁶⁰

Thus, patent law must balance the goal of creating incentives to invent while

⁵² *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 344 (1971) (“The patent is a privilege. But it is a privilege which is conditioned by a public purpose.”).

⁵³ *Id.* at 331 n.21 (“Patent validity raises issues significant to the public as well as to the named parties.”).

⁵⁴ *Id.* at 343 (quoting *Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806, 816 (1945)).

⁵⁵ *United States v. Glaxo Group Ltd.*, 410 U.S. 52, 69 (1973).

Certainly, it is true, as the Court states, that there is a public interest favoring the judicial testing of patent validity and the invalidation of specious patents. For when a patent is invalid, “the public parts with the monopoly grant for no return, the public has been imposed upon and the patent clause subverted.”

Id. (citations omitted) (quoting *United States v. Singer Mfg. Co.*, 374 U.S. 174, 199–200 (1963)).

⁵⁶ *Edward Katzinger Co. v. Chi. Metallic Mfg. Co.*, 329 U.S. 394, 400 (1947) (“[This principle is] firmly grounded upon the broad public interest in freeing our competitive economy from the trade restraints which might be imposed by price-fixing agreements stemming from narrow or invalid patents.”); *Marconi Wireless Tel. Co. of Am. v. United States*, 320 U.S. 1, 48 (1943) (“[T]he public interest that an invalid patent be not sustained is sufficiently great”); *Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1353 (Fed. Cir. 2001) (noting “[t]he public interest in invalidating invalid patents”).

⁵⁷ *Pfaff v. Wells Elecs., Inc.* 525 U.S. 55, 63 (1998) (“[T]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time.”).

⁵⁸ *Id.*

⁵⁹ *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126–27 (2006) (Breyer, J., dissenting) (dissenting to the Supreme Court’s per curiam opinion dismissing a writ of certiorari as improvidently granted).

⁶⁰ *Id.* at 127.

avoiding dangers of overprotection.⁶¹ Supreme Court Justice Breyer is of the opinion that, if “the patent is invalid, then special public interest considerations reinforce my view that we should decide the case.”⁶²

Against this backdrop, the patent system was designed to ensure that all patents meet the patentability requirements under the Patent Act of 1952, and the courts are entrusted with the enforcement role of weeding out invalid patents that have failed to satisfy those mandates.⁶³ When the court invalidates a patent it does so “with the public interest in mind.”⁶⁴

B. Litigation Costs Inhibit Challenges to Patent Validity

In theory, invalid patents are subject to attack.⁶⁵ The reality, however, is quite different.

First, a patent enjoys a “presumption of validity.”⁶⁶ In addition to the statutory presumption of validity, patent validity is also bolstered by a “presumption of administrative correctness”—a notion that patent examiners do their jobs correctly and should not be second guessed.⁶⁷ In order to overcome these presumptions, the

⁶¹ *See id.*

Patent law seeks to avoid the dangers of overprotection just as surely as it seeks to avoid the diminished incentive to invent that underprotection can threaten. One way in which patent law seeks to sail between these opposing and risky shoals is through rules that bring certain types of invention and discovery within the scope of patentability while excluding others.

Id.

⁶² *See id.* at 138.

To fail to do so threatens to leave the medical profession subject to the restrictions imposed by this individual patent and others of its kind. Those restrictions may inhibit doctors from using their best medical judgment; they may force doctors to spend unnecessary time and energy to enter into license agreements; they may divert resources from the medical task of health care to the legal task of searching patent files for similar simple correlations; they may raise the cost of healthcare while inhibiting its effective delivery.

Id.

⁶³ *See* John D. Livingstone, Comment, *Uniformity of Patent Law Following Florida Prepaid: Should the Eleventh Amendment Put Patent Owners Back in the Middle Again?*, 50 EMORY L.J. 323, 326–35 (2001) (“[I]t is vital that judges understand the science that drives the litigation. This genre of specialized litigation requires a judicial system that can provide unity through scientific and legal interpretation.”).

⁶⁴ J. Nicholas Bunch, Note, *Takings, Judicial Takings, and Patent Law*, 83 TEX. L. REV. 1747, 1756 n.50 (2005).

[W]hen the court speaks—by invalidating a patent—it is speaking with the public interest in mind. The patent system is designed to protect inventions that meet certain requirements, but deny protection to those that do not. The courts are entrusted in this system with the enforcement role, and when they conclude—even on the basis of a new rule—that a certain patent does not meet the patentability requirements, that decision is in the public interest.

Id.

⁶⁵ *Id.* at 1777–78.

⁶⁶ 35 U.S.C. § 282 (2006); *SRAM Corp. v. AD-II Eng'g, Inc.*, 465 F.3d 1351, 1357 (Fed. Cir. 2006).

⁶⁷ *Superior Fireplace Co. v. Majestic Prods. Co.*, 270 F.3d 1358, 1380–81 (Fed. Cir. 2001) (Dyk,

accused infringer must prove invalidity by clear and convincing evidence.⁶⁸

Second, patents evade attack when litigation costs deter meritorious challenges.⁶⁹ If an invalid patent is issued, for instance, “competitors may be deterred from challenging it by the substantial cost of litigation. Even if a successful challenge is brought, competition may be suppressed during the pendency of the litigation.”⁷⁰

How much will it cost to defend a patent infringement suit? The answer is startling: Possibly millions. And that is just the cost of defense (win or lose).⁷¹

The most recent survey results on the cost of patent litigation were published in July 2007.⁷² The breakdown for typical patent litigation costs considered the amount at risk as well as the amount spent at two stages during the litigation: through the end of discovery, and “total costs”⁷³ through disposition of the case.⁷⁴ When \$1 million was at risk, the cost was \$350,000 for discovery alone, while total costs incurred exceeded \$600,000.⁷⁵

Turning to the next echelon where the patent owner alleged damages in excess of \$1 million, the price tag rose to \$1.25 million for the cost of discovery, while the total costs were \$2.5 million.⁷⁶ When more than \$25 million was at risk, discovery costs increased to a staggering \$3 million with total costs topping \$5 million.⁷⁷

C. The Controversy Surrounding Alleged Patent Trolls

They have been labeled intellectual property “ambulance chasers,”⁷⁸ “patent system bottom feeders,”⁷⁹ and patent “terrorists.”⁸⁰ They are “patent trolls.”⁸¹

J., dissenting); *Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc.*, 98 F.3d 1563, 1569 (Fed. Cir. 1996).

⁶⁸ *SRAM Corp.*, 465 F.3d at 1357; *see also* *Nystrom v. Trex Co.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005) (“A party seeking to establish that particular claims are invalid must overcome the presumption of validity in 35 U.S.C. § 282 by clear and convincing evidence.” (quoting *State Contracting & Eng’g Corp. v. Condotte Am., Inc.*, 346 F.3d 1057, 1067 (Fed. Cir. 2003))).

⁶⁹ *Prima Tek II, L.L.C. v. Polypap, S.A.R.L.*, 412 F.3d 1284, 1287 (Fed. Cir. 2005).

⁷⁰ *Id.*

⁷¹ AM. INTELL. PROP. LAW ASS’N, 2007 REPORT OF THE ECONOMIC SURVEY 25–26 (2007).

⁷² *Id.*

⁷³ *Id.* at 25. Total cost included outside legal and paralegal services, local counsel, travel expenses, fees and costs for court reporters, photocopies, couriers, exhibit preparation, expert witnesses, and jury consultants. *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.* at 25–26.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ Jeremiah Chan & Matthew Fawcett, *Footsteps of the Patent Troll*, 10 INTELL. PROP. L. BULL. 1, 1 (2005) (“Critics contend that they are the ambulance chasers of the new millennium.”).

⁷⁹ David G. Barker, Comment, *Troll or No Troll? Policing Patent Usage with an Open Post-Grant Review*, 2005 DUKE L. & TECH. REV. 9, ¶ 7 (“Some commentators have described corporate patent trolls as ‘patent system bottom feeders’ who buy ‘improvidently-granted patents from distressed companies for the sole purpose of suing legitimate businesses.’”).

⁸⁰ Amy L. Landers, *Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 SANTA CLARA L. REV. 307, 346 (2006) (“Such licensing companies are compared to ‘terrorists’ that ‘threaten legitimate innovators and producers’ . . .”).

⁸¹ Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry?*, 83 TEX. L. REV.

The costs of litigation have created a proverbial carrot that patent trolls dangle in front of would-be defendants in order to entice or, some might argue, extort a nuisance settlement.⁸² Coupled with presumptions of validity and administrative correctness, the accused infringer must weigh the differing burdens of proof between its burden of establishing invalidity by clear and convincing evidence versus a finding of infringement, which need only be proved by a preponderance of the evidence.⁸³

Moreover, a potential or actual defendant might succumb to the threat of even a weak infringement suit and give up a reasonably strong invalidity counterclaim in order to avoid an expensive patent infringement action.⁸⁴ Therefore, the expense of patent litigation has many casualties. First, the total costs an accused infringer might bear simply to prove invalidity, some argue, will “deter meritorious challenges” to bad patents.⁸⁵ Second, taking a license to these patents diverts moneys from further research and development.⁸⁶ Third, there are those who argue the social costs of patent litigation, such as the negative effect it has on innovation.⁸⁷

Of course, there are two sides to every story.⁸⁸ Critics have assailed patent

961, 1023 n.305 (2005) (“[The term ‘patent troll’] is a pun on the dual use of the word in English to refer both to a type of fishing in which a hook is dangled while the fisher moves slowly looking for prey and also to the ogre-like Scandinavian creature found in caves and under bridges.”).

⁸² Raymond P. Niro, *Who is Really Undermining the Patent System – “Patent Trolls” or Congress?*, 6 J. MARSHALL REV. INTELL. PROP. L. 185, 185 (2007); Seidenberg, *supra* note 4, at 51.

⁸³ SRAM Corp. v. AD-II Eng’g, Inc., 465 F.3d 1351, 1357 (Fed. Cir. 2006); Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1310 (Fed. Cir. 2005) (“To prove direct infringement, the plaintiff must establish by a preponderance of the evidence that one or more claims of the patent read on the accused device literally or under the doctrine of equivalents.”); Warner-Lambert Co. v. Teva Pharms. USA, Inc., 418 F.3d 1326, 1341 n.15 (Fed. Cir. 2005) (preponderance of the evidence “simply requires proving that infringement was more likely than not to have occurred.”).

⁸⁴ James Bessen & Michael J. Meurer, *Lessons for Patent Policy from Empirical Research on Patent Litigation*, 9 LEWIS & CLARK L. REV. 1, 16 (2005).

A rational defendant will sometimes yield to the threat of a weak suit for three main reasons. First, court errors are difficult to avoid in patent litigation, because claim interpretation is complex and it is difficult for fact-finders to assess evidence of infringement. Thus, a deserving defendant may face a significant risk of liability. Second, a weak lawsuit may be difficult to distinguish from a strong lawsuit, at least until defendant gathers information about the patent through discovery. Finally, even a weak lawsuit may impose significant costs on the defendant, and the defendant might settle to avoid the nuisance of mounting a defense.

Id. (footnotes omitted).

⁸⁵ Kesan & Gallo, *supra* note 51, at 69 n.36.

Although they [bad patents] are prone to attacks on their validity, bad patents may nevertheless deter meritorious challenges: “[S]mall companies may not be willing to invest resources in such a challenge, especially with the presumption of validity that attends PTO decisions. Rather, it may make more sense for these companies to accept a license fee from the patentee, thereby leaving the inappropriate patent unchallenged.”

Id. (alterations in original) (citation omitted).

⁸⁶ Bessen & Meurer, *supra* note 84, at 10; Seidenberg, *supra* note 4, at 51.

⁸⁷ Bessen & Meurer, *supra* note 84, at 25 (“It is possible that increasing litigation imposes an increasing burden on innovators who cannot avoid the growing maze of patents and ambitions of patent owners.”).

⁸⁸ Mark A. Lemley, *What Ifs and Other Alternative Intellectual Property and Cyberlaw*

trolls as companies that neither produce products nor commercialize patents.⁸⁹ These critics complain that trolls merely shake down, to the detriment of their prey, innocent companies attempting to create and sell products. According to the critics, freeloading patent trolls stifle innovation and threaten injunctions, which harms the free market by reducing competition.⁹⁰

Also, there are those who claim that patent trolls exploit individual inventors, small companies, and businesses on the brink of bankruptcy by obtaining the patents for a nominal sum and then greatly leveraging the acquired patents into a license mill without engaging in innovative activities and for royalty rates far in excess of the claimed invention of the threatened patent.⁹¹ Still others decry that, instead of investing capital to develop inventions, the troll's goal is to obtain ambiguous patents with inordinately broad claims of questionable validity and then banking on the presumption of validity and cost of litigation in order to snatch a nuisance settlement.⁹²

Stories, 2008 MICH. ST. L. REV. 19, 31 n.50 (2008) (comparing the opposing viewpoints on whether patent trolls are in fact bad for the patent system); Niro, *supra* note 82, at 187 (“Are ‘patent trolls’ really so dangerous that legislation is needed to reform the patent system?”). The commentator was alluding to Senate Bill 3818, introduced in August 2006, which was an earlier version of the Patent Reform Act of 2007 that landed in the House and Senate on April 18, 2007.

⁸⁹ *Id.* at 185.

⁹⁰ Landers, *supra* note 80, at 345; Mark A. Lemley & Ragesh K. Tangri, *Ending Patent Law’s Willfulness Game*, 18 BERKELEY TECH. L.J. 1085, 1112 (2003) (observing that “many non-manufacturing owners are holdup artists or ‘trolls’ who are in the business of litigation, not innovation.”); Bessen & Meurer, *supra* note 84, at 27 (arguing that “[c]ertain strategic uses of patents are socially harmful; more empirical research is needed to quantify the social loss from anti-competitive and opportunistic patent litigation, and guide policies that will discourage anti-social litigation.”).

⁹¹ Landers, *supra* note 80, at 347 (“Original inventors may have a legitimate expectancy interest in selling their inventions for value. It remains to be seen whether ‘patent trolls’ are actually paying a fair price.”); Debra Koker, *Fulfilling the ‘Due Care’ Requirement After Knorr-Bremse*, 11 B.U. J. SCI. & TECH. L. 154, 158–59 n.50 (2005).

Law firms and investors can buy patents at bankruptcy auctions and then assert them against a manufacturer. The “patent troll” has nothing to lose, but the manufacturer has significant exposure. The manufacturer cannot ignore the troll, because that could lead to a finding of willfulness. Often the manufacturer will settle with the troll, rather than engage in expensive, risky litigation. This, unfortunately, only encourages the troll and gives him more ammunition to use against his next victim.

Id.

⁹² Seidenberg, *supra* note 4, at 51.

“Patent trolls find questionable patents . . . then use the leverage of patent litigation to get a tax, essentially, on some of the most successful computer and software projects that exist,” says Jason Schultz, an attorney with the San Francisco-based Electronic Frontier Foundation. “This takes away resources that would otherwise go to R&D and increasing competition. They definitely hurt the economy.”

Id.; see also Chan & Fawcett, *supra* note 78, at 3–4.

The end result is that thousands of ambiguous and dubious patents are issued every year, leading to confusion in the scope and coverage of any one patent. For patent trolls, these ambiguous or “bad” patents are effective weapons. Bad patents have very broad claims that probably should not have issued over the prior art. These overbroad claims allow patent trolls to cast a relatively wider net

Other critics lambaste patent trolls for, rather than advancing science or technology, using a patent (thought but not proven) to have a futuristic quality.⁹³ Then, the troll need merely wait for the industry to grow up around the patent. Once it does, the troll holds up unsuspecting infringers by threatening those companies with baseless (but costly) lawsuits.⁹⁴ These threats, real or imagined, can easily shutdown or otherwise cripple the would-be defendant with large damages and the costs of defense.⁹⁵

Then again, there is the other side of the story. Proponents of the assailed business model argue that there are no such creatures as patent trolls and that the perceived problems constitute a myth propagated by actual infringers and potential infringers.⁹⁶ They also respond that non-manufacturing patentees should stand on equal footing with all patentees and, indeed, many large companies and universities exploit patents that they no longer (or never did) commercialize.⁹⁷ Further, those who stand on this side of the aisle argue that inventors are compensated for their inventions, which fosters (not hinders) those inventors to go on and innovate.⁹⁸ It

over a technology base and more easily assert infringement against a larger group of target companies. Overbroad patents also simplify an infringement analysis for the patent troll by reducing the amount of pre-assertion work; the broader and more ambiguous the claims, the less room there is for discrete claim interpretation and for non-infringement arguments. The validity of such patents can be questionable, but a validity challenge is typically harder to prove and more costly for the target company than a non-infringement defense.

Id.

⁹³ See, e.g., Chan & Fawcett, *supra* note 78, at 2.

⁹⁴ See, e.g., *id.* at 2–3.

⁹⁵ Elizabeth D. Ferrill, *Patent Investment Trusts: Let's Build a PIT to Catch the Patent Trolls*, 6 N.C. J.L. & Tech. 367, 376 (2005) (“[P]atent trolls tend to buy older patents, which may have been forgotten or overlooked (and thus cost less to acquire) but still play a roll [sic] in modern technology. Then they aggressively enforce these older patents against makers of relatively new technologies.”); see also Chan & Fawcett, *supra* note 78, at 1; Mann, *supra* note 81, at 1027 (noting a particular type of conduct by trolls viewed by some as damaging: “the strategy of waiting after a patent has been issued while an industry advances using the covered technology and then suing widely for infringement only after the industry has become locked into the technology through independent innovation and development.”).

⁹⁶ See generally Niro & Vickrey, *supra* note 5; see also James F. McDonough III, *The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L. J. 189, 190 (2006) (arguing that patent trolls actually benefit society by providing “liquidity, market clearing, and increased efficiency to the patent markets”).

⁹⁷ Landers, *supra* note 80, at 343–44 (noting how manufacturing companies generate licensing revenue from non-core patents and those for abandoned product lines); Mark A. Lemley, *Patenting Nanotechnology*, 58 STAN. L. REV. 601, 626 (2005) (noting that universities manufacture nothing but “because universities do early stage research, they patent inventions that are far from commercialization; they may therefore actually speed the entry of some inventions into the public domain by obtaining patents that expire earlier.”); Niro & Vickrey, *supra* note 5, at 156 (naming inventors who initially manufactured nothing but went on to form manufacturing companies that are everyday household names); see also Mann, *supra* note 81, at 997 (“[M]any . . . large firms obtain substantial revenues from directly exploiting their patent portfolios.”).

⁹⁸ Ferrill, *supra* note 95, at 378.

A key point that the critics fail to mention is that the patent trolls, like Acacia Technologies, buy many of these underutilized patents directly from the inventors. This sale of patents presumably gives the inventors additional capital with which they may chose to create new inventions. Once it has acquired the

has also been argued that the speculators who purchase patents actually help to level the playing field for small inventors who would fall victim to the larger companies, and create interest in redefining the importance of, and interest in, intellectual property.⁹⁹

In the final analysis, both sides concede that there might be something wrong with patent trolls and the effect on the patent system in general and negative impact on innovation in particular. They simply think the troll is the other person and disagree that their client, or the patent being enforced, constitutes the pejorative patent troll.

III. AN INTRODUCTION TO BUSINESS METHOD PATENTS

Confidence in America's Patent Office appears to be at risk of collapsing under an onslaught of attacks for issuing too many "low quality patents."¹⁰⁰ Moreover, few patents have caused more "disdain"¹⁰¹ than business method patents. In fact, commentators have detected a "growing distaste for overly broad"¹⁰² business method patents, particularly with respect to the perceived failure of Congress to provide a clear meaning of the categories of patentable subject matter under 35 U.S.C. § 101.

A. *The Origin of Business Method Patents*

In order to understand the origin of business method patents, one should remember the reason why patents exist. Patents encourage innovation by providing financial rewards to those who incur investment risks necessary to bringing new products to the market.¹⁰³

There are only three types of patents: utility patents,¹⁰⁴ plant patents,¹⁰⁵ and

patent, the patent troll simply uses its much larger resources to enforce the patent as a property right, thereby recovering its initial investment along with a substantial profit.

Id.: Mann, *supra* note 81, at 1024 ("Essentially, trolls are serving a function as intermediaries that specialize in litigation to exploit the value of patents that cannot be exploited effectively by those that have originally obtained them."); Niro & Vickrey, *supra* note 5, at 156.

⁹⁹ Barker, *supra* note 79, ¶ 16 ("The cotton gin and other similar examples show why there should be no blanket rule that one person cannot acquire and enforce another's patent."); Ferrill, *supra* note 95, at 379 ("Perhaps patent speculators signal the end of the 'free ride' that the large companies were taking on the backs of less affluent patent owners.").

¹⁰⁰ Aaron Homer, *Whatever It Is . . . You Can Get It on eBay . . . Unless You Want an Injunction—How the Supreme Court and Patent Reform Are Shifting Licensing Negotiations from the Conference Room to the Courtroom*, 49 S. TEX. L. REV. 235, 275 (2007).

¹⁰¹ Scott D. Locke & William D. Schmidt, *Business Method Patents: The Challenge of Coping with an Ever Changing Standard of Patentability*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1079, 1088 (2008).

¹⁰² Lilly He, *In re Bilski En Banc Rehearing on Patentable Subject Matter: Farewell to Business Method Patents?*, 14 B.U. J. SCI. & TECH. L. 252, 263 (2008).

¹⁰³ See *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1362 (Fed. Cir. 1999) ("[T]he patent system serv[es] to encourage invention and the bringing of new products to market by adjusting investment-based risk.").

¹⁰⁴ 35 U.S.C. §§ 101–57 (2006).

design patents.¹⁰⁶ A business method patent is simply a utility patent that claims as its subject matter a method of doing or conducting business.¹⁰⁷ What is the value of a business method patent? It is no different from any other patent.¹⁰⁸

Nevertheless, business method claims as patentable subject matter stood on shaky ground until recently. Though seemingly within the patent-eligible category of process, a patent claim for a method of doing business was rejected as not being within the statutory classes of § 101.¹⁰⁹

This changed in 1998. That year, in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*,¹¹⁰ the Federal Circuit addressed the “business method” exception to statutory subject matter.¹¹¹ In unequivocal terms, the court stated that “[w]e take this opportunity to lay this ill-conceived exception to rest.”¹¹²

State Street Bank involved “a data processing system for managing a financial services configuration of a portfolio established as a partnership,” and “[g]iven the complexity of the calculations, a computer or equivalent device [was] a virtual necessity to perform the task.”¹¹³ The Federal Circuit held that the system was patentable, concluding that patent eligibility does “not turn on whether the claimed subject matter does ‘business’ instead of something else.”¹¹⁴

Then, the court emphasized that “[t]he question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to—process, machine, manufacture, or composition of matter—but rather on the essential characteristics of the subject matter, in particular, its practical utility.”¹¹⁵

However, the Federal Circuit did not consider this statement as a holding that the four statutory categories are rendered irrelevant, non-limiting, or subsumed into an overarching question about patentable utility.¹¹⁶ Indeed, *State Street Bank* recognized that “the [claimed] subject matter must fall into at least one category of

¹⁰⁵ *Id.* §§ 161–64.

¹⁰⁶ *Id.* §§ 171–73.

¹⁰⁷ See MUELLER, *supra* note 9, at 220.

¹⁰⁸ John R. Allison & Emerson H. Tiller, *The Business Method Patent Myth*, 18 BERKELEY TECH. L.J. 987, 1063 (2003).

¹⁰⁹ U.S. PAT. & TRADEMARK OFFICE, U.S. DEP’T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 706.03(a) (5th ed., 16th rev, 1994) [hereinafter MPEP]. This has since been amended to recognize business method claims. MPEP § 2106(I) (8th ed., 4th rev. 2005) (“Claims should not be categorized as methods of doing business. Instead, such claims should be treated like any other process claims.”). “The MPEP [is] commonly relied upon as a guide to patent attorneys and patent examiners on procedural matters. While the MPEP does not have the force of law, it is entitled to judicial notice as an official interpretation of statutes or regulations as long as it is not in conflict therewith.” *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1180 n.10 (Fed. Cir. 1995) (quoting *Litton Sys., Inc. v. Whirlpool Corp.*, 728 F.2d 1423, 1439 (Fed. Cir. 1984)).

¹¹⁰ 149 F.3d 1368 (Fed. Cir. 1998).

¹¹¹ *Id.* at 1372.

¹¹² *Id.* at 1375.

¹¹³ *Id.* at 1371.

¹¹⁴ *Id.* at 1377.

¹¹⁵ *Id.* at 1375.

¹¹⁶ See *id.* at 1372 (“We note that, for the purposes of a § 101 analysis, it is of little relevance whether claim 1 is directed to a ‘machine’ or a ‘process,’ as long as it falls within at least one of the four enumerated categories of patentable subject matter, ‘machine’ and ‘process’ being such categories.”).

statutory subject matter,”¹¹⁷ and specifically found that the claim at issue was directed to a machine.¹¹⁸

In telling courts where they “should not focus” their analysis, *State Street Bank* was advising courts to avoid concern over “which of the four categories” the particular subject matter falls into.¹¹⁹ In other words, the Federal Circuit was merely stating that courts should not pigeonhole subject matter so long as some category has been satisfied. If, for instance, a court determines that a claim encompasses either a process or machine but is unsure which category is appropriate, it need not resolve the ambiguity. Since the claim falls within at least one category, the court can proceed to other aspects of the § 101 analysis.¹²⁰ In contrast, if a claim covers material not found in any of the four statutory categories, that claim falls outside the expressed scope of § 101, even if the subject matter is otherwise new and useful.¹²¹

In 1999, the Federal Circuit followed-up its analysis of business method patents with *AT&T Corp. v. Excel Communications, Inc.*¹²² The Federal Circuit made clear that, as in all matters of statutory interpretation, the question of whether a patent claim is invalid for failure to comply with § 101 presents a question of law for the court.¹²³

Applying § 101, the Federal Circuit noted that “Congress intended statutory subject matter to include anything under the sun that is made by man.”¹²⁴ By subtracting “anything under the sun that is made by man,” this left only three exceptions to the otherwise extremely broad categories of patentable subject matter listed in § 101. Those exceptions are: “laws of nature, natural phenomena, and abstract ideas.”¹²⁵

At issue in *AT&T* was a method of facilitating billing, which method involved electronic switches in a telecommunications system.¹²⁶ The district court found the claim to constitute a “mathematical algorithm,” which (if correct) would fall within either the “abstract idea” or “laws of nature” exceptions to statutory subject matter.¹²⁷ The Federal Circuit disagreed.¹²⁸

An otherwise unpatentable mathematical algorithm may be eligible for patentability under § 101 if the algorithm is applied in a “useful” way.¹²⁹ For instance, the Federal Circuit emphasized an analysis of whether a disembodied mathematical concept represented nothing more than a law of nature or an abstract

¹¹⁷ *Id.* at 1375 n.9.

¹¹⁸ *Id.* at 1375.

¹¹⁹ *Id.*

¹²⁰ *Id.* at 1372 (“[I]t is of little relevance whether claim 1 is directed to a ‘machine’ or a ‘process.’”).

¹²¹ *See id.* (stating that if a claim is not useful, nor patentable subject material, it is irrelevant if it is novel or non-obviousness).

¹²² 172 F.3d 1352 (Fed. Cir. 1999).

¹²³ *Id.* at 1355.

¹²⁴ *Id.* (citing *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (quoting S. REP. NO. 82-1979, at 5 (1952); H.R. REP. NO. 82-1923, at 6 (1952))).

¹²⁵ *Id.* at 1355–56 (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

¹²⁶ *Id.* at 1353–54.

¹²⁷ *Id.* at 1355 (citation omitted).

¹²⁸ *Id.* at 1358–61.

¹²⁹ *Id.* at 1357.

idea, or if the mathematical concept has been reduced to some practical application rendering it useful.¹³⁰

Moreover, the Federal Circuit considered the “scope of § 101 to be the same regardless of the form—machine or process—in which a particular claim is drafted.”¹³¹ The court then held that, because the claimed process applied the algorithm “to produce a useful, concrete, tangible result without preempting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of § 101.”¹³²

Significantly, the court addressed the issue of whether a method claim containing mathematical algorithms is patentable subject matter only if there is a “physical transformation” or conversion of subject matter from one state into another.¹³³ According to the court, however, the notion of “physical transformation” can be misunderstood.¹³⁴

Transformation is “not” an invariable requirement, but “merely one example” of how a mathematical algorithm may bring about a useful application.¹³⁵ Rather, when a claimed invention “is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101. The ‘e.g.’ signal denotes an example, not an exclusive requirement.”¹³⁶

As one commentator has noted, *State Street Bank* and *AT&T* were decided during the “e-commerce boom.”¹³⁷ Accordingly, most technology companies and start-up businesses that were investing in e-commerce began to raise funds necessary for their research and development by filing patent applications on their business methods.¹³⁸

B. Restricting the Patent-Eligibility of Business Methods

Seven years after *State Street Bank*, the Patent Office was overwhelmed with applications for business method patents.¹³⁹ The backlog at the Patent Office led to a decision to start rejecting business method applications on § 101 grounds as claiming non-statutory subject matter.

These rejections culminated in an appeal to the Board of Patent Appeals and

¹³⁰ *Id.*

¹³¹ *Id.*; see also *In re Alappat*, 33 F.3d 1526, 1581 (Fed. Cir. 1994) (Rader, J., concurring).

Judge Rich, with whom I fully concur, reads *Alappat*'s application as claiming a machine. In fact, whether the invention is a process or a machine is irrelevant. The language of the Patent Act itself, as well as Supreme Court rulings, clarifies that *Alappat*'s invention fits comfortably within 35 U.S.C. § 101 whether viewed as a process or a machine.

Id.

¹³² *AT&T*, 172 F.3d at 1358.

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.* at 1358–59 (quoting *Diamond v. Diehr*, 450 U.S. 175, 192 (1981)).

¹³⁷ *Locke & Schmidt*, *supra* note 101, at 1086.

¹³⁸ *Hearing*, *supra* note 11.

¹³⁹ *Locke & Schmidt*, *supra* note 101, at 1086.

Interferences (“BPAI”) in 2005. While the BPAI, in *Ex Parte Lundgren*,¹⁴⁰ upheld a business method of compensating managers in a privately owned firm,¹⁴¹ it is significant for two reasons.

First, the business method claims were allowed even though they did not recite a computer step (i.e., they were not tied to a computer or other machine for their operation).¹⁴² Second, the dissent proposed a new basis for rejecting the business method claims. According to the dissent, the claims fail to fall within the “process” category under § 101 because they do “not transform physical subject matter to a different state or thing.”¹⁴³ Also, the dissent opined that the claims failed under *State Street Bank*. Because the process was not tied to a particular machine or apparatus, according to the dissent, the claims were merely abstract ideas lacking “a concrete existence, tangible, and put to a practical use.”¹⁴⁴

Then, in 2007 certain judges of the Federal Circuit began to narrow the court’s controversial 1998 decision in *State Street Bank*. On the same day in September 2007, the court decided *In re Comiskey*¹⁴⁵ and *In re Nuijten*.¹⁴⁶

In *Comiskey*, the Federal Circuit was given a chance to follow a BPAI decision that had affirmed the rejection of a business method claim as unpatentable under § 103 (obviousness).¹⁴⁷ However, the court did not reach the patentability ground relied on by the BPAI—instead, the court concluded that many of the claims were “barred at the threshold by § 101.”¹⁴⁸

The panel of three Federal Circuit judges in *Comiskey* emphasized that “[t]he first door which must be opened on the difficult path to patentability is § 101.”¹⁴⁹ “Only if the requirements of § 101 are satisfied is the inventor ‘allowed to pass through to’ the other requirements for patentability, such as novelty under § 102 and, of pertinence to [the *Comiskey*] case, non-obviousness under § 103.”¹⁵⁰

Unfortunately, *Comiskey* seemed to suggest that business method claims must be tied to a physical embodiment. Specifically, the court stated that the Patent Act of 1952 does not allow patents to be issued on particular business systems that “depend entirely on the use of mental processes.”¹⁵¹ In other words, a business method claim on a particular system whose operation depends “on human intelligence alone” is beyond the reach of statutory subject matter.¹⁵²

While *Comiskey* rejected business methods where a physical embodiment was

¹⁴⁰ 76 U.S.P.Q.2d (BNA) 1385 (B.P.A.I. 2005).

¹⁴¹ *Id.* at 1386.

¹⁴² *Id.*

¹⁴³ *Id.* at 1402 (Barrett, J., concurring in part and dissenting in part).

¹⁴⁴ *Id.* at 1404.

¹⁴⁵ 499 F.3d 1365 (Fed. Cir. 2007).

¹⁴⁶ 500 F.3d 1346 (Fed. Cir. 2007).

¹⁴⁷ *Comiskey*, 499 F.3d at 1368.

¹⁴⁸ *Id.* at 1371 (quoting *Diamond v. Diehr*, 450 U.S. 175, 188 (1981)); see also *id.* at 1380 (“The routine addition of modern electronics to an otherwise unpatentable invention typically creates a prima facie case of obviousness.”).

¹⁴⁹ *Id.* at 1371 (quoting *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1372 n.2 (Fed. Cir. 1998)).

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at 1378.

¹⁵² *Id.* at 1378–79; see also *id.* at 1379 (“Thus, it is established that the application of human intelligence to the solution of practical problems is not in and of itself patentable.”).

lacking, *Nuijten* presented the issue of whether transient physical embodiments would suffice.¹⁵³ The claimed invention in *Nuijten* related to a new type of artificial electrical signal transmission, such as a signal useful for radio, audio, or video broadcasts, which signal transmission included embedded digital watermarks.¹⁵⁴ The *Nuijten* court analyzed whether signals fell into one of the four statutory categories of patentable subject matter—process, machine, manufacture, or composition of matter—identified in § 101.¹⁵⁵ By a 2 to 1 vote, the Federal Circuit panel held that it did not.¹⁵⁶

Notably, the Federal Circuit panel in *Nuijten* had focused on the issue of whether signals were “man-made” and, therefore, within the “manufacture” category of patentable subject matter.¹⁵⁷ The court explained that signals were man-made to the extent they were encoded, generated, and transmitted by artificial means.¹⁵⁸ However, the court concluded that “artificiality is insufficient by itself to render something a ‘manufacture.’”¹⁵⁹

Thus, the *Nuijten* court confirmed that claims do not automatically gain patent-eligibility simply by incorporating something that is “man-made.”¹⁶⁰ In dissent, Judge Linn stressed that statutory subject matter should “not depend on which form the claim takes.”¹⁶¹

C. Recent Developments by the Supreme Court

An impetus to improve the patent system has also resulted in more patent cases being taken recently by the Supreme Court.¹⁶²

In 2006, for instance, Chief Justice Robert's concurring opinion in the *eBay Inc. v. MercExchange, L.L.C.*¹⁶³ decision suggested that the Supreme Court might be ready to step in to modernize the patent system: “In cases now arising trial courts should bear in mind that in many instances the nature of the patent being enforced and the economic function of the patent holder present considerations quite unlike

¹⁵³ *In re Nuijten*, 500 F.3d 1346, 1353 (Fed. Cir. 2007). While the application in *Nuijten* did not recite “a process”—instead, it recited a signal claim and a method of embedding supplemental data in a signal—it is relevant to the extent by which business methods may avoid § 101 by merely reciting a physical embodiment. *Id.*

¹⁵⁴ *Id.* at 1351.

¹⁵⁵ *Id.* at 1353, 1357.

¹⁵⁶ *Id.* at 1357. Over the dissents of Judges Linn, Newman, and Rader, the Federal Circuit declined to consider the § 101 issue of patentable subject matter en banc. *In re Nuijten*, 515 F.3d 1361 (Fed. Cir. 2008) (denying rehearing en banc).

¹⁵⁷ *Id.* at 1356.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.* The Federal Circuit's finding that the claimed signal was “man-made” and yet not a “manufacture” was one of several reasons why the court ultimately determined that the claim was unpatentable. *Id.*

¹⁶¹ *Id.* at 1362 (Linn, J., concurring in part and dissenting in part).

¹⁶² See Sarah M. King, *Clearing the Patent Thicket: The Supreme Court and Congress Undertake Patent Reform*, 9 INTELL. PROP. & TECH. L.J. 13, 13 (2007).

¹⁶³ 547 U.S. 388 (2006).

earlier cases.”¹⁶⁴ Consequently, *eBay* made sweeping changes to equitable relief in patent infringement cases by overturning a long line of Federal Circuit precedent that nearly automatically granted injunctions to patent holders.¹⁶⁵

In 2007, in *KSR International Co. v. Teleflex Inc.*,¹⁶⁶ with patents mired in a wave of negative publicity, the Supreme Court sounded off on the invalidity of weaker patents on obviousness grounds.¹⁶⁷ In determining whether references should be combined (or not) in testing a patent’s validity under obviousness grounds, the Supreme Court rejected the Federal Circuit’s higher standard that had required those references to include a “teaching, suggestion, or motivation” to combine.¹⁶⁸ Then, the Supreme Court expressed “the need for caution” in granting patents or preserving their validity.¹⁶⁹ Moreover, the *KSR* Court emphasized that both “real innovation”¹⁷⁰ and utility were driving forces for rewarding an inventor with a patent monopoly:

We build and create by bringing to the tangible and palpable reality around us new works based on instinct, simple logic, ordinary inferences, extraordinary ideas, and sometimes even genius. These advances, once part of our shared knowledge, define a new threshold from which innovation starts once more. And as progress beginning from higher levels of achievement is expected in the normal course, the results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts.¹⁷¹

On the same day it decided *KSR*, the Supreme Court decided *Microsoft Corp. v. AT&T Corp.*¹⁷² Specifically, the Court held that software sent from the United States to a foreign manufacturer—and then copied by the foreign manufacturer for installation onto computers made and sold abroad—does not infringe AT&T’s speech processing patent.¹⁷³

Microsoft is significant for what never made the Court’s opinion. From a reading of the transcript of the oral argument, one senses the Court may be interested in revisiting the law of patentable subject matter under § 101 based on comments from the Justices:

¹⁶⁴ *Id.* at 396 (Kennedy, J., concurring) (raising the bar on patent trolls seeking injunctive relief).

¹⁶⁵ *Id.* at 396–97.

¹⁶⁶ 127 S. Ct. 1727 (2007).

¹⁶⁷ *Id.* at 1734.

¹⁶⁸ *Id.* at 1734–35. Under the “teaching, suggestion, or motivation” test, a patent claim is only proved to be invalid for obviousness if “some motivation or suggestion to combine the prior art teachings’ can be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art.” *Id.* at 1734.

¹⁶⁹ *Id.* at 1739–41.

¹⁷⁰ *Id.* at 1741.

¹⁷¹ *Id.* at 1746.

¹⁷² 127 S. Ct. 1746 (2007).

¹⁷³ *Id.* at 1750–53.

[Justice Stevens] What is patented? Is the physical object patented or is the software patented?

...

[Justice Scalia] You can't patent, you know, on-off, on-off code in the abstract, can you? There needs to be a device?

...

[Justice Ginsburg] That depends on what you consider the component.

...

[Justice Kennedy] Well, there can be a process patent.

...

[Justice Breyer] I take it that we are operating under the assumption that software is patentable? We have never held that in this Court, have we?

...

So what should we do here? Should, if we are writing this, since it's never been held that it's patentable in this Court—If I were writing something, should I say on the assumption that it's patentable? Since the issue isn't raised?

...

[Justice Stevens] I want to ask you one yes or no question. In your view is software patentable?

[Mr. Joseffer] Standing alone in and of itself, no.¹⁷⁴

Thus, it appears these Justices might be interested in taking a hard look at the scope of patentable subject matter under § 101 as it relates to “process” patents in general, or software claims in particular. That chance might come sooner rather than later, depending on how the Federal Circuit develops the issue in *In re Bilski*.¹⁷⁵

IV. BILSKI'S BATTLE: A DEFENSE OF BUSINESS METHOD PATENTS

Bernard Bilski is not quite a household name. Or is he? It depends on who you ask. Most of the public, and even those within the intellectual property community, may not have heard of him. But ask intellectual property lawyers and he is somewhat famous (or infamous) depending on one's point of view, because his ten-year battle with the Patent Office could very well determine the fate of process patents and business method patents as we know them.

A. The Annals of Bilski

Bilski's struggles began in 1997 when he filed a patent application on a non-

¹⁷⁴ Transcript of Oral Argument at 13, 20, 22, 27, *Microsoft*, 127 S. Ct. 1746 (No. 05-1056), available at http://www.supremecourtus.gov/oral_arguments/argument_transcripts/05-1056.pdf.

¹⁷⁵ 264 F. App'x 896 (Fed. Cir. 2008) [hereinafter *Bilski-Fed. Cir.*] (per curiam decision granting a hearing en banc sua sponte).

machine implemented process of using hedge contracts.¹⁷⁶ Specifically, his invention sought to reduce the risk of changes in a commodity's wholesale price.¹⁷⁷ His business method claim was quite simple (it is about hedging one's risks). The method is practiced by a commodity provider.¹⁷⁸ At the time when a commodity provider enters into a contract to sell to a consumer at one fixed rate, the provider makes a second hedging transaction at a second rate, thereby reducing the risk of large market fluctuations.¹⁷⁹

1. *The Patent Office Rejected Bilski*

The Patent Office rejected Bilski's claims under § 101 as being directed to non-statutory subject matter.¹⁸⁰ Namely, the Patent Office emphasized the non-machine implemented aspect of the business method.¹⁸¹

Specifically, the patent examiner's position may be summarized in the statement that the claimed invention was "not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem without any limitation to a practical application."¹⁸² In other words, the patent examiner found that, without a specific apparatus (e.g., a computer) to perform the steps, the method could only be performed by "human means."¹⁸³

2. *The BPAI Affirmed the Rejection*

On appeal, the BPAI considered two issues. First, the judges addressed the issue of whether the business method was directed to a statutory "process" under § 101.¹⁸⁴ They concluded it was not.¹⁸⁵

Equally important to the BPAI's decision was the issue of what test to apply in determining statutory subject matter.¹⁸⁶ Specific to this issue, the BPAI expressly incorporated¹⁸⁷ the dissent-in-part opinion of *Lundgren*.¹⁸⁸ Accordingly, the BPAI in *Bilski* held that non-machine implemented business method claims failed under *State Street Bank*.¹⁸⁹

¹⁷⁶ *Ex parte Bilski*, No. 2002-2257, 2006 Pat. App. LEXIS 51, at *1 n.1 (B.P.A.I. Sept. 26, 2006), available at <http://www.uspto.gov/web/offices/dcom/bpai/its/fd022257.pdf> [hereinafter *Bilski-BPAI*].

¹⁷⁷ *Id.* at *1-2.

¹⁷⁸ *Id.* at *1.

¹⁷⁹ *Id.* at *1-2.

¹⁸⁰ *Id.* at *2.

¹⁸¹ *Id.* at *2-3.

¹⁸² *Id.*

¹⁸³ *Id.* at *3.

¹⁸⁴ *Id.* at *4-5.

¹⁸⁵ *Id.*

¹⁸⁶ *Id.* at *5.

¹⁸⁷ *Id.* at *12.

¹⁸⁸ *Ex parte Lundgren*, 76 U.S.P.Q.2d (BNA) 1385, 1404 (B.P.A.I. 2005) (Barret, J., concurring in part and dissenting in part) (stating the claims were merely abstract ideas lacking "a concrete existence, tangible, and put to a practical use").

¹⁸⁹ *Bilski-BPAI*, 2006 Pat. App. LEXIS 51, at *84-85 (McQuade, J., concurring).

Moreover, the BPAI challenged the oft-quoted statement that “Congress intended statutory subject matter to ‘include anything under the sun that is made by man.’”¹⁹⁰ According to the BPAI, that test lacked objectivity and was more akin to saying “[w]e know it when we see it.”¹⁹¹ The BPAI was alluding to the now-famous expression by Justice Potter Stewart in describing obscenity (“I know it when I see it”).¹⁹² While the expression can be useful to explaining amorphous terms like “obscenity,” it has no place in the province of utility patents.

Finally, the BPAI interpreted the *State Street Bank* and *AT&T* statement of a “useful, concrete and tangible result” as a limitation on business method claims.¹⁹³ According to the BPAI, this language required business method claims to include “machines and machine-implemented processes.”¹⁹⁴ Specifically, the BPAI found that business methods must involve “transformation of data by a machine.”¹⁹⁵

3. The Federal Circuit Ordered an *En Banc* Rehearing

On October 1, 2007, *Bilski* was argued before a three-judge panel of the Federal Circuit.¹⁹⁶ But recall that on the same day, September 20, 2007, there were two separate panels of Federal Circuit judges to decide *Comiskey* and *Nuijten*.¹⁹⁷ Given that the recent trend of those cases appeared to deviate from the 1998 and 1999 teachings of *State Street Bank* and *AT&T*, respectively, on February 15, 2008 the Federal Circuit ordered a rare *sua sponte en banc* rehearing in *Bilski*¹⁹⁸ on the following issues:

- (1) Whether claim 1 of the 08/833,892 patent application claims patent-eligible subject matter under 35 U.S.C. § 101?
- (2) What standard should govern in determining whether a process is patent-eligible subject matter under section 101?
- (3) Whether the claimed subject matter is not patent-eligible because it constitutes an abstract idea or mental process; when does a claim that contains both mental and physical steps create patent-eligible subject matter?
- (4) Whether a method or process must result in a physical transformation of an article or be tied to a machine to be patent-eligible subject matter under section 101?
- (5) Whether it is appropriate to reconsider *State Street Bank & Trust*

¹⁹⁰ *Id.* at *39 (quoting *Diamond v. Diehr*, 450 U.S. 175, 182 (1981)).

¹⁹¹ *Id.* at *12.

¹⁹² *Jacobellis v. Ohio*, 378 U.S. 184, 197 (1964) (Stewart, J., concurring).

¹⁹³ *Bilski-BPAI*, 2006 Pat. App. LEXIS 51, at *27.

¹⁹⁴ *Id.*

¹⁹⁵ *Id.* at **6–7.

¹⁹⁶ *Bilski-Fed. Cir.*, 264 F. App'x 896, 896 (Fed. Cir. Feb. 15, 2008)

¹⁹⁷ *In re Comisky*, 499 F.3d 1365 (Fed. Cir. 2007) (arguing before Chief Judge Michel and Circuit Judges Dyk and Prost); *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007) (arguing before Circuit Judges Gajarsa, Linn, and Moore).

¹⁹⁸ *Bilski-Fed. Cir.*, 264 F. App'x at 897 (per curiam decision granting a hearing *en banc sua sponte*).

Co. v. Signature Financial Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998), and AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352 (Fed. Cir. 1999), in this case and, if so, whether those cases should be overruled in any respect?¹⁹⁹

If the Federal Circuit were not seeking to redefine a patent-eligibility test for business methods, it would have been a no-brainer simply to reverse the BPAI. After all, the BPAI had expressly limited *State Street Bank* and *AT&T*.²⁰⁰

But the Federal Circuit perhaps realized that the *Bilski* case affected the validity of thousands of issued patents and tens of thousands of pending applications.²⁰¹ Therefore, the *Bilski* case presents an enormous opportunity for the court to put to rest the fundamental question of whether non-machine implemented business methods can satisfy the statutory subject matter of § 101.

On May 8, 2008, oral arguments were held in what might be described as one of the most highly-attended hearings in the twenty-five year history of the Federal Circuit.²⁰²

B. The Process of Throwing a Curveball

An illuminating line of questioning that could decide the case began with Judge William C. Bryson, who was joined by Judges Alan D. Lourie and Judge Randall R. Rader, asking:

[Judge Bryson] Is a curveball patentable?

[Judge Lourie] What about the process of throwing the curveball?

[Judge Rader] Why isn't the process of throwing the curveball entirely a legitimate process?²⁰³

The questions show that the Federal Circuit is focusing its decision on the first aspect of its fourth question. Whether the business method must cause “a physical transformation of an article or be tied to a machine to be patent-eligible subject matter under section 101?”²⁰⁴ The questions further show that the Federal Circuit might not be inclined to create a fourth no-no (i.e., a fourth category of non-patentable subject matter), or will do so only cautiously, without authority from the Supreme Court. These points are addressed below.

¹⁹⁹ *Id.* at 897.

²⁰⁰ *Bilski-BPAI*, No. 2002-2257, 2006 Pat. App. LEXIS 51, at *27 (B.P.A.I. Sept. 26, 2006), available at <http://www.uspto.gov/web/offices/dcom/bpai/its/fd022257.pdf>.

²⁰¹ See, e.g., Lilly He, *supra* note 102, at 253 n.7 (citing Josephine Chinying Lang, *Management of Intellectual Property Rights Strategic Patenting*, 2 J. OF INTELL. CAP. 8 (2001)).

²⁰² *Bilski-BPAI*, 2006 Pat. App. LEXIS 51, at *1.

²⁰³ Audio Recording: Oral Argument from *In re Bilski*, No. 2007-1130, May 8, 2008, <http://oralarguments.cafc.uscourts.gov/mp3/2007-1130-2.mp3> [hereinafter *Bilski-Fed. Cir. Oral Arg.*].

²⁰⁴ *Bilski-Fed. Cir.*, 264 F. App'x at 897.

1. *What Is a Physical Transformation?*

During the *Bilski* en banc hearing, Judge Bryson used “transformation” as the starting point for analyzing the minefield of problems that result from a requirement of transformation for patentable subject matter. He captured the essence of the problem with transformation as follows:

What do you mean exactly, or as exactly as you can define it, by transformation? . . . I haven't come away with a clear notion of just what it means to have a transformation of an article to a different state or thing. Example, . . . is a curveball patentable? A curveball is a baseball which has been, you could say, transformed into a baseball that has a great deal of spin on it and is being thrown at a pace which it didn't have at the time it was in the pitcher's hand.²⁰⁵

The issue of “transformation” stems from the Supreme Court's statement in *Parker v. Flook*,²⁰⁶ when the Court suggested that a particular end use must not be trivial.²⁰⁷ In *Flook*, the Court viewed the patent claims as merely providing an improved method of calculating alarm limit values. The Court stated: “The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance. A competent draftsman could attach some form of post-solution activity to almost any . . . patent application.”²⁰⁸

However, one should not elevate the status of the word “transform” (as used in *Flook*) over the very language that preceded it in that decision, i.e., “no matter how conventional or obvious in itself.”²⁰⁹ That preceding language makes clear that the Federal Circuit in *Bilski* can adopt a standard that directs the Patent Office to familiar inquiries of obviousness under § 103, as proposed in this article.

Indeed, three years after *Flook*, the Supreme Court wrote that “transformation” was just an “example.”²¹⁰ In *Diamond v. Diehr*,²¹¹ the Supreme Court stated that a “process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.”²¹² Thus, transformation is only a useful “clue” for including—not excluding—eligible subject matter.²¹³

Moreover, the Supreme Court has never foreclosed from patent-eligible subject matter processes that lack a physical transformation or a machine implementation.

²⁰⁵ *Bilski-Fed. Cir. Oral Arg.*, *supra* note 203.

²⁰⁶ 437 U.S. 584 (1978).

²⁰⁷ *Id.* at 590.

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981).

²¹¹ *Id.* at 175.

²¹² *Id.* at 192 (emphasis added).

²¹³ *Id.* at 184 (“Transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.”) (citation omitted).

For instance, in *Gottschalk v. Benson*,²¹⁴ the Court stated:

It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a “different state or thing.” We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.²¹⁵

Footnote 9 of the Supreme Court’s earlier decision in *Flook* made this point clear: “The statutory definition of ‘process’ is broad.”²¹⁶ The Supreme Court then conceded that some might argue the Court had “only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a ‘different state or thing.’”²¹⁷ However, the Court disagreed with that argument: “As in *Benson*, we assume that a valid process patent may issue even if it does not meet one of these qualifications of our earlier precedents.”²¹⁸

“Transformation” is not the proper standard for a business method claim—or even mandated under the Patent Act of 1952. The statute lists “composition of matter” as a separate category from process.²¹⁹ Likewise, a process should not be tied to a machine. The statute lists “machine” as a separate category from process.²²⁰

Why should transformation be tied to the “process” category when it is not tied to other patent eligible categories under § 101 (e.g., machine or matter)? Would there need to be different definitions of transformation depending on the § 101 category? The statute is inclusive—not exclusive: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore.”²²¹

It seems that transformation had greater relevance during the industrial age, but is regressive during the information age. Additionally, if transformation applies to business method applications, then what is a workable definition of transformation? The Federal Circuit might not worry about appeals from the district courts, but it should worry about the volume of cases that could come to it by an appeal from the Patent Office.²²² On the one hand, a standard of transformation that is too stringent will make it easy for patent examiners to reject cases under the facile standard of § 101 thereby inundating the Federal Circuit with appeals, while on the other hand an uncertain standard will be hard to apply in the real world in which patent examiners must operate.

Moreover, why hasn’t the process of throwing a ball transformed its flight path?

²¹⁴ 409 U.S. 63 (1972).

²¹⁵ *Id.* at 71.

²¹⁶ *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978).

²¹⁷ *Id.*

²¹⁸ *Id.* (citation omitted).

²¹⁹ 35 U.S.C. § 101 (2006).

²²⁰ *Id.*

²²¹ *Id.*

²²² *Id.* § 141. Patent applicants may appeal under 35 U.S.C. § 141 from a final decision of the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office. *Id.* Notice of an appeal to the United States Court of Appeals for the Federal Circuit is filed under 35 U.S.C. § 142. *Id.* The Federal Circuit has jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

The claim is throwing a ball, i.e., a process claim.²²³ It is not the ball itself, which obviously has not changed into a pea, green tea, or something else. The ball is a composition of matter; a ball is separate from a process. The process is throwing a ball along a flight—the ball is transformed when the pitcher throws it along a different flight path according to an absolutely novel and non-obvious process.

Nor must a business method be “tied to a machine”²²⁴ to be patent-eligible subject matter under § 101. The Federal Circuit has placed the patentability of computer-aided inventions in the mainstream of the law. But not every business method invention will necessarily require a computer, or other machine, for implementation.²²⁵

Some might argue that Judge Giles S. Rich in *State Street Bank*²²⁶ suggested a computer to be useful, or even to have a central role, when calculations need to be carried out quickly and performed accurately.²²⁷ However, the opinion should not be read to limit all “business method claims” to require they be done by a machine.²²⁸

Whether claims directed to methods of doing business are eligible subject matter within the meaning of § 101 should not turn on whether the claim uses a computer or machine, instead of something else. Rather, § 101 must be left open to “promote” the progress of science as envisioned in the Constitution.²²⁹ That is one lesson of the Supreme Court decisions in *Benson*,²³⁰ *Flook*,²³¹ *Chakrabarty*,²³² and *Diehr*.²³³

Those decisions expressed an evolving view of § 101, one that was intimately tied to new technology at the time, whether it was genetic engineering, computers, or software. Those decisions demonstrated a view that § 101 was not to be changed but, instead, to be adapted to change. It was a view that § 101 must remain flexible to cover the many innovations, technological changes, and advances in science arising after 1790.²³⁴

²²³ 35 U.S.C. § 112, ¶ 6.

²²⁴ *Bilski-Fed. Cir.*, 264 F. App'x 896, 897 (Fed. Cir. 2008).

²²⁵ Isn't a computer, and the software that runs it, just a series of mental steps by other means?

²²⁶ *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375 n.6 (Fed. Cir. 1998) (“The dispositive inquiry is whether the claim as a whole is directed to statutory subject matter.”).

²²⁷ *Id.* at 1370.

²²⁸ *Id.* at 1377 (“Claims should not be categorized as methods of doing business. Instead such claims should be treated like any other process claims.”); *see also id.* at 1374–75 (“§ 101 expressly includes processes as a category of inventions which may be patented and § 100(b) further defines the word ‘process’ as meaning ‘process, art or method,’ and includes a new use of a known process, machine, manufacture, composition of matter, or material.”).

²²⁹ U.S. CONST. art. I, § 8, cl. 8 (“[To] promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

²³⁰ *Gottschalk v. Benson*, 409 U.S. 63 (1972).

²³¹ *Parker v. Flook*, 437 U.S. 584 (1978).

²³² *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

²³³ *Diamond v. Diehr*, 450 U.S. 175 (1981).

²³⁴ Act of April 10, 1790, ch. 7, 1 Stat. 109 (repealed 1793) (signing into law the first U.S. patent statute).

2. What Is a Useful, Concrete, Tangible Result?

In addition to a “transformation” standard, the Federal Circuit examined whether a business method claim must produce a useful, concrete, tangible result in order to satisfy patent eligible subject matter.²³⁵ This triumvirate of adjectives should not be taken out of the context in which they arose.

Addressing § 101, the Supreme Court, in *Diehr*, created three categories of subject matter for which one may not obtain patent protection.²³⁶ These judicially-created exceptions to statutory subject matter were “laws of nature, natural phenomena, and abstract ideas.”²³⁷

The Federal Circuit should not add a fourth “no-no” that makes business method claims ineligible under § 101. To the contrary, given some evidence that “Congress intended statutory subject matter to ‘include anything under the sun that is made by man,’”²³⁸ there is no evidence of legislative intent to deny coverage under the patent statute to business method claims. If the Federal Circuit were to overrule *State Street Bank* or cut back on “anything under the sun,” the consequences would be to chill the progress of science and future (heretofore unknown) technical fields of innovation.

Even assuming the Federal Circuit has the authority to carve out another judicially-created exception that makes business methods ineligible for patenting, the Supreme Court has said to do so cautiously.²³⁹ So as not to transgress the intent of Congress or the clear admonitions of the Supreme Court, a more prudential approach may be to interpret the existing three no-nos. That approach can better ensure that the patent eligibility of business methods is interpreted consistent with history, policy, and precedent.

An existing judicially-created “no-no” as raised by the Federal Circuit during oral argument in *Bilski* was “abstract ideas.”²⁴⁰ Applying the abstract ideas exception, the Federal Circuit’s decision in *In re Alappat*²⁴¹ found that a patent claim containing a mathematical concept was not an “abstract idea, but rather a specific machine to produce a useful, concrete, and tangible result.”²⁴² It is important to realize that the patent claim in *Alappat* was written in means-plus-function form under 35 U.S.C. § 112, ¶ 6,²⁴³ which has special requirements. For instance, the

²³⁵ *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998). The bench conceded that a useful, concrete, and tangible result is a different question from whether to require a machine or transformation. *Id.* at 1376.

²³⁶ *Diehr*, 450 U.S. at 184.

²³⁷ *Id.*

²³⁸ *J.E.M. Ag Supply v. Pioneer Hi-Bred Int’l*, 534 U.S. 124, 148 (2001) (Breyer, J., dissenting) (citation omitted); *see also* *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

²³⁹ *Diehr*, 450 U.S. at 182 (“[W]e have more than once cautioned that ‘courts ‘should not read into the patent laws limitations and conditions which the legislature has not expressed.’”) (quoting *Chakrabarty*, 447 U.S. at 308).

²⁴⁰ *Bilski-Fed. Cir. Oral Arg.*, *supra* note 203.

²⁴¹ 33 F.3d 1526 (Fed. Cir. 1994).

²⁴² *Id.* at 1544.

²⁴³ 35 U.S.C. § 112, ¶ 6 (2006) (“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.”).

patent applicant's "duty to link or associate structure to function is the quid pro quo for the convenience of employing § 112, ¶ 6."²⁴⁴ That is not the case in *Bilski*.²⁴⁵

Not only is the language of "useful, concrete, and tangible result" taken out of context, these are all just adjectives. They are not the guidance needed right now to help the Patent Office, practitioners, or courts. And each of the individual adjectives introduces a further element of uncertainty.

"Concrete"—whatever that means—drew laughter when counsel and the bench conceded not to know what it meant.²⁴⁶ Perhaps it simply means necessary but not sufficient, in which case it is better addressed under § 112, ¶ 2.²⁴⁷

"Tangible" seems to mean "real world."²⁴⁸ Most inventions are for an economic purpose—i.e., real world.²⁴⁹ In the final analysis, "real world" seems subjective, unconventional, and random.

"Useful" is already in § 101.²⁵⁰ As such, it is redundant.

Moreover, if statutory subject matter depended on a "useful, concrete, and tangible result," then any process claim satisfying the test should be eligible for patenting. But that does not appear to be the case according to three Supreme Court Justices.²⁵¹

²⁴⁴ Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc., 412 F.3d 1291, 1298 (Fed. Cir. 2005); see also Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech., 521 F.3d 1328, 1338 (Fed. Cir. 2008).

Aristocrat was not required to produce a listing of source code or a highly detailed description of the algorithm to be used to achieve the claimed functions in order to satisfy 35 U.S.C. § 112 ¶ 6. It was required, however, to at least disclose the algorithm that transforms the general purpose microprocessor to a "special purpose computer programmed to perform the disclosed algorithm."

Id. (citation omitted).

²⁴⁵ *Bilski-BPAI*, No. 2002-2257, 2006 Pat. App. LEXIS 51, at *1–2 (B.P.A.I. Sept. 26, 2006), available at <http://www.uspto.gov/web/offices/dcom/bpai/its/fd022257.pdf>. Independent claim 1 was not written in means-plus-function form. *Id.* Rather, it reads as follows:

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of: (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer; (b) identifying market participants for said commodity having a counter-risk position to said consumers; and (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

Id.

²⁴⁶ *Bilski-Fed. Cir. Oral Arg.*, *supra* note 203.

²⁴⁷ 35 U.S.C. § 112, ¶ 2 ("The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.").

²⁴⁸ See *In re Nuijten*, 500 F.3d 1346, 1356 (Fed. Cir. 2007).

²⁴⁹ *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998) (holding that a final share price is tangible).

²⁵⁰ 35 U.S.C. § 101. The Patent Statute specifically provides for the protection of "any new and useful process." *Id.*

²⁵¹ *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 136–38 (2006) (Breyer, J., dissenting from denial of certiorari, Stevens, J., and Souter, J., joining).

C. “Operability” Should Be the Standard, Followed by an Analysis under the Laws of §§ 102, 103, and 112

So, where should the Federal Circuit draw the line between patentable and non-patentable processes? There should not be a bright line rule, where one side is eligible and the other side ineligible. Rather, the Federal Circuit must leave room for future technological advances to fall within § 101. In both *Benson* and *Flook*, the Supreme Court was careful to avoid a rule that would freeze § 101 to old technologies.²⁵² *Diehr* was the Supreme Court’s last word on the patentability of process claims, and there the Court said statutory subject matter included “anything under the sun that is made by man,”²⁵³ so it read those categories under § 101 broadly.

Rather than drawing a bright line, the Federal Circuit should fashion a standard for evaluating patent-eligibility of process claims that adopts *State Street Bank* and builds on it to leave the door open for future technologies. It does this by recognizing two variations of process claims.

The first variation involves a claim that is tied to a computer, machine, or other instrument. For this variation, the Patent Office, courts, and practitioners can decide patent eligibility consistent with *State Street Bank* and its progeny. The virtue of this approach is to preserve the status quo at the Patent Office and in courts.²⁵⁴

As technology progresses, however, it is important that the patent system remain the bedrock of innovation, on the one hand, without allowing patents on “laws of nature, natural phenomena, and abstract ideas”²⁵⁵ on the other. In order to protect new ideas and investments in innovation and creativity in those process claims that are not tied to a machine, a two-step analysis is proposed in this article to ensure that the claimed invention is both (1) “operable” and (2) meets the conditions of patentability under §§ 102, 103, and 112. The virtue of this approach is that it depends on familiar concepts and well-developed principles of patent law.

1. “Operability” of the Claimed Invention

The Supreme Court has construed § 101 broadly, e.g., “anything under the sun.”²⁵⁶ Despite this seemingly limitless expanse, the claimed invention must be operable.

The applicant, who bears the burden of showing utility of invention under

²⁵² *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972) (“It is said we freeze process patents to old technologies, leaving no room for the revelations of the new, onrushing technology. Such is not our purpose.”); *see also* *Parker v. Flook*, 437 U.S. 584, 589 (1978) (“The line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear.”).

²⁵³ *Diamond v. Diehr*, 450 U.S. 175, 182 (1981).

²⁵⁴ *Cf. Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 32 n.6 (1997). (“To change so substantially the rules of the game now could very well subvert the various balances the PTO sought to strike when issuing the numerous patents which have not yet expired and which would be affected by our decision.”).

²⁵⁵ *AT&T Corp. v. Excel Commc’ns, Inc.*, 172 F.3d 1352, 1355 (Fed. Cir. 1999).

²⁵⁶ *Diehr*, 450 U.S. at 182; *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

§ 101,²⁵⁷ must show the invention to work. Otherwise stated, the patent examiner should reject the application on grounds of “inoperativeness”²⁵⁸ if the claimed invention is an abstract idea.²⁵⁹ Similarly, courts may borrow from well-established patent principles concerning, and case law analyzing, claimed inventions for “cold fusion” and “perpetual motion” in their analysis of operability. Simply put, those claimed inventions have not been shown to work in the applicable scientific community by those of ordinary skill in the art, so it is unlikely the applicant can overcome a rejection with a declaration, affidavit, or other evidence of operability.²⁶⁰ Therefore, § 101 serves its purposes as a gatekeeper that forecloses patents on abstract ideas.

As recently as 2004, the Federal Circuit in *In re Dash*²⁶¹ affirmed a decision by the Patent Office rejecting claims for a patent purportedly disclosing an electrolytic method of producing excess heat energy (i.e., “cold fusion” without actually using the term “cold fusion”) as failing the utility requirement under § 101 of the Patent Act.²⁶² Professor Dash had published results of experiments, calculations, and publications that ostensibly corroborated, according to Professor Dash, nuclear fusion.²⁶³ He submitted those results to the Patent Office in an attempt to prove operability of his claimed method.²⁶⁴

The Federal Circuit affirmed the rejection in *Dash*: “Given the scientific community’s considerable doubt regarding the utility of ‘cold fusion’ processes, we hold that the examiner established a *prima facie* case of lack of utility and enablement.”²⁶⁵ The Federal Circuit stated that, in addition to peer-reviewed articles, the Patent Office could rely on documents that were anecdotal or other sources calling into question the claimed invention’s operability.²⁶⁶

²⁵⁷ 35 U.S.C. § 101 (2006). Under the “utility” requirement of 35 U.S.C. § 101, the invention must be useful (i.e., operable), which is generally a question of law. *In re Comiskey*, 499 F.3d 1365, 1373 (Fed. Cir. 2007); *In re Nuijten*, 500 F.3d 1346, 1352 (Fed. Cir. 2007).

²⁵⁸ MPEP, *supra* note 109, § 706.03(a) (8th ed., 6th rev. 2007) (“A rejection on the ground of lack of utility includes the more specific grounds of inoperativeness.”).

“The MPEP [is] commonly relied upon as a guide to patent attorneys and patent examiners on procedural matters.” While the MPEP does not have the force of law, it is entitled to judicial notice as an official interpretation of statutes or regulations as long as it is not in conflict thereto.

Molins PLC v. Textron, Inc., 48 F.3d 1172, 1180 n.10 (Fed. Cir. 1995) (quoting *Litton Sys., Inc. v. Whirlpool Corp.*, 728 F.2d 1423, 1439 (Fed. Cir. 1984) (citations omitted)).

²⁵⁹ In deciding patent-eligible subject matter of process claims, the judicially-created exceptions “laws of nature” and “natural phenomena” are inapposite. *Diehr*, 450 U.S. at 187 (“[W]e stated that ‘a process is not unpatentable simply because it contains a law of nature or a mathematical algorithm.’ It is now commonplace that an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”) (citation omitted).

²⁶⁰ *See, e.g., In re Dash*, 118 F. App’x 488, 489, 492 (Fed. Cir. 2004) (rejecting a patent application for “cold fusion” machine due to inoperability, and stating “[i]t was reasonable for the Board to conclude that the examiner had established [‘that a person of ordinary skill in the art would reasonably doubt the asserted utility’] based on the number and quality of cited references that debunked claims of cold fusion”).

²⁶¹ *Id.* at 488.

²⁶² *Id.* at 489–90, 492.

²⁶³ *Id.* at 489.

²⁶⁴ *Id.* at 489–90, 492.

²⁶⁵ *Id.* at 490.

²⁶⁶ *Id.* at 491.

Others have attempted to patent cold fusion more directly. In 2000, the Federal Circuit addressed the patentability of an invention involving cold fusion in *In re Swartz*.²⁶⁷ In that case, the Patent Office rejected the patent application because mainstream scientific community did not accept the results reported by cold fusion researchers as demonstrating the existence of cold fusion.²⁶⁸

The Federal Circuit in *Swartz* agreed that “those skilled in the art would ‘reasonably doubt’ the asserted utility and operability of cold fusion,” and therefore failed the utility requirement under § 101.²⁶⁹ In reaching its decision, the Federal Circuit equated “useful” under § 101 to “operable” without undue experimentation at the time the application was filed.²⁷⁰

In *Newman v. Quigg*,²⁷¹ the Federal Circuit considered the utility of an application directed to a “perpetual motion machine” that ostensibly generated higher energy output than input.²⁷² Applicant presented evidence that was “largely qualitative rather than quantified by measured data,”²⁷³ while the Patent Office presented declarations and witness testimony discussing tests of the invention by the National Bureau of Standards.²⁷⁴ The Federal Circuit agreed with the Patent Office rejection for lack of utility: “While it is not a requirement of patentability that an inventor correctly set forth, or even know, how or why the invention works, neither is the patent applicant relieved of the requirement of teaching how to achieve the claimed result.”²⁷⁵

²⁶⁷ 232 F.3d 862 (Fed. Cir. 2000) [hereinafter *Swartz I*].

²⁶⁸ *Id.*

²⁶⁹ *Id.* at 864. Swartz also tried to obtain earlier patents on cold fusion. *In re Swartz*, 50 F. App’x 422, 423 (Fed. Cir. 2002) (“Under [35 U.S.C.] § 101, any patentable invention must be useful and, accordingly, the subject matter of the claim must be operable.”).

²⁷⁰ *Swartz I*, 232 F.3d at 863.

[Utility and enablement requirements are] closely related. To satisfy the enablement requirement of 35 U.S.C. § 112, ¶ 1, a patent application must adequately disclose the claimed invention so as to enable a person skilled in the art to practice the invention at the time the application was filed without undue experimentation. The utility requirement of § 101 mandates that the invention be operable to achieve useful results. Thus, if the claims in an application fail to meet the utility requirement because the invention is inoperative, they also fail to meet the enablement requirement because a person skilled in the art cannot practice the invention.

Id. (citations omitted).

²⁷¹ 877 F.2d 1575 (Fed. Cir. 1989).

²⁷² *Id.* at 1577.

²⁷³ *Id.* at 1581.

²⁷⁴ *Id.* at 1578.

²⁷⁵ *Id.* at 1581–82 (noting that “lack of utility because of inoperativeness, and absence of enablement, are closely related grounds of unpatentability”) (citation omitted); *see also* Rasmusson v. SmithKline Beecham Corp., 413 F.3d 1318, 1322–23 (Fed. Cir. 2005) (discussing the relationship between enablement under § 112, ¶ 1 and utility under § 101); *Fregeau v. Mossinghoff*, 776 F.2d 1034, 1035, 1039 (Fed. Cir. 1985) (finding inoperative, and therefore lacking utility under § 101, an invention for enhancing beverage flavor through use of a magnetic field).

2. Analysis under §§ 102, 103, and 112

The analysis of whether a claimed invention is directed to statutory subject matter begins with the language of § 101, but does not end there. Rather, § 101 sets forth a first step of identifying four categories of subject matter that are patent *eligible* (i.e., if operative).²⁷⁶ Then, the second step of § 101 directs patent examiners, practitioners, and courts to the *patentability* requirements under other provisions of the patent statute:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, *subject to the conditions and requirements of this title*.²⁷⁷

Thus, a plain reading of § 101 turns on the other conditions and requirements for patentability, namely §§ 102, 103, and 112, with all their insights and well-developed standards of measuring whether someone should receive a patent. Therefore, in applying the second of the two-step analysis, the patent examiners, practitioners, and courts are on familiar ground.

Indeed, after stating that business methods are eligible for patenting, the Federal Circuit in *State Street Bank* explicitly held that business methods are “subject to the same legal requirements for patentability as applied to any other process or method.”²⁷⁸ What if the business method claim is too broad, and there is fear that it will stymie, rather than promote, innovation? According to the Federal Circuit, “our patent system depends primarily on the Patent and Trademark Office’s (‘PTO’s’) care in screening out invalid patents during prosecution.”²⁷⁹ Therefore, as Judge Rich stated in *State Street Bank*, “[w]hether the patent’s claims are too broad to be patentable is not to be judged under § 101, but rather under §§ 102, 103 and 112.”²⁸⁰

Under § 102, an invention must be new.²⁸¹ The invention is not new when each feature of the claimed invention is found in a single reference either expressly or inherently—a question of fact for the jury.²⁸²

Under § 103, an invention must not be obvious.²⁸³ Whether a claimed invention is obvious depends on underlying factual determinations, with the ultimate question

²⁷⁶ 35 U.S.C. § 101 (2006) (emphasis added).

²⁷⁷ *Id.* (emphasis added).

²⁷⁸ *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998).

²⁷⁹ *Prima Tek II, L.L.C. v. Polypap, S.A.R.L.*, 412 F.3d 1284, 1287 (Fed. Cir. 2005).

²⁸⁰ *State St. Bank*, 149 F.3d at 1377.

²⁸¹ 35 U.S.C. § 102.

²⁸² *SRI Int’l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1192 (Fed. Cir. 2008); *Forest Labs. v. Ivax Pharms., Inc.*, 501 F.3d 1263, 1268 (Fed. Cir. 2007); *SeaChange Int’l, Inc. v. C-Cor Inc.*, 413 F.3d 1361, 1379 (Fed. Cir. 2005). At times, however, invalidity is a question of law based on underlying facts. *Am. Seating Co. v. USSC Group, Inc.*, 514 F.3d 1262, 1267 (Fed. Cir. 2008) (stating that invalidity for “public use” is a question of law).

²⁸³ 35 U.S.C. § 103.

being a legal conclusion for the court.²⁸⁴

While many invalidity defenses focus on prior art²⁸⁵ vis-à-vis the patent claims, other defenses focus on the patent specification. Under § 112, there must be support in the patent application for the claimed invention. Under these specification defenses, the patent claim is not valid if the specification fails to teach a “best mode,”²⁸⁶ lacks a “written description,”²⁸⁷ or lacks “enablement.”²⁸⁸ Additionally, claims that are not amenable to construction are invalid as “indefinite.”²⁸⁹

V. CONCLUSION

These are critical times in our nation. With the search for alternative fuel sources in order to gain energy independence, the need for cutting-edge innovation has never been greater. It is a time when, instead of undermining the patent system by dousing process claims, the Federal Circuit must recommit itself to the “fuel of interest”²⁹⁰ in research and development.

Likewise, manipulation of data is as important as energy in today’s information age. Technological advances in this field have changed lifestyles and industries as the economy has shifted its focus away from the production of physical goods. Financial services and software companies are an important part of that economy, and business method inventions are an important part of those companies. Thus, it helps the economy to protect the innovation that occurs in these industries.

Simply put, ingenuity funds our American economy. We must protect new ideas and creativity. Historically, it was the introduction of patent laws that provided

²⁸⁴ *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1734 (2007); *Aventis Pharma Deutschland GmbH v. Lupin, Ltd.*, 499 F.3d 1293, 1300 (Fed. Cir. 2007).

²⁸⁵ *Riverwood Int’l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354 (Fed. Cir. 2003) (“The term ‘prior art’ as used in section 103 refers at least to the statutory material named in 35 U.S.C. § 102. However, section 102 is not the only source of section 103 prior art.”) (citation omitted).

²⁸⁶ 35 U.S.C. § 112, ¶ 1. A patent is invalid under 35 U.S.C. § 112, ¶ 1, if, at the time of filing a patent application, an applicant subjectively possessed—but failed to disclose—a “best mode” (typically, but not always, the “preferred” way) of using the invention, which involves factual inquiries. *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 518 F.3d 1353 (Fed. Cir. 2008); *Old Town Canoe Co. v. Confluence Holdings Corp.*, 448 F.3d 1309, 1320–21 (Fed. Cir. 2006).

²⁸⁷ *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306–07 (Fed. Cir. 2008). The “written description” requirement of 35 U.S.C. § 112, ¶ 1 is violated (and the patent invalid) if the specification fails to provide sufficient detail to show the inventor was “in possession” of the invention, which is a question of fact. *Id.*

²⁸⁸ *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249–53 (Fed. Cir. 2008). “Enablement” under 35 U.S.C. § 112, ¶ 1 is a legal determination by the court based on underlying factual inquiries. *Id.*; *Liebel-Flarsheim Co. v. Medrad, Inc.* 481 F.3d 1371, 1377 (Fed. Cir. 2007).

²⁸⁹ *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1331 (Fed. Cir. 2008). The purpose of the definiteness requirement under 35 U.S.C. § 112, ¶ 2 ensures that the claims delineate the scope of the invention using language that places the public on notice of the inventor’s right to exclude. *Id.*; *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1346 (Fed. Cir. 2007). As the construer of patent claims, the court decides whether a claim is invalid for indefiniteness. *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999–1003 (Fed. Cir. 2008); *Biomedino, LLC, v. Waters Techs. Corp.*, 490 F.3d 946, 949 (Fed. Cir. 2007).

²⁹⁰ LINCOLN, *supra* note 16, at 10–11 (emphasis removed).

incentives to invent, invest in, and disclose new technology.²⁹¹ Therefore, these are times when, rather than bidding farewell to *State Street Bank*, the Federal Circuit should reaffirm the course set by Judge Rich ten years ago.²⁹² The Federal Circuit has the remarkable opportunity to lift our nation to the next level, complete the journey of Judge Rich, and, in doing so, promote the sciences by adopting an evolving view of § 101²⁹³ that—rather than freezing § 101 to old technologies—is fashioned to accommodate future technologies and innovations.

So, is the process of throwing a curveball patentable? Clearly, it is not patentable under § 102 or § 103. But is it patent-eligible subject matter under § 101? The point made by Judges Bryson, Lourie, and Rader was to suggest that process claims must stand on equal footing with the other categories of § 101. Thus, the claimed invention of a process of throwing a curveball should not automatically be foreclosed from patent-eligibility, even if it is not otherwise patentable.

²⁹¹ *Id.* at 8–9.

²⁹² *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1377 (Fed. Cir. 1998).

²⁹³ 35 U.S.C. § 101 (2006).