



IP Literature Watch

CRA Charles River
Associates

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This newsletter contains an overview of recent publications concerning intellectual property issues. The abstracts included below are as written by the author(s) and are unedited.

IP & Innovation

Brief of amici curiae law, business, and economics scholars in *Alice Corp. v. CLS Bank*, No. 13-298

Jason Schultz (New York University School of Law)

Brian J. Love (Santa Clara University School of Law)

James E. Bessen (Boston University School of Law)

Michael J. Meurer (Boston University School of Law)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402036

The Federal Circuit's expansion of patentable subject matter in the 1990s led to a threefold increase in software patents, many of which contain abstract ideas merely tethered to a general-purpose computer. There is little evidence, however, to suggest this expansion has produced an increase in software innovation. The software industry was highly innovative in the decade immediately prior to this expansion, when the viability of software patentability was unclear and software patents were few. When surveyed, most software developers oppose software patenting, and, in practice, software innovators tend to rely on other tools to capture market share such as first-mover advantage, trade secrecy, copyright, goodwill, and economic network effects. If anything, the increase in software patenting has led to an increase in software litigation, which in turn has encouraged firms to acquire patents for strategic purposes unrelated to innovation, serving as either defensive stockpiles to deter legal threats or offensive leverage for rent-seeking patent assertion entities (PAEs).

Moreover, abstract software patents do not function well within a property rights framework because they fail to define cognizable metes and bounds and fail to provide effective notice to third parties of when a particular practice or product might infringe. Due to their abstractness, these claims can often be construed to cover any of the particularized processes that result in the same outcome, including those never envisioned by the inventor. Accordingly, these metes and bounds are not concrete enough to be useful to those who wish to tread carefully around them. The mere application of the idea using general-

purpose technological components, such as a general-purpose computer, does nothing to abate this problem. Similarly, abstract patents defy the attempts of software innovators, or general counsel at technology companies, to stay on notice of what is already protected. This leaves firms vulnerable to investing in software development with little to no assurance that they will be able to avoid infringing upon an abstract patent, even if they conduct diligent searches within patent databases. Again, this will be true even if there are general-purpose technological components tethered to the claims, as those components do nothing to help distinguish one abstract claim from another. Proliferation of such patents also contributes to the problem of patent thickets.

A well-defined 35 U.S.C. § 101 ensures that abstract software patent claims and their attendant notice and patent thicket problems do not undermine the patent system and stymie innovation. It serves as a decisive gatekeeper that the Patent Office and trial courts can use early in administrative proceedings and litigation. Further, it avoids many of the systemic challenges prevalent with the use of 35 U.S.C. §§ 102, 103, and 112 in such cases – the speed of software innovation, the difficulty locating software prior art, and lax, broad claiming standards. Accordingly, this Court should affirm the invalidity of the patent claims at issue here and hold that abstract ideas in the form of software are unpatentable and that mere computer implementation of those ideas does not create patentability.

Patents as quality signals? The implications for financing constraints on R&D

Dirk Czarnitzki (Catholic University of Leuven)

Bronwyn H. Hall (University of California at Berkeley)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2403671

Information about the success of a new technology is usually held asymmetrically between the research and development (R&D)-performing firm and potential lenders and investors. This raises the cost of capital for financing R&D externally, resulting in financing constraints on R&D especially for firms with limited internal resources. Previous literature provided evidence for start-up firms on the role of patents as signals to investors, in particular to Venture Capitalists. This study adds to previous insights by studying the effects of firms' patenting activity on the degree of financing constraints on R&D for a panel of established firms. The results show that patents do indeed attenuate financing constraints for small firms where information asymmetries may be particularly high and collateral value is low. Larger firms are not only less subject to financing constraints, but also do not seem to benefit from a patent quality signal.

Venture capital and the diffusion of knowledge

Juanita Gonzalez-Urbe (London School of Economics)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2405362

I estimate the impact of venture capital (VC) on knowledge diffusion by comparing patent citations before and after companies secure VC. I find that a patent's citations increase following VC financing, particularly those made by other companies also financed by the same VC investor. Instrumental variables estimates exploiting variation in the assets of pension funds that allocate capital to VC suggest a causal interpretation of the findings. I argue that by certifying commercial value, VC facilitates knowledge diffusion and thus generates an externality on innovation. The findings help explain why VC is more effective in stimulating innovation than corporate R&D.

IP Law & Policy

Are prior user rights good for software?

Greg R. Vetter (University of Houston - Law Center)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2410689

The America Invents Act (“AIA”) gave modern patent law in the United States a general prior user rights defense. The patent right is enforced via infringement litigation, but enterprises sometimes obtain patents for defensive purposes. Alternately, an enterprise that does not pursue a patent for an invention may choose to use the invention under trade secrecy protection. However, trade secrecy protection leaves a prior user vulnerable because a later inventor may patent the innovation and enjoin the prior user from further use. Styled as an infringement defense for a “prior commercial use,” the AIA defense replaces a decade old “earlier inventor” defense that arose from a software system patent infringement case and applied only for business method patents. This article assesses the AIA’s prior use defense from the perspective of software technology in view of the contentious issues around software patenting. It concludes, first, that courts should interpret the defense, or congress should alter it, to ensure its efficacy for software. Facially, the defense suggests a manufacturing motif, although its applicability to commerce in software may be stronger than suggested at first glance. Second, this article assesses the potential impact of a prior use defense on intellectual property protection in software. Some have posited that, as a general matter, the defense may create an incentive to favor trade secrecy over patenting. Regardless of the strength of that logic for other technologies, it seems lacking for software. While the use of the defense for software patent infringement will depend on the defense’s efficacy, there is also the question as to the defense’s impact on software patenting. One potential impact is on defensive patenting. Will software firms engage in less defensive patenting if there is an efficacious prior use defense?

Rethinking patent eligibility for the modern scientific age

Peter S. Menell (University of California, Berkeley - School of Law)

Jeffrey A. Lefstin (University of California - Hastings College of the Law)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402776

As reflected in the Federal Circuit’s fractured opinion in *CLS Bank v. Alice Corp.*, there is no greater confusion in contemporary patent law than that surrounding the scope of patent eligibility limitations. This Supreme Court amicus brief in that case traces the roots of the court-made doctrines excluding patents on laws of nature, physical phenomena, and abstract ideas. It argues that a test of inventive application neither serves the underlying purposes of the patent system nor comports with the process of modern technological advance.

As a result of advances in scientific understanding and methods over the past 150 years, many if not most inventions today explicate, manipulate, and control physical, chemical, biological, and digital phenomena at elemental, molecular, algorithmic, and systemic levels. Doctrines that treat conventional application of even newly discovered computer algorithms, molecular pathways, and chemical synthesis as unpatentable threaten to exclude much of the inventive thrust of modern research. Mayo’s requirement for unconventional application shifts scientists’ efforts from the valuable scientific and technological advances that society seeks toward surmounting an amorphous test of non-obvious

implementation. Specific and practical application, in conjunction with the technological arts limitation explicated in Justice Stevens's concurrence in *Bilski*, would better serve as the test for patent eligibility in the modern scientific and technological age.

Particularly in light of past experience, setting inventive application as the test for patent eligibility threatens to undermine invention incentives, hamper patent prosecution, and greatly complicate patent litigation. While recognizing that the problems posed by patents on software and other computer-implemented inventions are real, this brief contends that patent eligibility doctrines beyond requiring specific application and categorical exclusion of business methods and other non-technological processes are poorly suited to address those concerns. It therefore concludes that the Supreme Court should turn away from the *Funk Brothers/Flook/Mayo* paradigm, and instead focus on elucidating the statutory requirements of patentability. By clarifying the constitutional and jurisprudential foundation for subject matter exclusions, the Court can promote legislative and administrative solutions that more directly address the evolving needs of the patent system.

Reinventing copyright and patent

Abraham Bell (University of San Diego School of Law; Bar Ilan University - Faculty of Law)

Gideon Parchomovsky (University of Pennsylvania Law School; Bar Ilan University - Faculty of Law)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2399998

Intellectual property systems all over the world are modeled on the one-size-fits-all principle. However important or unimportant, inventions and original works of authorship receive the same scope of protection, for the same period, backed by the same variety of legal remedies. Metaphorically speaking, all intellectual property is equal under the law. This equality comes at a heavy price. The equality principle gives all creators access to the same remedies, even when those remedies create perverse incentives. Moreover, society overpays for innovation by inflicting on society more monopoly losses than are strictly necessary to incentivize production.

In this Article, we propose a solution for these problems in the form of a self-tailored system of intellectual property rights. The self-tailored system would allow inventors and creators to self-select the optimal protection for their intellectual works. Working from the bottom up, our self-tailored system would give each innovator a basic package of intellectual property rights and enforcement powers and then allow her to add additional rights and legal elements in exchange for a fee.

Our self-tailored system would reduce wasteful litigation while encouraging wider dissemination and more extensive use of inventions and expressive works. In addition, our proposal would lower the social cost of granting monopoly protection to intellectual goods while at the same time, maintaining an adequate level of economic incentives to create and invent. Accordingly, our self-tailored system would constitute a marked improvement over the extant one-size-fits all design of intellectual property rights.

Unlike other proposals for reform that seek to improve access to expressive works and inventions via the use of compulsory licenses and other coercive policies, our model is purely voluntary. It respects authors' and inventors' autonomy and uses market mechanisms — specifically, pricing — to recalibrate our intellectual property system in a way that improves societal well-being.

Patent dialogue

Jonas Anderson (American University - Washington College of Law)

North Carolina Law Review, Vol. 92, 2014

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402352

This Article examines the unique dialogic relationship that exists between the Supreme Court and Congress concerning patent law. In most areas of the law, Congress and the Supreme Court engage directly with each other to craft legal rules. When it comes to patent law, however, Congress and the Court often interact via an intermediary institution: the U.S. Court of Appeals for the Federal Circuit. In patent law, dialogue often begins when Congress or the Supreme Court acts as a dialogic catalyst, signaling reform priorities to which the Federal Circuit often responds.

Appreciating the unique nature of patent dialogue has important implications for patent law in particular and for all legal areas with specialized courts more generally. Encouraging the Supreme Court and Congress to debate patent policy through the Federal Circuit situates law-making at the institution most capable of crafting efficient legal rules. Additionally, the Federal Circuit's participation in the dialogue over patent law and policy can reduce many of the drawbacks of specialized adjudication, namely tunnel-vision, doctrinal ossification, and power expansion. But policy dialogue with a specialized court also involves unique supervisory and catalytic roles for the Supreme Court and Congress. While "patent dialogue" holds out the promise of increased institutional input regarding patent reform, the Supreme Court and Congress must develop new methods of catalyzing the Federal Circuit to action and of overseeing the Federal Circuit's responsiveness to policy signals.

Saving the Federal Circuit

Paul R. Gugliuzza (Boston University School of Law)

Chicago-Kent Journal of Intellectual Property, Vol. 13, 2014, *Forthcoming*

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401948

In a recent, attention-grabbing speech, the Chief Judge of the Seventh Circuit, Diane Wood, argued that Congress should abolish the Federal Circuit's exclusive jurisdiction over patent cases. Exclusive jurisdiction, she said, provides too much legal uniformity, which harms the patent system. In this short response to Judge Wood's thoughtful speech, I seek to highlight two important premises underlying her argument, neither of which is indisputably true.

The first premise is that patent doctrine is insufficiently "percolated." Exclusive Federal Circuit jurisdiction, according to Judge Wood, prevents case law from being critiqued, reexamined, tested, and corrected, and makes it difficult for the Supreme Court to know which issues are worthy of review. However, although other appellate courts rarely decide patent cases, patent law is percolated by institutions as diverse as the Supreme Court, the Office of the Solicitor General, the PTO, the district courts, and, most importantly, the Federal Circuit itself. The fundamental problem may be that the current system simply leads to the wrong outcome too often.

The second premise underlying Judge Wood's argument is that a lack of dialogue among peer-level courts is what causes the Federal Circuit to get the law wrong. However, decision making influences within the Federal Circuit might contribute as much or even more than any lack of percolation to problematic Federal Circuit case law. For example, the Federal Circuit was created to provide uniformity in patent law, expertise in patent cases, and to strengthen patent rights, and the court's (perhaps

overzealous) pursuit of those objectives has influenced several controversial doctrines, such as de novo review of claim construction and relatively lax standards of patentability.

Abolishing the Federal Circuit's exclusive patent jurisdiction, as Judge Wood proposes, would be one way to reduce the distorting influence of the policies for which the court was created. But there may be ways to change decision making influences while also saving the Federal Circuit's exclusive jurisdiction. For example, the President might appoint to the court individuals with experience beyond the usual areas of patent law and international trade, or Congress might make court's nonpatent jurisdiction less specialized.

Transparency

Robin Feldman (University of California Hastings College of the Law)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402389

The United States patent regime is a quintessential notice system. Implicit in its design is the concept that one attempting to license a patent can identify those who hold the requisite rights and the territory that the patent holders claim as their own. As the system has evolved, however, it bears little resemblance to the idealized form.

Little scholarship has addressed problems related to notice within the modern patent system, largely because these problems have sprung up so recently. In the last five to seven years, an entire Hobbit's world has been created under the foliage. Moreover, historic scholarly discussions of notice generally have focused on the role of governmental actors in ensuring that a patent can be properly understood and interpreted. In contrast, this article argues that market information is a critical element of the notice function of patents. One can think of the mechanisms for providing that market information as "Transparency."

To address transparency insufficiencies, one need not write on a blank slate. Rather, this article suggests borrowing from the substantial body of well-developed doctrine and literature concerning disclosure in the realm of corporate securities and explores how these doctrines could be molded to patent concerns.

The patent asset is imbued with public interest by virtue of the fact that it is a government grant, bestowed for constitutional purposes. As with the trading of public securities, the trading of an asset imbued with the public interest must be sufficiently regulated to ensure proper functioning of that trading market.

Accuracy or efficiency: has grain processing made a difference?

George David Kidd (University of Minnesota - Twin Cities - School of Law)

Minnesota Journal of Law, Science & Technology, Vol. 15, p. 563, 2014

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2404730

Since the Federal Circuit's adoption of Panduit's causation standard for establishing entitlement to lost profits damages in patent litigation, application of its noninfringing alternatives prong has lacked consistency. The court's decision in *Grain Processing Corp. v. American Maize-Products Co.*, however, created an additional contribution to the Panduit standard, thereby raising the evidentiary bar while

significantly altering the noninfringing-alternative inquiry. Grain Processing has given the infringer a potentially powerful defensive mechanism in an area in which patentees are generally favored, even when some infringement may be socially desirable. Grain Processing allows for the potential avoidance of lost profit damages, so long as the alleged infringer shows that it had the necessary equipment, know-how, and experience to produce an acceptable, noninfringing substitute during the alleged infringement period. The Grain Processing decision, however, raises some debate. As a judicially interjected gloss on damages, the added ability to limit damage awards to a reasonable royalty could have been too drastic. A closer look demonstrates a precarious policy balance. On the one hand, increases in patent litigation might justify implementing an additional hurdle to potential damage awards in order to further incentivize innovation. Added rigor provided by Grain Processing may deter frivolous and expensive litigation that might be asserted by patentees to keep new innovators out of the market. But on the other hand, if a market participant does unlawfully infringe, it is certainly reasonable to believe that the infringer should pay appropriate damages for the encroachment on another's intellectual property. Grain Processing's lost-profit-limiting defense against a patentee's claim of entitlement to lost profits damages may serve to deter potentially useful innovation by increasing costs shouldered by patentees in defending their patent rights. This Note analyzes six Federal Circuit cases appealing lost profits determinations, decided both before and after Grain Processing, and attempts to discern the impacts that Grain Processing has had on patentees' entitlements to lost profits. This Note is organized in four parts. Part I provides the historical and substantive context necessary to understand the Grain Processing decision and examines important statutory changes, especially their subsequent interpretation, both before and after Grain Processing. Part II summarizes three pre-, as well as three post-Grain Processing cases. Parts III and IV dissect and analyze the holdings in these cases and evaluate Grain Processing's impact on patent damages.

IP & Licensing

What makes patent pools successful? An analysis of optical disc and mobile phone industries

Thierry Rayna (ESG Management School)

Ludmila Striukova (University College London)

International Journal of Entrepreneurship and Innovation Management, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2412625

The modern patent landscape, especially in high tech industries, is complex and requires market participants to use collaborative governance structures in order to cut down the increasing transaction costs. This paper focuses on one of these governance structures – patent pools. By analysing eight case studies in optical disk and mobile phone industries, this article aims to understand what is a successful patent pool and what are the determinants of its success. Although the two technologies discussed in the article were initially developed over the same period of time, their respective pools developed differently. Our findings suggest, however, that there are nonetheless some similarities in determinants of success across these two sectors.

Copyright Law

Copyright trolling, an empirical study

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Iowa Law Review, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2404950

This detailed empirical and doctrinal study of copyright trolling presents new data showing the astonishing rate of growth of multi-defendant John Doe litigation in United States district courts over the past decade. It also presents new evidence of the association between this form of litigation and allegations of infringement concerning pornographic films. Multi-defendant John Doe lawsuits have become the most common form of copyright litigation in several U.S. districts, and in districts such as the Northern District of Illinois, copyright litigation involving pornography accounts for more than half of new cases filed.

This Article highlights a fundamental oversight in the extant literature on copyright trolls. Paralleling discussions in patent law, scholars addressing the troll issue in copyright have applied status-based definitions to determine who is, and is not, a troll. This Article argues that the definition should be conduct-based. Multi-defendant John Doe litigation should be counted as part of copyright trolling whenever these suits are motivated by a desire to turn litigation into an independent revenue stream. Such litigation, when initiated with the aim of turning a profit in the courthouse as opposed to seeking compensation or deterring illegal activity, reflects a kind of systematic opportunism that fits squarely within the concept of litigation trolling. This Article shows that existing status-based definitions of copyright trolls are inapt because they do not account for what is now the most widely practiced form of trolling.

In addition to these empirical and theoretical contributions, this Article explores the features of copyright doctrine that have facilitated the recent explosion in trolling litigation in the form of litigation against John Does. In particular, it shows how statutory damages and permissive joinder make multi-defendant John Doe litigation possible and why allegations of infringement concerning pornographic films are particularly well-suited to this model.

Copyright's topography: an empirical study of copyright litigation

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Texas Law Review, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2400846

One of the most important ways to measure the impact of copyright law is through empirical examination of actual copyright infringement cases. Yet scholars have universally overlooked this rich source of data. This study fills that gap through a comprehensive empirical analysis of copyright infringement litigation, examining the pleadings, motions, and dockets from more than nine hundred copyright lawsuits filed from 2005 through 2008. The data we collect allow us to examine a wide variety of copyright issues, such as the rate of settlements versus judgments; the incidence of litigation between major media companies, small firms, and individuals; the kinds of industries and works involved in litigation; the nature of the alleged infringement; the success rates of particular parties and claims; and the nature of remedies

sought and awarded. We also analyze the data to identify ways in which copyright litigation differs from other civil suits and to show that certain plaintiff characteristics are more predictive of success.

Reconciling intellectual & personal property

Aaron Perzanowski (Case Western Reserve University - School of Law)

Jason Schultz (New York University School of Law)

Notre Dame Law Review, Vol. 90, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2399983

Copyright law sets up an inevitable tension between the intellectual property of creators and the personal property of consumers — in other words, between copyrights and copies. For the better part of the last century, copyright law successfully mediated this tension through the principle of exhaustion — the notion that once a rights holder transfers a copy of a work to a new owner, its rights against that owner are diminished.

Rather than an idiosyncratic carveout or exception, exhaustion is an inherent part of copyright law's balance between the rights of creators and the rights of the public. Nonetheless, many rights holders and some courts see exhaustion as nothing more than a loophole or market inefficiency that allows consumers to make unauthorized uses of intellectual property rightly controlled by the copyright owner. Two developments threaten to curtail exhaustion and consumer interests. First, content owners have endeavored to eliminate the personal property interests of consumers, redefining the notion of ownership by characterizing their transactions with consumers as licenses. Second, the tangible copy is rapidly disappearing as copyright markets shift from the distribution of physical products to exchanges of networked information.

In short, the equilibrium between personal and intellectual property that exhaustion enabled depends on doctrinal assumptions about the copyright marketplace that are quickly becoming outdated. By examining the basic functions of copy ownership, this Article will attempt to construct a notion of consumer property rights in digital media that acknowledges the shift away from tangible artifacts while preserving exhaustion's central role in the intellectual property system.

Other IP Topics

Citation overlap proximity within the triad: evidence from US and European patent citations

Luigi Aldieri (Parthenope University - Department of Business and Economic Studies)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401953

The aim of this paper is to investigate the correlation between the technological proximity measure based on patent citations in three economic areas: USA, Japan and the Europe. In each economic area, we use information from two international patent systems to construct the technological proximity for 240 international firms. In particular, we derive firms' patent citations from United States Patent and Trademarks Office data and European Patent Office data. In order to compute the technological proximity, we follow the methodology developed by Mowery, Oxley, Silverman (1996, "Strategic alliances

and inter-firm knowledge transfer,” *Strategic Management Journal* 17 (Winter special issue): 77-91) and Stuart, Podolny (1996, “Local search and the evolution of technological capabilities,” *Strategic Management Journal* 17 (Summer special issue): 21-38) which have introduced the citation overlap measure, an alternative way of evaluating proximity between firms. This index asks how many of the patents that one firm cites are also cited by another firm. It is worth noticing the asymmetric nature of this index, which makes it a convincing instrument to consider the knowledge flows between firms. The contribution to the existing literature is to analyse the robustness of the citation overlap proximity measure and the extent to which it can be influenced by patent systems.

About the editor

Dr. Anne Layne-Farrar is a vice president in the Antitrust & Competition Economics Practice of CRA. She specializes in antitrust and intellectual property matters, especially where the two issues are combined. She advises clients on competition, intellectual property, regulation, and policy issues across a broad range of industries with a particular focus on high-tech and has worked with some of the largest information technology, communications, and pharmaceuticals companies in the world.

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