



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 & Antitrust

Patent misuse and antitrust: rebirth or false dawn?

Daryl Lim (The John Marshall Law School)

Michigan Telecommunications and Technology Law Review, Vol. 20, No. 2, 2014

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2428038

This Article examines how two recent cases, *F.T.C. v. Actavis* and *Kimble v. Marvel Enterprises Inc.* could affect both the equitable defense of patent misuse and the patent-antitrust interface more generally. It begins by tracing the history of patent misuse and its reformulation into an “antitrust-lite” doctrine by the Federal Circuit. This Article presents new empirical data confirming this reformulation, and unveils the surprising influence of the Seventh Circuit and the Chicago School on that reformulation. The Article then explores *Actavis* and *Kimble*. It explains why *Actavis* will catalyze more antitrust challenges when patent rights are exercised, and why it also challenges the Federal Circuit’s formulation of patent misuse. The Article proceeds to observe *Kimble*’s misunderstanding of the patent policy underpinning the Supreme Court’s prohibition against post-expiration royalties. This Article confronts three key objections to a revival of misuse — its vagueness, lax standing requirements and punitive effects on patentees — and explains why these objections are misplaced. The Article concludes by recommending that judges and attorneys use the opportunity provided by *Actavis* to develop a more thoughtful framework for patent misuse that draws upon the strengths of its roots in patent policy and its interface with antitrust policy.

From patent thickets to patent networks: the legal infrastructure of the digital economy

Jonathan Barnett (USC Gould School of Law)

Jurimetrics, 2014

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2431917

Scholarly and popular commentary often assert that markets characterized by intensive patent issuance and enforcement suffer from “patent thickets” that suppress innovation. This assertion is difficult to reconcile with continuous robust levels of R&D investment, coupled with declining prices, in technology markets that have operated under intensive patent issuance and enforcement for several decades. Using network visualization software, I show that information and communication technology markets rely on patent pools and other cross-licensing structures to mitigate or avoid patent thickets and associated inefficiencies. Based on the composition, structure, terms and pricing of selected leading patent pools in the ICT market, I argue that those pools are best understood as mechanisms by which vertically

integrated firms mitigate transactional frictions and reduce the cost of accessing technology inputs. Appropriately structured patent pools can yield cost savings for intermediate users, which may translate into reduced prices for end-users, but at the risk of undercompensating R&D suppliers.

IP & Innovation

Exclusive rights to saving the planet: the patenting of geoengineering inventions

Anthony E. Chavez (Northern Kentucky University – Salmon P. Chase College of Law)

Northwestern Journal of Technology and Intellectual Property, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2430456

We will not be able to curtail greenhouse gas emissions quickly enough to avoid dramatic climate change. Thus, we should anticipate that society will consider implementing climate engineering, either to avert a climate catastrophe or to reduce atmospheric carbon. Although geoengineering research is still in its infancy, in recent years the number of geoengineering patents has increased dramatically. Because of the importance of these technologies to society's future, the United States needs to ensure that these patents do not deter innovation nor prevent these technologies from being available for implementation. Specifically, it should develop unique procedures to approve these applications and form a patent pool that will facilitate both innovation and accessibility.

Expired patents

Saurabh Vishnubhakat (Duke University – School of Law)

Catholic University Law Review, Vol. 64, No. 2, 2015

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427946

This article presents a comprehensive empirical description of the public domain of technologies that have recently passed out of patent protection. From a new dataset of over 300,000 patents that expired during 2008–2012, the study examines technological, geographical, and procedural traits of newly public inventions as a basis for exploring the social value associated with their competitive use. Moreover, comparing these inventions to inventions newly patented during the same period enables more specific discussion of how the balance of innovation in the United States continues to change.

Big banks and business method patents

Megan M. La Belle (Catholic University of America – Columbus School of Law)

Heidi Mandanis Schooner (Catholic University of America – Columbus School of Law)

16 U. Pa. J. Bus. L. 431 (2014)

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427986

The banking industry and the patent system are longstanding American institutions whose histories date back to the founding of this country. Historically, however, the paths of these two institutions rarely crossed. Although financial firms have been increasing their innovative output for decades now, until recently they relied on trade secrecy, first mover advantages, and other business mechanisms to protect and monetize their intellectual property — not patents.

Through a convergence of circumstances over the past several years, that pattern has changed. The shift began when the Federal Circuit decided that business methods — banks' primary mode of innovation — are patentable subject matter. That decision triggered an increase in the number of business method patents issued by the PTO, and, correspondingly, a surge in patent infringement litigation targeting big banks. When the banks found little success in court, their powerful lobby persuaded Congress to include a

special carve out for financial patents in the America Invents Act — the comprehensive patent reform legislation enacted in 2011. Meanwhile, as the financial industry sought legislative favor to ward off future infringement suits, many of the big banks built substantial patent portfolios of their own.

This Article explores this nascent relationship and considers some potential implications of growing bank involvement in our patent system. It suggests that the intersection of these institutions could yield some benefit, for example by improving the publicly available information regarding financial innovations. Yet, more pointedly, it warns of possible harms, especially if big banks use their political and economic power to disproportionately influence patent reform and innovation policy in the future.

Import competition, multi-product firms, and basic innovation

Runjuan Liu (University of Alberta)

Carlos Rosell (University of Toronto)

Journal of International Economics, Vol. 91, No. 2, 2014

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2428379

How does firm strategy to produce basic innovation respond to international trade? Given the importance of basic innovation for economic growth and welfare, better understanding of this question is essential. In this vein we combine patent, firm, product, and trade data to show that when confronted with higher import penetration, the nature of firm innovation becomes less basic. We propose that underlying this result is the interplay between multi-product firms that narrow their product scope when exposed to greater import competition and the difficulty inventors face when capturing all benefits derived from their basic innovations.

Making room for cooperative innovation

Liza Vertinsky (Emory University School of Law)

41 Florida State University Law Review (2014)

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2435207

Patent law, created in response to a constitutional mandate to encourage innovation, may be discouraging important forms of cooperative innovation. Advances in technology have enabled new ways of pooling knowledge and computational capabilities, facilitating cooperation among many participants with complementary skills and motivations to collectively solve complex problems. But emerging models of cooperative innovation increasingly run into patent roadblocks.

Why might patent law sometimes thwart instead of support socially beneficial cooperative innovation? The problem lies in the tensions between the market-based incentives that patent law creates and the mechanisms that support emerging models of cooperative innovation. The complexity and cost of solving contemporary public challenges are nudging diverse participants together to collectively build their knowledge, but patents often serve to keep them apart. While digital technologies enable new forms of massively distributed, open and collaborative intellectual production, patents threaten the vitality and even the viability of these promising types of innovation.

In this Article I use two examples – the risk of crowding out crowd science and the battle between proprietary software companies and free open source software platforms, to illustrate how patent law in its current form may sometimes impede beneficial cooperation in innovation. I then suggest how we might limit the negative effects of patents in contexts of cooperative innovation without undermining the patent system.

University patenting: a comparison of 300 leading universities worldwide

Christian Fisch (University of Trier – Faculty of Management)

Tobias Michael Hassel (Technische Universität München – TUM School of Management)

Philipp G. Sandner (Technische Universität München – TUM School of Management)

Jorn H. Block (University of Trier – Faculty of Management)

Working Paper Series

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2433753

Despite a worldwide increase in university patenting, empirical studies have largely focused on analyzing university patenting in individual countries and regions. We provide analyses from an international perspective, examining patents at the top 300 universities worldwide. By providing a patent ranking system and an analysis of the determinants of university patenting, we enable an international comparison not only between different countries but also between universities within countries. A ranking of the top-patenting universities shows a huge predominance of US universities: 18 of the top 25 universities are located in the US, with the Massachusetts Institute of Technology (MIT) being ranked first. Our results show that the propensity to apply for patents is very high among US and Asian universities, while European universities lag behind. In addition to the home country, further determinants of university patenting are the quantity of the universities' publications and a technological focus in areas such as chemistry and mechanical engineering. However, the size of a university and the quality of its publications are not found to be significant determinants.

Radical or incremental innovations – R&D investment around CEO retirement

Crystal Xu (Rutgers University)

Meng Yan (Fordham University)

Journal of Accounting, Auditing and Finance, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2435293

We study the impact retirement has on how CEOs spend R&D funds. Consistent with retiring CEOs' short horizons and growing conservatism, we find evidence that CEOs tend to prefer incremental innovations as they approach retirement. Using patent data to measure firms' innovation outputs, we find that firms receive fewer patent grants for applications filed toward the end of CEO tenures, and these patent grants receive fewer subsequent citations. Moreover, we find that large amounts of vested, in-the-money option holdings exacerbate retiring CEOs' preference for incremental innovations, and founder CEOs pursue incremental innovations to a greater extent than non-founder CEOs close to retirement. However, a normal "relay process" of managerial succession and higher stock ownership by independent directors mitigate retiring CEOs' preference for incremental innovations. We find no evidence that the documented incremental innovations before retirement are driven by either poor firm performance or a general shift from innovation to stability as CEO tenures increase or as CEOs age. Overall, the study identifies a new type of myopic behavior related to CEO retirement and highlights the importance of looking beyond R&D spending in future studies on the managerial investment myopia.

IP Law & Policy

Free trade in patented goods: international exhaustion for patents

Sarah Rajec (Stanford Law School)

Berkeley Technology Law Journal, Vol. 29, 2014, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2428383

Modern international trade law seeks to increase global welfare by lowering barriers to trade and encouraging international competition. This "free trade" approach, while originally applied to reduce tariffs

on trade, has been extended to challenge non-tariff barriers, with modern trade agreements targeting telecommunication regulations, industrial and product safety standards, and intellectual property rules. Patent law, however, remains inconsistent with free-trade principles by allowing patent holders to subdivide the world market along national borders and to forbid trade in patented goods from one nation to another. This Article demonstrates that the doctrines thwarting free trade in patented goods are protectionist remnants of long-abandoned pre-Industrial Age economic theories, and the modern arguments for restricting international trade in patented goods — most notably, the possible desirability of permitting price discrimination — provide an insufficient justification for restricting trade across national frontiers. The Article concludes that modern patent law doctrine should be modified to permit free international trade in patented goods and that, if price discrimination or other goals are thought desirable, better alternatives are available to achieve those goals.

Evaluating the duty of disclosure in patent law

Jeffrey M. Kuhn (University of California, Berkeley – School of Law)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2431395

U.S. patent law imposes on applicants a duty to submit relevant prior art references to the USPTO, but the impact of this duty is unclear. On one hand, some studies suggest that applicant-submitted prior art references play an important role in influencing the scope of issued patents. On the other hand, some scholars have argued that examiners tend to ignore applicant-submitted references in favor of their own search results. Moreover, the duty of disclosure forces applicants to bear both compliance costs and risks associated with undercompliance. In this paper I analyze a novel data set I constructed that describes the prosecution histories of more than 1.4 million issued U.S. Patents. Applying this data set, I examine the extent to which the duty of disclosure yields references that patent examiners select to support rejections, which examiners use to weed out uninnovative patents and to force applicants to narrow overly broad patent claims. I also compare rejection references identified by applicants with those identified by examiners, and I identify characteristics of applicant-submitted references selected to support rejections. These findings have implications for several important legal and policy disputes, such as patent quality, proposed reforms to the duty of disclosure, and ongoing debates regarding the inequitable conduct doctrine.

Unraveling the USPTO's tangled web: an empirical analysis of the complex world of post-issuance patent proceedings

Mark Consilvio (Sterne, Kessler, Goldstein & Fox P.L.L.C.)

Jonathan R. K. Stroud (Finnegan, Henderson, Farabow, Garrett & Dunner LLP)

Journal of Intellectual Property Law, Vol. 21, No. 1, 2014

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427793

The system grows complex, and small patent-seeking entities suffer. The Leahy-Smith America Invents Act changed everything — notably by ushering in a number of new post-grant review procedures, thus increasing the complexity of an already-complex system of patenting. Instituted on Sept. 16, 2012, post-grant review procedures have left small entities behind. Analysis of Inter Partes Review (IPR) filings shows that small entities are already grossly underrepresented. This trend is likely to continue unless the PTO makes a significant commitment to level the playing field. We suggest means of doing so.

The article details the legislative history and the history of the reexamination regime, examines the relevant pending petitions, and argues that small entities are underrepresented by the new regulations and the early petitions. It provides up-to-date statistics on IPR review and the related stay proceedings in a clear, concise, and easy-to-digest format, and seeks to explain this new, complicated area so practitioners, patentees, and judges can grow familiar with it.

Regulatory monopoly and differential pricing in the market for patents

Neel U. Sukhatme (Princeton University)

Washington and Lee Law Review, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2431473

Patent law is inextricably tied to the economics of monopolies, as patents are legal monopolies awarded to inventors to incentivize innovation. Yet legal scholars have largely ignored another crucial monopoly at the heart of patent law: the monopoly of the U.S. Patent and Trademark Office (PTO) over the granting of patents. The present Article remedies this oversight and introduces the broader concept of a regulatory monopoly — a single governmental actor with the power to set prices in a regulatory area.

Using insights from both neoclassical and behavioral economics, the Article explains how regulatory monopolies like the PTO can enhance social welfare via differential pricing — that is, by charging regulated entities differing fees based on their willingness or ability to pay. In particular, the Article shows how the PTO could increase its revenues and promote innovation by charging different patent “prices” for inventions in different industries. Such pricing could also be used to tailor effective patent term across industries, an emergent goal for many patent scholars.

The Article discusses how recent empirical and legal developments have made differential patent pricing possible. It then generates differential prices by leveraging new empirical research that measures the relative importance of patent protection across industries. The Article concludes by discussing how recent patent reform (the America Invents Act of 2011) provides the legal basis for the PTO to conduct differential pricing, and estimates the welfare gains from shifting to a differential pricing regime.

Intuitive patenting

Emily Michiko Morris (Indiana University – Robert H. McKinney School of Law)

South Carolina Law Review, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2429399

Patentable subject matter determinations are ultimately based not on judicial doctrines and tests or statutes or even on precedent or the economic rationales underlying the patent system. Rather, the fundamental touchstone for what qualifies as patentable technology is simply intuition. Specifically, despite the Federal Circuit’s rejection of “technological arts” as a linguistically bright-line test, patentable subject matter decisions inevitably devolve into what is at base an intuitive sense of what constitutes technology of the type protectable under the patent system.

Patent litigants, patent quality, and software: lessons from the smartphone wars

Ronald A. Cass (Boston University School of Law)

Minnesota Journal of Law, Science & Technology, Vol. 16, No. 1, 2015, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2431285

Commentators, public officials, and scholars have sounded alarms over the smartphone patent wars — hundreds of cases asserting infringement of patents by makers of smartphones and tablet computers — often suggesting broad, categorical “fixes” to problems this litigation reveals. In general, these recommendations sweep too broadly, throwing out good claims as well as bad and needed remedies as well as questionable ones. However, calls for attention along two margins promise improvements. One factor, the identity of the enterprise asserting patent rights, already is being used by courts in considering appropriate patent infringement remedies but its use needs to be refined. The other factor, patent quality — especially in software patents, where the existence of parallel schemes of intellectual property protection exacerbates quality problems — is even more critical to the way the system operates. Addressing the patent quality issue (which is distinct from patent clarity or patent notice) can do more than other reforms to reduce costs without reducing innovation incentives.

Copyright Law

Rebalancing copyright exhaustion

Guy A. Rub (Ohio State University – Michael E. Moritz College of Law)

Emory Law Journal, 2015, *Forthcoming*

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2433780

In 2013, in *Kirtsaeng v. John Wiley & Sons*, the Supreme Court wrote another chapter in the ongoing story of copyright exhaustion. This important decision is part of a series of recent decisions in high-profile cases and a vibrant discourse, domestically and internationally, regarding the scope of copyright exhaustion, and, more broadly, the ability of copyright owners to control the distribution of their work along the chain of commerce. Unfortunately, this discussion rarely explores the modern justifications for copyright exhaustion, which makes it notoriously incoherent, inconsistent, and confusing.

This Article suggests that copyright exhaustion should be primarily perceived as a tool to reduce information costs. Without it, buyers will need to inefficiently waste resources inquiring whether they will be able to resell copyrighted work. Because resale rights are typically socially desirable, especially as they eliminate waste, the law should usually provide those rights to buyers. Copyright exhaustion also has costs. The main cost is the reduction in the incentives to create that is the result of the limitation that copyright exhaustion places on certain price discrimination practices. The balance between the reduction in information costs and the harm to incentives should dictate the scope of the copyright exhaustion.

This Article applies this balanced approach and explores the desired scope of copyright exhaustion. It concludes, *inter alia*, that it should not prevent copyright owners from exercising control over importation of copyrighted goods or over distribution of digital work. However, contracting around copyright exhaustion should be restricted and copyright owners should not be allowed to circumvent it just by including “magic words” in their standard-form agreements.

IP & Asia

Patently lacking: a call for systemic review of pharmaceutical law and policy — a case study of Hong Kong

Bryan Christopher Mercurio (The Chinese University of Hong Kong)

Daria Kim (The Chinese University of Hong Kong)

Asian Journal of WTO & International Health Law and Policy, Vol. 9, No. 1, pp. 63-123, March 2014

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2431222

This article offers preliminary findings into the pharmaceutical laws and policy of Hong Kong. Applying a framework approach to identifying the linkages between pharmaceutical patents and policy objectives in the areas of public health, medical innovation and pharmaceutical industry development, the article examines the pharmaceutical patent regime as an integrated system of patent and regulatory laws which govern pharmaceutical patents and products and explores the way such provisions operate at a complex intersection of policy objectives, priorities and mandates. The study reveals contradictions in the way in which the provisions are implemented within Hong Kong’s pharmaceutical patent system as well as certain discrepancies between the system and broader governmental agendas. In so doing, the article demonstrates the importance of clear policy objectives in intellectual property, innovation and pharmaceutical industry as well as the need for sector specific empirical studies and an integrated approach for establishing a better functioning pharmaceutical patent regime. The perspectives and considerations revealed in the analysis are of interest and applicable to other jurisdictions in that they provide a framework for policy and law makers to implement pharmaceutical legal and regulatory

provisions in a more coherent and systematic manner conducive to national priorities and balancing interests and needs of the stakeholders and the populace.

The patent protection of clean energy technology and industry: world's development and China's response

Anlei Zuo (University of Hong Kong)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2411908

The rapid development of clean energy technology and industry has become the new growth point and fresh direction of world economy. It is also quite significant for China's energy security and energy independence, environmental protection, and economic development. Undoubtedly, clean energy international competitions and future development trends have already been formed and been involving. With the data analysis from four agencies' reports (EPO; USPTO; WIPO; 2010 Joint Report of EPO, UNEP and ICTSD), this paper specifies the development of patented technology of clean energy in the world and make a comparison with China's status quo. There are sufficient data support for that China has been making great progress in the technology development and commercial application in many fields including wind power, solar energy and biomass, but the rapid development in clean energy market cannot hide China's status quo of falling behind on clean energy technologies development and their patents protection. Then this paper elaborates about China's plight on patent protection of clean energy technology and industry, and provides recommendations for China's advisable strategic choice. China needs to learn from the experience of other countries, and China's proper response includes several aspects regarding establishing the patent protection and technology industry development in conformity with the nation's interest.

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.

Contact

For more information about this issue of *IP Literature Watch*, please contact the editor:

Anne Layne-Farrar

Vice President

Chicago

+1-312-377-9238

alayne-farrar@crai.com

www.crai.com/antitrust

www.crai.com/ip

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