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Strengthening Intellectual Property Rights

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Overview

This memo offers an analysis of some of the most pressing issues in the US patent system, including bad patents, patent trolls, and patent thickets.[1] Today's patent landscape is decidedly anticompetitive, where the US Patent and Trademark Office (USPTO) is inundated with bad patents that obscure real innovation. It is also predatory, due in part to the practices of companies that aggressively solicit lawsuits at minimal cost without any innovation of their own—known as patent trolls. Meanwhile, truly productive companies are forced to aggregate patent portfolios, contributing to the problem of dense patent thickets, bureaucracy, and cross-licensing issues.

Patents first flourished when the US Patent Act of 1790 refined property rights for intellectual property (IP).[2] With a low barrier fee, an impersonal patent application process, and a "first and true inventor" system for the patentee, the act spurred innovation in a regulated IP environment. According to Stephen Haber, this is because IP rights are "property right[s] like any other," and have the same effect as other property rights on a demand curve. They are only distinct from regular property rights because they are time limited— bounded by twenty years. However, since 1790, IP rights have largely declined, with negative effects on the market.

Immediate prescriptions to strengthen IP rights include the following:

1. Establish an "inventive step" requirement in the patent application process;
2. Penalize patent trolls for frivolous lawsuits; and
3. Machete patent thickets produced by cross-licensing and reciprocity.

I urge the House Subcommittee on Information Technology to legislate following these recommendations, fostering innovation and protecting free enterprise.

Bad Patents Obscure Good Inventions

The current IP rights system incentivizes companies to "declare as many patents as possible 'essential' to various standards," with the intent to demand royalties from competitors using those standards.[3] Competitors who refuse to pay are met with a lawsuit and a block on sales. For example, a case in 2011 put the standard for "fair, reasonable, and non-discriminatory" (FRAND) terms on essential patents into question. Motorola and Samsung engaged in anticompetitive behavior, with their smartphone patent cases built on FRAND terms, when they sued competitors to "block products when there's no agreement."

The information technology industry is "rife with overly broad," patents that claim ownership over obvious or trivial designs, concepts, and technologies.[4] An example

of a bad patent is Amazon's patent on the process that allows "people to buy things with a single click." With a flood of patents like Amazon's, the US patent system causes companies to compete over property rights in a gray area of unclear patents. According to the Electronic Frontier Foundation, bad patents "threaten the healthy competition we rely on to spur companies and technologists to experiment and out-innovate one other."[5]

These generic patents have facilitated the development of patent wars in the information technology sector since the late 1990s. I urge you, Rep. Hurd, to encourage the issuing of exclusively high-quality patents, and center reform around tougher scrutiny in the USPTO.

Patent Trolls and Asymmetric Warfare

Patent trolls, or Patent Assertion Entities (PAEs), are companies that own patents in order to solicit payments from other companies or individuals who they allege infringe on their patent. PAEs almost never contribute to innovation and practice a business model at odds with a free and fair market. These companies do not make products and exist solely on the revenue generated by their patents, thus they can be rightly called Non-Practicing Entities (NPEs).

In addition to being bad for consumers, PAEs can damage major US companies and small and medium enterprises (SMEs) alike. NPE patent claims over IP ownership cost US companies over $29 billion in 2011.[6] Since PAEs are incapable of infringing on others' patents, as they do not create anything, they have nothing to lose in battles over claims. They thus cannot be countersued; what Levy calls "asymmetric warfare." Khan and Mossoff demonstrate that these firms specializing in enforcing patented technologies developed by invention specialists actually cause deadweight loss in the market.[7]

This systemic advantage, where it only costs "a few thousand [dollars]" for a patent at the benefit of "easily… millions [of dollars] through litigation," benefits PAEs. While companies can fight off these lawsuits, the vast majority choose quick settlements. Further, many claims are baseless, as defendants who fight PAEs win 92% of the time. This unfair landscape, where it is more expensive to fight than settle, favors PAEs and makes "trolling a multibillion-dollar industry" with no consumer benefit. Therefore, Congressional patent reform must effort to protect consumers, as I discuss below.

Patent Thickets: Modern Day Collusion

Carl Shapiro coined the term patent thickets and described it as "a dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology."[8] In essence, because IP rights must be licensed, actors and companies must specialize in a role in a technology's

development, from applications to contracts to technological integration.[9] In the information technology industry, many patents overlap in scope so it is unclear from whom one needs to seek a license. Due to cross-licensing, independent inventors are stuck in a web of costly cross-licenses and claims.

In an example of patent wars, when Eastman Kodak sued Sony in 2007 for "encroaching on ten patents concerning digital cameras and camcorders," Sony responded with a suit against Kodak citing ten different patents.[10] Despite this back-and-forth, the two companies came to a "cross-licensing agreement to protect their patent portfolios." Rather than fight a legal battle, companies often choose to cross-license to gain royalties and grow the thicket.[11]

Specifically, patent pools, or the agreements between multiple patent owners to license their patents to one another or a third party, are the cause for dense packet thickets in the US.[12] While in theory patent pools may facilitate innovation through IP asset sharing, they "risk collusive behavior." Patent pools may increase transaction costs and lead to chilling effects on new product development. Therefore, patent thickets may distort competition, limit the rights of patent holders due to enmeshing cross-licensing, and infringe on antitrust statutes.

Recommendations and Implications for the US Patent System

Bad Patents

In the current system, "bad actors can easily use [bad patents] to threaten all kinds of innovators" and those that benefit are the NPEs and patent attorneys, not inventors.[13] To fix this, I recommend that you and your colleagues in the House push legislation that augments the standard for nonobviousness in patents with an "inventive step."

In *KSR v. Teleflex* (2007), KSR argued that the decision of the Circuit Court against it would produce too many patents of obvious inventions. The Supreme Court essentially replaced the standard of nonobviousness with nonpredictability, holding that Teleflex's patent was obvious and invalid.[14] The Supreme Court made the argument that a "person of ordinary skill in the art," or PHOSITA, should be able to replicate and see the "obvious benefit" of the combination of gas pedal and electronic sensor technology. *KSR v. Teleflex* serves as a lesson of the dangers of a strict standard of nonobviousness, which lacks an element of inventiveness that should be a requirement for patents in the USPTO.

A study by Petra Moser demonstrated a correlation between countries with strong, enforceable patent systems and higher GDPs.[15] The countries with weaker patent systems, like Switzerland and the Netherlands, ultimately could not compete across a broad variety of industries like those with strong patents systems, such as Britain and the United States. Weakening IP rights in the United States and a lack of an inventive step have led to an increase in bad patents.

I recommend you write a bill for the USPTO to require an inventive step, as practiced in European courts, rather than only adhere to a doctrine of nonobviousness. Such legislation may weed out bad patents and foster innovation, rather than redundancy and overreach.

Patent Trolls

To stop patent trolls, I encourage you to support legislation that raises the penalties "against NPEs that lose patent infringement lawsuits."([6] It is critical to give NPEs a disincentive to risking frivolous litigation and widespread lawsuits.

For example, The Leahy-Smith America Invents Act (AIA) of 2011 was a significant step in leveling the playing field.[17] It allows for post-grant opposition (PTO), which allows patent holders to reissue and amend their patent and others to challenge claims and conduct a reexamination and opposition through the USPTO. Starting in 2013, the United States shifted from a "first to invent" to a "first inventor to file" system, protecting independent inventors and large companies alike. This allows the USPTO to throw out "egregious claims" before the defendants are forced into a full trial. I encourage you and your colleagues to support legislation like the AIA to demarcate the rights of companies against the patent flood triggered by trolls.

In *TC Heartland v. Kraft Foods* (2017), the Supreme Court tightened rules against forum shopping, the filing in distant, favorable districts far from the defendant, with respect to 45% of all cases being filed in eastern Texas.[18] Aligned with *TC Heartland*, it is imperative that you pursue a legislative agenda that discourages frivolous litigation and forum shopping characteristic of patent trolls to ensure a competitive information technology market.

Patent Thickets

Patent thickets in certain industries obstruct innovation. Similar to the solution to bad patents described earlier, I again recommend legislating an inventive step to reduce the amount of bad patents that must be navigated through cross licensing within a patent thicket.

In terms of limitations on my recommendation, according to Lewis, packet thickets "should not be viewed as a block on innovation but rather a milestone of progress." They appear whenever there is a "major technological advance" and stay until a market equilibrium. Regardless of patent thickets being a temporary problem, it is important for legislators to attempt to alleviate costly burdens of cross-licensing on American companies.[19] Patent thickets are still subject to market effects where "transaction costs…become burdensome" as the number of "players and patented features increase."[20] Despite Lewis' criticism, it is clear that patent thickets still present a major blockade to innovation in affected industries.

The largest patent thicket in the world today is that for smartphones.[21] This is in part due to its density—over 80% of patents on smartphones are valid, according

to a 2012 USPTO study by Director David Kappos.[22] Nonetheless, companies such as Apple, Samsung, Google, Research in Motion, Microsoft, Nokia, Motorola, HTC, and others are enmeshed in a web of patent infringement suits. It appears that the smartphone patent thicket is entrenched as each patent holder holds an "exclusive right to one or many small features of the smartphone," and thus can obstruct others from manufacturing a whole smartphone.[23] Thus, I recommend you and your colleagues seek ways to reduce broad patents that make the thicket exceedingly costly for companies to navigate.

Conclusion and Proposal

Based on the recent history of patents, I conclude that the most pressing issues—bad patents, patent trolls, and patent thickets—are intimately related. Congress must pass more strict IP-Pright enforcement. The current patent mess damages free enterprise in the United States with unclear property rights that repress inventors.

To solve bad patents, and by extension patent thickets, I propose you legislate an "inventive step" as a requirement in the patent application process to clarify the specter of nonobviousness. Last, to reduce PAEs, I urge you to legislate increased penalties on frivolous lawsuits, shifting the burden of proof on to patent trolls and returning power to the consumer.

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[1] Austin McLaughlin, "Information Technology Patent Problems and Prescriptions," March 31, 2017.

[2] Stephen Haber, "Making the US Economy Grow Again: The Role of Intellectual Property Rights," lecture, Hoover Institution, Stanford, California, August 23, 2017.

3 Nilay Patel, "The 'Broken Patent System': How We Got Here and How to Fix It," *The Verge,* July 10, 2012.

[4] Steven Levy, "The Patent Problem," *Wired,* November 13, 2012.

[5] "Patents," *Electronic Frontier Foundation,* accessed February 13, 2018, https://www.eff.org/issues/patents.

[6] Levy, "The Patent Problem."

[7] Haber, "Making the US Economy Grow Again."

[8] Stefan Wagner, "Are 'Patent Thickets' Smothering Innovation?" *Yale Insights,* April 22, 2015.

[9] Haber, "Making the US Economy Grow Again."

[10] Levy, "The Patent Problem."

[11] Haber, "Making the US Economy Grow Again."

[12] "Patent Pools and Antitrust—A Comparative Analysis," World Intellectual Property Organization, March 2014.

[13] Electronic Frontier Foundation, "Patents."

[14] "KSR International Co. v. Teleflex Inc," Oyez, accessed March 31, 2017, https://www.oyez.org/cases/2006/04-1350.

[15] Haber, "Making the US Economy Grow Again."

[16] "Patent Trolls: Why No One Likes Them," *The Economist,* March 3, 2015.

[17] Levy, "The Patent Problem."

[18] "TC Heartland LLC v. Kraft Food Brands Group LLC," Oyez, accessed March 13, 2017, https://www.oyez.org/cases/2016/16-341.

[19] Wagner, "Are 'Patent Thickets' Smothering Innovation?"

[20] Jeffrey Lewis, "The Sky Is Not Falling: Navigating the Smartphone Patent Thicket," *WIPO magazine* (World Intellectual Property Organization), February 2013.

[21] Haber, "Making the US Economy Grow Again."

[22] Lewis, "The Sky Is Not Falling."

[23] Lewis, "The Sky Is Not Falling."