

Testimony of US Inventor

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The United States patent system has failed. China is rising.

Thank you, Mr. Chairman and Mr. Ranking Member for inviting the 13,000 citizen activists of US Inventor here today. I am honored to testify on their behalf.

US Inventor is an organization that works to educate Congress and America in general about the damage that 15 years of errant patent reform has brought on inventors and startups. We are advocating for legislation to improve the patent system so that inventors can attract investment to commercialize their inventions. This has the effect of creating jobs, stimulating economic growth, and protecting our national and economic security by keeping America in the global lead of technology.

Today, patents are useless to the very entities the patent system was created to help... inventors and patent-based startups. The vast majority of patents held by inventors and startups cannot be defended due to massive fundamental changes to the patent system at all levels.

Over the past fifteen years, the “*government has changed rules and laws in prior art scope, invention priority, injunction conditions, litigation venue, patent construction, error correction, enabling disclosure requirements, expanded mental step doctrine, abstract idea doctrine, invalidation procedures etc. to make sure that patent applicants will not get patents, patent applications will be denied, granted patents will be invalidated, survived patents cannot be enforced, patents in suit will get less or no damages, and patent owners are thrown out of court or rewarded with liabilities.*”¹ Many of these changes were results of the Supreme Court legislating new patent laws with no supporting law without public debate.²

These changes have virtually all gone on the direction of harming small inventors and startups making our patents undefendable. It is an economic fact that a patent that cannot be defended,

¹ <http://www.ipwatchdog.com/2017/07/23/call-enacting-urgent-patent-reform-new-patent-system-securing-u-s-technological-leadership/id=85906/>

² <https://www.ipwatchdog.com/2016/06/06/supreme-court-legislated-patent-reform/id=69646/>

cannot attract investment. With stagnant investment into startups,³ our primary job creation engine is stagnant.⁴

Most inventors lack a means of voicing their objections due to lack of organization, funding, knowledge, relationships or experience. Many are just too busy inventing to pay attention. For most, the damage remains unknown until they attempt to either commercialize or license their inventions, and then find it impossible protect their invention in the market it created. Worse, if they defend their patented invention, they will burn millions of dollars and are often forced to forfeit the patents for lack of resources. Thus, lawmakers and courts do not hear their objections and continue with more and more damaging reforms.

Of the changes made in the last 15 years, three are the most violent to the rights of inventors and startups: The America Invents Act (AIA) created the Patent Trial and Appeal Board (PTAB), which invalidates 84% of challenged patents; eBay v MercExchange effectively eliminated injunctive relief; and the subject of this hearing, Alice v CLS Bank let loose a demon called the “abstract idea” that has no definition and is invalidating 67% of challenged patents.

But, many multinational corporations are testifying as themselves and testifying through proxies of their lobbying organizations. For example, the High-Tech Inventors Association, the Electronic Frontier Foundation, and the Internet Association are funded by and act as a voice for Amazon, Facebook, Google, Microsoft, Apple and other big tech monopolies, all of which benefit from weak patent protection.

US Inventor represents inventors inventing technology to compete with these big tech monopolies, yet we combined have only one voice and only five minutes of oral testimony for all of us.

The big tech monopoly has more than 100 minutes via direct and proxy testimony before this subcommittee, at least 20 times that of US inventors’ 5 minutes.

Of the 45 entities testifying in these hearings on Section 101, it appears that US Inventor is providing the only patented inventor, and certainly the only patented inventor who used patents to attract investment to start up a company commercializing the patents.

This unfairly equips big corporations with an outsized voice in influencing patent law for their own benefit. It skews due diligence performed by Congress and will push legislation to favor big corporations at the expense of all others, including US inventors.

US Inventor recommend that more inventors be allowed to testify so that Congress can fully understand the plight of inventors and startups under the current gutted patent system.

³ <https://medium.com/the-mission/state-of-seed-investing-in-2018-25eb28ac0e93>

⁴ <https://www.brookings.edu/research/the-state-of-competition-and-dynamism-facts-about-concentration-start-ups-and-related-policies/>

False political narratives

False political narratives condense complicated issues into an object and then villainize the object. Once a villain is created, its evil can be expanded to encompass anything you don't like. When you have pushed enough bad stuff into the moniker, you can simply state its evil name, add a few campaign contributions, and Congress will magically pass laws in your favor to kill the villain.

Two false political narratives: one called a “patent troll”⁵ and the other called a “bad patent”⁶, have been created to weaken patent rights for inventors and startups. Hundreds of millions of dollars to push these false narratives into public and political discourse, and to drive self-serving changes to patent law in the courts, the USPTO, the DOJ, the FTC, and in Congress.

The result is that the patent system has been turned on its head. Inventors are now villains called “patent trolls” simply because they assert their hard-earned patent rights (now called “bad patents”) against big tech monopolies who steal these inventions. False statistics and analysis paid for by multinationals infringers shore up this huge lie.⁷ This cunning theme suggests that our national innovation ecosystem is somehow fostered by infringement of patented technologies belonging to startups and inventors by big corporations who have huge market resources and deep pockets and can massively commercialize them.

The halls of Congress are infected with stories explaining how “bad patents” destroy innovation. Big corporations demand that Congress preserve Supreme Court legislated exceptions to Section 101 subject matter eligibility, and that USPTO Director Iancu revert back to previous PTAB rules because both kill “bad patents” and this is the only way to protect us from evil “patent trolls”.⁸

We live in a global economy, so actions taken here have counteracting actions abroad. China watched as we weakened our patent system and responded by strengthening theirs.⁹ The AIA was made law in 2011, which dramatically weakened patent protection for inventors. Not coincidentally, China began strengthening their own patent system the same year.¹⁰ By 2015, nearly twice as many patents were filed in China (1,101,864) than in the U.S (589,410).¹¹ Venture capital is fleeing to China as a result.¹² Not surprisingly, “*In 2015, about 12,000 new companies were founded each day in China and the number of newly registered companies grew to 4.4 million with a growth rate of 21.6% year-on-year.*”¹³ By 2016, U.S. startups were at a 40

⁵ <https://judiciary.house.gov/wp-content/uploads/2017/06/06.13.17-Mossoff-Testimony.pdf>

⁶ <https://www.ipwatchdog.com/2019/03/29/bad-patents-are-just-another-big-tech-false-narrative/id=107819/>

⁷ <https://www.wsj.com/articles/paying-professors-inside-googles-academic-influence-campaign-1499785286>

⁸ <https://www.eff.org/effector/32/3>

⁹ See http://english.sipo.gov.cn/news/official/201402/t20140226_907949.html and

<http://www.managingip.com/Article/3384964/China-patents-How-specialised-courts-will-affect-patent-cases.html> and CHINA'S IQ (INNOVATION QUOTIENT) TRENDS IN PATENTING AND THE GLOBALIZATION OF CHINESE INNOVATION, REUTERS September 2014

¹⁰ <http://www.nytimes.com/2011/01/02/business/02unboxed.html>

¹¹ http://www.wipo.int/pressroom/en/articles/2016/article_0017.html

¹² <http://watchdog.org/283886/venture-capital-chases-patents-friendlier-climes/>

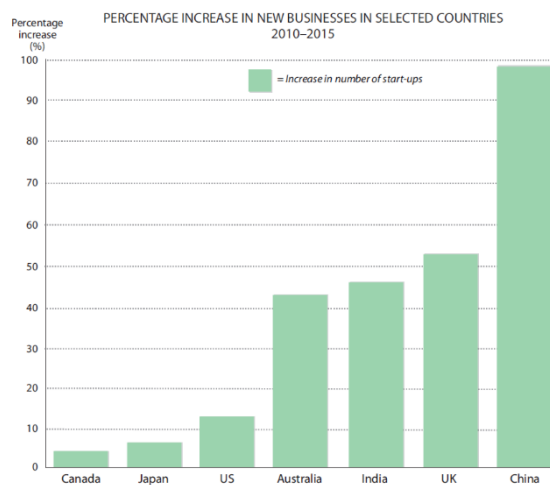
¹³ Handbook for Finnish Startups Entering the Chinese Market, ISSN 1797-7339, ISBN 978-952-457-630-7

<https://www.google.com/url?sa=t&rc=tj&q=&esrc=s&source=web&cd=2&ved=0ahUKEwimwsnIspvVAhXFQiYKHRk3DFcQ>

year low.¹⁴ In the U.S., the number of angel and seed stage funding rounds dropped 62 percent in the first quarter of 2017.¹⁵

Clearly, venture capital, startups, new technologies and jobs are moving to China and that movement directly maps to the destruction of the U.S. patent system and China's response of strengthening their own patent system.

And China continues to strengthen their patent system. In July 2017, China's President Xi Jinping said "*Wrongdoing should be punished more severely so that IP infringers will pay a heavy price.*"¹⁶ China launched an appeals court for patents in late 2018.¹⁷ The newly established IP Court is intended to function very similarly to the US Court of Appeals for the Federal Circuit, with a national jurisdiction over technical civil IP cases as well as appeals of patent validity decisions.



Certainly, China sees that their patent system is valuable to China's 2025 Initiative because it attracts investment into startups in the areas of artificial intelligence, machine learning, IoT, smart appliances, high tech ships and aerospace, medical devices, agricultural equipment and more. These industries are either fully implemented in software, or products in these industries are enabled by software.

On our side of the Pacific, the effect of weakening the protection of a property right is to crash its value, and patent values have plummeted by as much as 60% according to several studies by economists based on public sales and licenses.¹⁸ In the last five years, the gross value of patent sales is down 83%, the number of patents sold is down nearly 50%, and the average price per patent is down about 55%.¹⁹ New patent suits have dropped by as much as 40% in one year.²⁰ Most of that drop is in software inventions,²¹ a very important American industry that feeds

FggqMAE&url=https%3A%2F%2Fwww.tekes.fi%2Fglobalassets%2Fjulkaisut%2F338_2017_handbook_for_finnish_startups_for_entering_chinese_market.pdf&usg=AFQjCNGQ07NuqfJeyXKdMuk-iKJigBYSA&cad=rja

¹⁴ <http://money.cnn.com/2016/09/08/news/economy/us-startups-near-40-year-low/index.html>

¹⁵ <http://www.siliconvalley.com/2017/04/04/silicon-valley-investing-slump-continues-fewer-startups-get-funded/>

¹⁶ <http://www.ipwatchdog.com/2017/07/23/chinese-president-xi-jinping-says-infringers-punished-pay-heavy-price/id=85953/#comment-2743864>

¹⁷ <https://chinaipr.com/category/spc/>

¹⁸ Statement of JUDGE PAUL R. MICHEL (Ret.) former Chief Judge United States Court of Appeals for the Federal Circuit Before the Subcommittee on Courts, Intellectual Property, and the Internet COMMITTEE ON THE JUDICIARY United States House of Representatives "The Impact of Bad Patents on American Businesses" July 13, 2017

¹⁹ <http://www.ipwatchdog.com/2014/12/11/is-the-patent-market-poised-for-rebound-in-2015/id=52593/> A quote from Richard Baker, a senior IP licensing executive who is on the Board of LES, "the dollar value of patent sales are down 83% and the number of patents sold is down about 50%, and this is just in the last two years, but the most striking piece of data is that the average price per patent has gone down about 55%. So you a dramatic drop in value."

²⁰ See <http://www.law360.com/articles/585536/new-patent-suits-drop-off-sharply-from-last-year>

²¹ See DECEMBER 2014/JANUARY 2015, WWW.MANAGINGIP.COM, Software patent lawsuits plummet after Alice. This report contains parts 1 and 2 in a series of in-depth articles by Managing IP covering recent trends in patent litigation.

innovation in every other industry, and an industry critical to our economic and national security.²²

We are on the cusp of a substantial economic shock. To remain compliant with Sarbanes Oxley, public companies are required to adjust the value of patent assets held on their books to the current fractional values.²³ Collectively, these companies may be forced to write down trillions of dollars in patent assets from their books.²⁴ Asset write-downs on this scale have the potential to crash the economy and send the U.S. economy into recession.

While the loss of economic growth and job creation is bad enough, the loss of our technological lead will prove devastating to our national security. Entire new fields of technology are now controlled by Chinese firms.²⁵ We are seeing this unfold right now as Huawei has taken the lead in 5G dispatching 5G capable smartphones long before Apple. We will soon be in the thick a national security disaster as the U.S. is forced to purchase technologies critical to our infrastructure and military from the most powerful communist nation on earth, the Chinese.

What are “Patent Trolls”?

Some characterize “patent trolls” as rich investors who hijack²⁶ patents from inventors. Then, while providing no societal value, these “patent trolls” are viewed as extorting billions of dollars from small businesses and threatening R&D-related value creation based on the patent.^{27 28} Others describe “patent trolls” as lying in wait for the market to develop on an invention, and then sneaking up and attacking unsuspecting infringers.²⁹

Confusingly, some even allege that “patent trolls” actually invent new technologies themselves and then they patent it.³⁰

Except for the last curious characterization, the figures supporting these characterizations are false and unprovable. The Wall Street Journal exposed that Google paid seemingly credible academic institutions to produce fake reports.³¹ In other reporting, the underlying data, and the conclusions based on that data, come from biased sources with vested interests in a weak patent system.^{32 33} Often, the underlying data is secreted making it impossible for others to verify the

²² <https://www.nap.edu/read/2021/chapter/8#57>

²³ See <http://www.journalofaccountancy.com/Issues/2005/Nov/ValuingIpPostSarbanesOxley.htm>

²⁴ See <http://www.i4ilp.com/court/2011-03-17%20AmiCOUR%20IP%20Group%20Amicus%20Brief.pdf>

²⁵ <http://money.cnn.com/2016/09/08/news/economy/us-startups-near-40-year-low/index.html>

²⁶ Extracting a Toll From a Patent ‘Troll’, By FLOYD NORRIS, New York times, Published: October 17, 2013

http://www.nytimes.com/2013/10/18/business/extracting-a-toll-from-a-patent-troll.html?pagewanted=all&_r=0

²⁷ Patent Trolls, the Sustainability of ‘Locking-in-to-extort’ Strategies, and Implications for Innovating Firms

Joachim Henkel, Markus Reitzig, December 2010

²⁸ <http://www.youtube.com/watch?v=-gU09bWifFo>

²⁹ http://en.wikipedia.org/wiki/Patent_troll

³⁰ Ars Technica article by Jon Brodtkin - Aug 14 2013, 2:20pm CDT <http://arstechnica.com/tech-policy/2013/08/bill-gates-still-helping-known-patent-trolls-obtain-more-patents/>

³¹ <https://www.wsj.com/articles/paying-professors-inside-googles-academic-influence-campaign-1499785286>

³² GAO Report on Patent Litigation Confirms No “Patent Troll” Litigation Problem, blog post by Adam Mossoff — 17

December 2013. <http://truthonthemarket.com/2013/12/17/gao-report-on-patent-litigation-confirms-no-patent-troll-litigation-problem/>

³³ One such example is the misleading claim that frivolous patent suits cost businesses \$84 billion in annual litigation costs; yet, on its face this number is not credible. Approximately 6500 new Category 830 cases are logged annually in the PACER system and the vast majority are quickly settled or dismissed, suggesting the claimed calculation of \$12 million in legal defense costs per case as somewhat ridiculous. Nor does this widely disseminated \$84 billion number square with “buy the case back” no fight

findings.³⁴ For example, one widely publicized report attacking the quality of patents owned by “patent trolls” states that ~90% of cases brought by so-called “patent trolls” lose when brought to court.³⁵ This report is highly disputed with contrary evidence showing virtually no difference between “patent troll” owned patents and all others.³⁶ Another report by Boston University attacking the societal cost of “patent trolls” states that the “direct accrued costs” of “patent trolls” was \$29B in 2011 and that this is somehow a bad thing.³⁷ This report is frequently cited despite that the “direct accrued cost” actually represents perfectly legitimate and often voluntary licenses paid to patent holders for the use of their patented technologies.³⁸ In another widely used and misleading report, the number of lawsuits filed by so-called “patent trolls” has tripled from 29% to 62% since 2011.³⁹ The actual increase is near zero; the cited numerical increase is a direct result of rule changes in the AIA, which forced suits against multiple infringers to be filed separately.⁴⁰ In other words, the AIA forced the most compelling statistic supporting anti-troll legislation – case count – to move significantly up, thereby creating a false basis supporting a new round of anti-troll legislation.

Notably, reports where the underlying data is made publicly available contradict the reports where data is secreted. The truth is, even if there is a real problem with a few people abusing the system, the economic impact is far lower than claimed and is no different than has been the case for over 200 years.⁴¹ The risk associated with such misconceptions is that the proposed cure may be worse than the disease or may even kill the patient.⁴²

These false reports have been kept alive by big tech lobbyists. Julie Samuels of Google and other big tech funded Engine Advocacy testified under oath “*it has been estimated that patent trolls cost the U.S. economy at least \$29 billion per year*”.⁴³ As discussed previously, this is the Boston University School of Law report by professors James Bessen and Michael Meurer⁴⁴ that has been widely debunked as fake research likely paid for by Google. The danger is that a falsehood repeated enough times will become a credible perception of truth, as seems to have

troll settlement numbers being discussed by experts and ranging from \$75K to the extreme of \$750K. In other words, if every defendant folded his hand for the maximum of \$750,000, the theoretical maximum economic impact on business would be less than \$4.9 Billion.

³⁴ GAO Report on Patent Litigation Confirms No “Patent Troll” Litigation Problem, blog post by Adam Mossoff — 17 December 2013. <http://truthonthemarket.com/2013/12/17/gao-report-on-patent-litigation-confirms-no-patent-troll-litigation-problem/>

³⁵ Patent Quality and Settlement Among Repeat Patent Litigants, by JOHN R. ALLISON, MARK A. LEMLEY & JOSHUA WALKER, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1677785

³⁶ Framing the patent troll debate, by Professor Michael Risch; http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1792442

³⁷ James Bessen & Michael J. Meurer, The Direct Costs from NPE Disputes, 99 CORNELL L. REV., (Manuscript at 102–03) (2013). <http://www.bu.edu/law/faculty/scholarship/workingpapers/revcov.html>

³⁸ ESSAY, ANALYZING THE ROLE OF NON-PRACTICING ENTITIES IN THE PATENT SYSTEM, David L. Schwartz & Jay P. Kesan 2013 http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2117421&rec=1&srcabs=2158455&alg=1&pos=3

³⁹ PATENT ASSERTION AND U.S. INNOVATION, Executive Office of the President, June 2013 and <http://www.whitehouse.gov/blog/2013/06/04/taking-patent-trolls-protect-american-innovation>

⁴⁰ www.npedata.com

⁴¹ Study Paper 1a, Intellectual Property and Economic Development: Lessons from American and European History, http://www.iprcommission.org/papers/pdfs/study_papers/sp1a_khan_study.pdf

⁴² Indeed, the across the board imposition of Sarbanes-Oxley regulations seemed like a great idea at the time and was passed unanimously. The intended result of reducing financial fraud was barely curbed, but businesses, particularly smaller ones, faced mountains of paperwork and skyrocketing accounting costs and IPO activity moved offshore.

http://en.wikipedia.org/wiki/Sarbanes%E2%80%93Oxley_Act#Criticism

⁴³ https://judiciary.house.gov/wp-content/uploads/2017/07/Samuels_Written_Testimony_Bad_Patents_July2017.pdf

⁴⁴ Bessen, James and Michael Meurer. “The Direct Costs from NPE Disputes.” 28 June 2012. Cornell Law Review, Vol. 99, 2014, forthcoming. Boston Univ. School of Law, Law and Economics Research Paper No. 12-34: p. 2. https://www.bu.edu/law/faculty/scholarship/workingpapers/documents/BessenJ_MeurerM062512rev062812.pdf

become the case. It is ironic that the definitions used to describe “patent trolls” actually describe individual inventors, universities, small patent-based businesses, practicing companies and other legitimate patent holders who legally and rightfully enforce their hard-earned patent rights.^{45 46 47}
48 49 50 51

What are “Bad Patents”?

Big tech lobbyists define a “bad patent”⁵² as a “trivial variation,” an “abstract building block or technology,” or “so poorly written that it’s impossible to understand what it covers.” It is an emotional argument conjuring up feelings of anger and righteous indignation because “bad patents” are used to shake down innocent multinational corporations for something as inconsequential as patent infringement.

But what makes a “bad patent” bad? The answer should be found through logic and reason, not emotion and righteousness. Because patents are economic instruments, there must be a *net negative economic effect* for a patent to be “bad.” The reasonable question should ask if the patent creates a *negative economic effect* that is greater than its *positive economic effect*.

Fortunately, in February 2019 big tech gave the Senate Judiciary IP Subcommittee’s Section 101 roundtable some examples of “bad patents”: a method of proposing marriage⁵³, a method of swinging on a swing⁵⁴, and Amazon’s one-click patent⁵⁵.

Do these patents have a *net negative economic effect*. (If you want to see more “bad patents” they are available at the Electronic Frontier Foundation⁵⁶, or Patent Progress⁵⁷, both of which are big tech lobbyists masquerading as nonprofits.)

The Positive Economic Effect of Patents

All three patents were examined by the USPTO. The *method of proposing marriage* was not issued, but Amazon’s *one-click* patent and the *swinging on a swing* patent were both issued.

⁴⁵ Techdirt article Patent Troll Wins Again, from the open-that-cash-register dept.
<http://www.techdirt.com/articles/20051215/1210207.shtml>

⁴⁶ GigaOM article: Troll wins Newegg encryption patent case, threatening web firms that protect customers, By David Meyer, Nov. 26, 2013. <http://gigaom.com/2013/11/26/troll-wins-newegg-encryption-patent-case-threatening-web-firms-that-protect-customers/>

⁴⁷ Patent Troll Wins 5Mil from Google, On April 25, 2011, in Emerging Issues: Patent Reform, IP in the Digital Age, by Wesley W. <http://www.yalelawtech.org/ip-in-the-digital-age/patent-troll-wins-5mil-from-google/>

⁴⁸ Microsoft’s Samsung Android Patent Troll Win by Steven J. Vaughan-Nichols for Linux and Open Source | September 28, 2011. <http://www.zdnet.com/blog/open-source/microsofts-samsung-android-patent-troll-win/9634>

⁴⁹ Canned Platypus: Cloud Storage Patent Troll Wins First Case. 5 December, 2009.
<http://pl.atyp.us/wordpress/index.php/2009/12/cloud-storage-patent-troll-wins-first-case/>

⁵⁰ Motley Fool article: What Does This Patent Troll’s Most Recent Win Mean for Tech Investors... By Andrew Tonner, August 3, 2012 <http://www.fool.com/investing/general/2012/08/03/what-does-this-patent...>

⁵¹ Wired article: Jurors Say Apple iPhone Infringes on Three MobileMedia Patents, By Christina Bonnington, 12.13.12
<http://www.wired.com/gadgetlab/2012/12/iphone-infringes-patent/>

⁵² <https://www.patentprogress.org/2017/07/12/bad-patents-bad-results/>

⁵³ <https://patents.google.com/patent/US20070078663A1/en>

⁵⁴ <https://patents.google.com/patent/US6368227B1/en>

⁵⁵ <https://en.wikipedia.org/wiki/1-Click>

⁵⁶ <https://www.eff.org/issues/stupid-patent-month>

⁵⁷ <https://www.patentprogress.org/2017/07/12/bad-patents-bad-results/>

In all three, the USPTO was paid examination fees. In two, the USPTO was paid maintenance fees. It is likely that all three hired patent professionals in the economy. All were disclosed to the public, so others were able to advance the art by inventing around or improving it.

Therefore, all three have the *positive economic effects* of funding the USPTO, hiring patent professionals and advancing the art.

The Negative Economic Effect of Litigating Patents

Around 97% of patents are never litigated because they are either not commercially viable (not useful), thus not infringed, or not commercially valuable, thus damages are too small to return the cost of litigation. But when a patent is commercially viable and valuable, and it is litigated, both sides expend resources and experience uncertainty, which are highly disruptive to their businesses.

While both parties experience *negative economic effects* in litigation, in most cases the infringer is a resource-rich multinational corporation, and the patent holder is a resource-starved small entity: an independent inventor, a startup or an investor, or sometimes a non-practicing entity (NPE) acting on their behalf. Due to this resource asymmetry, the negative economic effects are by far more severe for the patent holder than for the large infringing corporation.

A patent is a booklet of paper, so it is a simple fact that a patent does not cause litigation. The infringer can cause it by the act of infringing, or the patent holder can cause it by asserting the patent outside its scope. However, the patent itself does nothing and therefore cannot be attributed *negative economic effects*.

This fact alone means that there can be no “bad patents.” However, since many seem to have accepted the false narrative of “bad patents” running around destroying innovation, let’s investigate further.

The Infringer’s Negative Economic Effect

Many years before a patent is issued, most patent applications are published on the USPTO website. All patents are also published there. The USPTO has a patent search engine, as does Google, so anyone can find patents relevant to their business simply by searching the USPTO website or Google Patents.

Patent infringement is illegal, so anyone in business has a duty to identify patents that they may infringe to avoid breaking the law.

That means that if a patent is litigated within the scope of its claims against an infringing product, the infringer knew (or should have known) the patent existed and that their product was infringing. Therefore, the infringer caused litigation by the act of infringing, thus the *negative economic effects* must be attributed to the infringer.

When a large competitor infringes a startup’s patent, the startup has no good choices. It can sue the infringer, but that means it must divert already scarce resources into litigation and away from

business activities like engineering, marketing, sales, etc. Resources burned in litigation may never be recovered because loss rates for patent holders are unreasonably high.

Since *eBay v MercExchange*⁵⁸, injunctive relief is restricted, so in the unlikely event the startup wins the infringement suit, the court will grant a compulsory license, not an injunction. The resource-starved startup will be forced to compete with the resource-rich infringer. Due to resource asymmetry and a very real risk that the infringer will use their deep pockets and existing market power to take the market and kill the startup, the startup will have difficulty attracting investment. When a startup sues an infringer, the startup may very well fail, whether it wins the infringement case or loses.

Many startups ignore infringement. They accept that they are forced to compete against a large infringer, but least they won't have to divert resources to litigation. But for the same asymmetrical reasons, the startup will have difficulty attracting investment and is at risk of being run out of business.

The *negative economic effects* caused by infringement are damaging not only to the infringed startup, but also our nation's innovation engine and our national security. When startups die and their investors lose money, investors invest in places where they get better protection, like China.

The "patent troll" narrative attributes all *negative economic effects* to the patent holder regardless of the cause of litigation even though the infringer is the sole party who can avoid the act of infringement. The patent holder cannot avoid the act of infringement. In fact, the patent holder attempted to discourage infringement by filing for patent protection. The *negative economic effects* of infringement must be attributed to the infringer and law should recognize this by discouraging infringement with injunctive relief, low costs and quick resolutions.

The Patent Holder's Negative Economic Effect

If a patent is litigated outside the scope of the claims, and thereby against a non-infringing product, the patent owner caused litigation. Thus, the *negative economic effects* must be attributed to the patent holder.

The *negative economic effects* to businesses that have been wrongly sued for patent infringement have been made known, so they need not be regurgitated here. Unfortunately, the overreaction by Congress, the USPTO and courts has wiped out patent protection for small entities.

"Bad Patents" Have a Positive Economic Effect

The method of proposing marriage was never issued. It was a *patent application*, so it can never be litigated and therefore can't produce a *negative economic effect*. This big tech example of a "bad patent" is nothing but a disingenuous attempt to sway Congress with false information.

Nobody sues anyone without a potential damages award because money spent litigating will never be returned. No damages can be calculated for a *method of swinging on a swing* because nobody is making any money doing it. Since there could be no damages awarded, money spent

⁵⁸ <https://www.ipwatchdog.com/2011/05/15/happy-5th-anniversary-ebay-v-mercexchange/id=16894/>

litigating would not be returned. This patent was never litigated, and the example is another disingenuous attempt to sway Congress.

But what about the “bad patents” that big tech says are too trivial to warrant patenting, like Amazon’s *one-click*?

Nobody can invent anything without improving what already exists, so all inventions are in some way an improvement. Sometimes, a trivial improvement becomes the primary factor differentiating the marketability of one product over another. Amazon’s *one-click* patent was a trivial improvement that had a significant market effect. It made the buying experience on Amazon’s site better than that of Amazon’s competitors, thereby drawing customers to Amazon’s site and away from competitors. It is one of the early reasons that Amazon got ahead of its competitors and therefore became the outrageously successful company it has become.

Amazon’s *one-click* patent did not affect its competitors’ products. Their customers could still use them just as they did prior to the *one-click* patent. Therefore, Amazon’s patent did not have a *negative economic effect* on any technology already on the market. But it had a significant effect on the marketability of Amazon’s products, which is an advancement of the art and a *positive economic effect*.

The mistake the “bad patent” narrative makes is arguing that a patent is a technical instrument not an economic instrument. Yes, a patent discloses advancements in technology, so patents are technical instruments. And yes, most of these advancements are trivial from the perspective of technology. But many are not trivial in their market effect, thus patents are more of an economic instrument than they are a technical instrument.

Nobody does the hard work and spends money writing and filing a patent for the sheer joy of advancing technology. People do it to improve their lot in life. They do it for profit. A patent is an instrument of profit, which makes it an economic instrument. It must be treated as such to encourage people to advance technology by filing patents.

The degree to which an invention improves the mountain of technology on which we live is not important for any given invention. It is the accumulation of many trivial improvements that is important, because some trivial improvements may turn out to be very important. For example, Edison’s lightbulb was a trivial improvement from a technical perspective. All he really figured out was that a carbonized thread used as a filament would last long enough to create a marketable lightbulb. But everything else in a light bulb already existed, even filaments. He just advanced filament technology a little bit with a carbonized thread.

If we buy into the big tech “bad patent” narrative and agree that only big inventions should be worthy of patenting, there will be fewer trivial inventions. But we will never get a critical mass of trivial inventions needed for that one that matters, like a carbonized thread filament.

We will have to subjectively decide which inventions are significant enough to deserve a patent. Who can answer that question? Certainly not a patent examiner, and I don’t think we have any former Soviet central planners employed at the USPTO. Maybe we should do what we have for the last two plus centuries and let the market decide. After all, if the invention is so trivial that

the market does not adopt it, there can be no litigation and therefore no *negative economic effects*.

Just as the false “patent troll” narrative wrongly villainized early stage investors as greedy rent seekers, the false “bad patent” narrative wrongly considers patents to be technical instruments, ignoring all *positive economic effects* and wrongly attributing all *negative economic effects* to the patent instead of to the party causing the infringement.

Both false narratives dangerously teach a fundamental misunderstanding of how patents achieve their Constitutional mandate to “promote the Progress of Science and useful Arts.” Without correcting this misunderstanding of patents, we are doomed to endure the same bad public policy.

The Damage is Targeted at Tech Startups

Anti-troll legislation, court decisions and administrative rule making, while targeted at fake “patent trolls” and “bad patents” has damaged the U.S. patent system gutting it for inventors and startups – the very people the U.S. patent system purports to help. Curiously, large multinational corporations are still able to enforce their patents against small entities. Some have cynically observed that perhaps the unintended consequences are intended.

In a report which studied the period immediately following *Alice Corp v. CLS Bank*, a 28% drop in patent lawsuits compared to the same period in 2013 (July 1 to October 31) is observed.⁵⁹ This drop hits hardest in two critical areas. First, 88% of that decrease is attributed to non-practicing entities (NPE) or so-called “patent trolls”,⁶⁰ which are defined as patent holders who do not commercialize an invention, but instead license the invention to others who commercialize it. While this definition encompasses individual inventors, patent-based startups, research labs and universities, it also encompasses entities that acquire patents and enforce them – NPE’s.

The later, NPE’s, make up the secondary market for patent assets and a critical part of the patent economy. Inventors can sell their patents directly to NPE’s so they can continue inventing. This is a critical outlet because few inventors can effectively commercialize an invention either due to personal disposition or personal desire. Those inventors who wish to commercialize the invention can collateralize patents to attract investment to commercialize the invention. If the company fails, investors often take control of the collateralized patents and either become an NPE and enforce the patents, or they sell the patents to an NPE to return their initial investment and go on investing in other startups.

This secondary market of investors and NPE’s is critical to a healthy patent system and critical to the capitalization of startups that bring the next big technology to market, thus driving our economy and creating jobs. While NPE’s are the target of multinational patent reforms,

⁵⁹ <http://www.law360.com/articles/585536/new-patent-suits-drop-off-sharply-from-last-year>

⁶⁰ DECEMBER 2014/JANUARY 2015, WWW.MANAGINGIP.COM, Software patent lawsuits plummet after Alice. This report contains parts 1 and 2 in a series of in-depth articles by Managing IP covering recent trends in patent litigation.

damaging NPE's not only harms inventors and startups, but it also harms the economy overall and U.S. job creation.

Second, the number of software patent lawsuits filed was down 42% in the period from July 1 to October 31 of 2014 compared with the same period in 2013.⁶¹ The drop in lawsuits directly affects software patents more than any other technology. At the same time, software inventions are used nearly everywhere, from your personal computer to your refrigerator, and from your smart phone to your tennis shoes and even the buttons on your shirt. Since 2011, software related inventions accounted for over 50% of all U.S. patents issued.⁶²

Software is a primary area of innovation simply because it is an essential element relevant to nearly everything made today, regardless of whether that software innovation is the actual product or is manifested in an enhancement to a product. When a product does not use software directly, it is software that controls how the product is engineered, manufactured, distributed, financed, marketed, sold and serviced. The software industry created 3.65 million U.S. jobs and contributed \$526B to our GDP in 2012, and it is growing at 50%.⁶³ Software is one of the greatest American industries and one where, as it stands today, America leads the rest of the world.

Despite the importance of software to our economy, eliminating software patenting is the target of big tech lobbying by aiming reforms to prevent creative individuals and startups from beating the industry tech giants to the punch. Big tech corporations have deep pockets, lots of programmers, market dominance and sticky customers. Inventors have none of these advantages. Yet, while large tech corporations have successfully silenced inventors and tilted patent law in their favor with hundreds of millions dollars of political spending in the last decade,⁶⁴ they are still not satisfied and seek to maintain the past reforms and advance their anti-patent agenda with more reforms.

Software innovation will likely continue for decades and may never end. However, if American software inventors cannot protect new ideas (as is the case today), whether the U.S. continues to lead the world in tech is in question. The U.S. risks being displaced as China and the rest of the world has been strengthening their patent systems.⁶⁵ These positive changes are stimulating innovation in those countries and growing their economies.

⁶¹ DECEMBER 2014/JANUARY 2015, WWW.MANAGINGIP.COM, Software patent lawsuits plummet after Alice. This report contains parts 1 and 2 in a series of in-depth articles by Managing IP covering recent trends in patent litigation.

⁶² See GAO Report titled INTELLECTUAL PROPERTY Assessing Factors That Affect Patent Infringement Litigation Could Help Improve Patent Quality <http://www.gao.gov/assets/660/657103.pdf>

⁶³ See The U.S. Software Industry As an Engine for Economic Growth and Employment, Robert J. Shapiro, September 2014

⁶⁴ WORKING PAPER No. 13-12 July 2013, A HISTORY OF CRONYISM AND CAPTURE IN THE INFORMATION TECHNOLOGY SECTOR, by Adam Thierer and Brent Skorup, Mercatus Center, George Mason University. http://mercatus.org/sites/default/files/Thierer_CronyismIT_v1.pdf, Figure 1

⁶⁵ See supra at 11

The U.S., unfortunately, is going in the opposite direction.

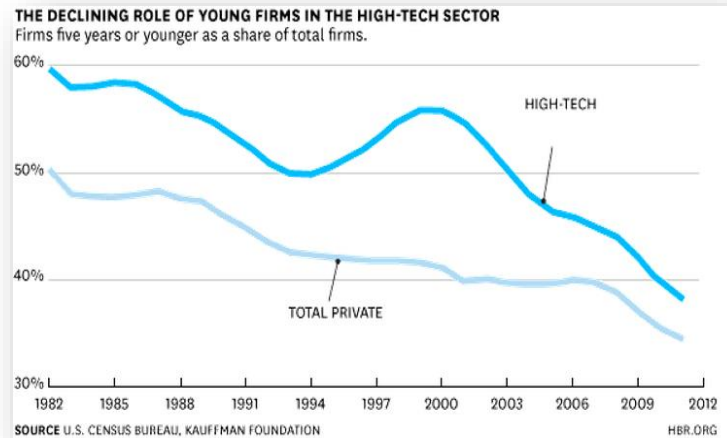
We are weakening patent protection. It's not surprising that since the creation of the "patent troll" myth and the corporate push for patent reform began in the late 1990's,⁶⁶ the number of technology related startups in the U.S. is down nearly 40%.⁶⁷

If we continue down this anti-patent road, the U.S. will no longer lead the world in critical infrastructure and military technologies. China will.

It is important to understand that degrading patent protection for software effects all other types of patents equally. Today medical related patents are damaged in the same way and to the same extent. In fact, some medical research companies have stopped research of key medical related technologies, such as Ebola treatments, in part because patented inventions cannot be protected.⁶⁸

Because software is increasingly integrated in almost everything we use, it is a dangerous path to separate patent law related to software from patent laws related to other technologies. IoT (Internet of Things) is a prime example of this separation problem. IoT is integrating virtually everything we use into a network you control. Home appliances like your washer, dryer, refrigerator, stove, dish washer, security system, furnace, air conditioning system, television, cars, and much more, many yet to be invented, are being interconnected into systems and networks you can control from your smart phone and elsewhere. Software at every level (operating systems, embedded code, applications, etc.) and of every type (GPS, wireless, phone apps, computer apps, etc.) are integrated with these devices. This software development is critical to development of this new and exciting industry. Separating software patent laws from the rest of patent law will destroy investment in new software technologies critical to the development of the IoT market, and therefore impede the development of the entire industry.

Congress, the administration and the courts all see that the patent system as broken. They are right. It is broken. But not for the reasons they think. The facts have been hijacked by the loud impermeable voices of a few big tech multinational corporations who benefit from weak patent rights. Those negatively affected, the inventors and the American public, cannot get a word in edgewise. If we continue to enact broad changes under the misguided "patent troll" arguments,



⁶⁶ http://en.wikipedia.org/wiki/Patent_troll

⁶⁷ With Fewer New Firms, the High-Tech Sector is Losing its Dynamism, by Ian Hathaway, February 12, 2014 <http://blogs.hbr.org/2014/02/with-fewer-new-firms-the-high-tech-sector-is-losing-its-dynamism/>

⁶⁸ See <http://www.ipwatchdog.com/2014/12/26/can-diagnostics-companies-afford-to-provide-ebola-testing/id=52779/>

we can expect even greater damage to our economy, our standing in the world and our national security.

We must go the other way. We must stop weakening the U.S. patent system and we must return it to what it was just 15 years ago.

Why is the U.S. Patent System Gutted for Inventor and Startups?

Today, actions taken by all three branches of government have destroyed the patent system for small entities.

- In 2006, the Supreme Court in *eBay v. MercExchange*⁶⁹ effectively eliminated the exclusive right of a patent. The result is that an inventor cannot exclude others from using their invention because an inventor must prove injunctive relief is in the public interest, an impossibly difficult thing to prove. Proving that the public interest is served by granting an injunction against an infringer effectively requires proving that denying the public of the infringer's product does not deny the public access to the invention. To accomplish this, the patent holder effectively must have a product on the market to replace the infringing product.

But startups fail at rates of 90%.⁷⁰ Often the reason is competition from large incumbents.⁷¹ Since eBay, if an incumbent believes they can capture the market and kill the startup, they have no fear of injunctive relief.

When the startup fails, investors often take control of the patents and use the patents to recoup their investment. When an investor evaluates a company *before* investing, patents are valued for this likelihood. Investors estimate the value of a patent based on what they believe the overall market will be for products implementing patent. This market value then leads them to a reasonable estimate of the value of the patent within that market. For example, if a patent can be projected to create a ten-million-dollar market, it can be reasonably valued at some percentage of that market, perhaps 3% to 5% of the total market, or a potential value of \$300,000 to \$500,000. That number then helps justify the investment.

However, this evaluation only works in a free market. If the startup fails, the investor does not have a product, under eBay the investor will not be able to satisfy the public interest test to enjoin the infringer. A compulsory license is the only remaining remedy with an arbitrary value set by a liberal arts major in a robe with no business experience in the technology or the market.

⁶⁹ See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) (“That test requires a plaintiff to demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law are inadequate to compensate for that injury; (3) that considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.”)

⁷⁰ <http://fortune.com/2014/09/25/why-startups-fail-according-to-their-founders/>

⁷¹ <https://www.cbinsights.com/research-reports/The-20-Reasons-Startups-Fail.pdf>

Estimating a patent's future value for investment at the earliest stages of commercialization becomes a wild guess. It is not possible to forecast what value a court will place on the patent years in the future. So establishing a value on the patent is impossible and much too risky to justify investment, so most investors put their money elsewhere. This effect is a primary reason that funding for startups is falling.

The only place in the U.S. Constitution to use the word "*Right*" is Article 1, Section 8, Clause 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*". The "exclusive Right" is the very essence of a property right, so the effect of eBay is to redefine a private property right as a public entitlement subject the public interest, much like food stamps or a driver's license.

The natural economic effect of eBay is to encourage potential infringers to steal the invention, and using existing market power and deep pockets, saturate the market with infringing products. eBay discourages settlement of infringement cases because the loss to the infringer can be delayed by litigation, and many small inventors cannot sustain litigation costs. It is a better business decision to litigate the inventor into oblivion or capitulation with an arbitrary or minimal settlement. Indeed, attorneys advise their infringing clients to do exactly that.⁷²

But the most critical failure of eBay is to devalue all patents at the earliest stages of commercialization, thus damaging funding to startups commercializing our most important technologies.

- In 2011, Congress passed the America Invents Act (AIA)⁷³ and destroyed any Presumption of Validity by creating three procedures to invalidate issued patents in an administrative tribunal called the Patent Trial and Appeal Board (PTAB).⁷⁴ Prior to the AIA, a patent had a strong Presumption of Validity in black letter law much like any other property right.⁷⁵ Only an Article III court could invalidate an issued patent. This was done in an adversarial process. A showing of clear and convincing evidence, the highest standard in U.S. law, of a failure to meet statutory requirements of patentability was required. The burden to prove this failure was on the party seeking to invalidate the patent. Only a party to the suit could ask a court to invalidate the patent.

The AIA changed all that by flipping each construct upside down. The PTAB is an administrative tribunal that presumes a patent *invalid* and is set up for the expressed

⁷² SLAYING THE TROLL: LITIGATION AS AN EFFECTIVE STRATEGY AGAINST PATENT THREATS, Jason Rantanen, 2007. <http://172.218.224.236:8080/pdfs/Rantanen%20%282007%29%20-%20Slaying%20the%20troll.pdf>

⁷³ http://en.wikipedia.org/wiki/Leahy-Smith_America_Invents_Act

⁷⁴ PTAB procedures for the purposes of this document include Inter Partes Review (IPR), Covered Business Method Review (CBM) and Post Grant Review (PRG). All are similar in that they are performed administrative tribunals capable of invalidating issued patents.

⁷⁵ 35 USC 282 "A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity"

purposes of invalidating patents. A PTAB procedure is initiated by showing the lowest level of evidence in U.S. law - more likely than not.⁷⁶ An Administrative Law Judge (ALJ), under the Executive Branch of the government, presides over a process to re-validate the patent under a “broadest reasonable interpretation” of the claims. The burden to prove again that the patent is valid is placed on the inventor. PTAB turns patent law on its head⁷⁷ by treating a property right like a government entitlement more similar to food stamps than property rights.

PTAB procedures were established with the clear purpose of increasing the probability that a patent will be found invalid. Today, PTAB procedures invalidate patents at rates more than 84%.⁷⁸ There is no longer any Presumption of Validity as required in 35 USC 282 in practice, and the cost of proving and re-proving the patent valid is an enormous and often unsurmountable burden on the inventor.⁷⁹

Just a single PTAB procedure, costing the petitioner around \$20,000, can cost the patent holder as much as \$1,050,000.⁸⁰ If the petition for a PTAB procedure is denied, about 75% of the cost is returned to the petitioner. PTAB procedures have no estoppel and another PTAB procedure can be filed if the current PTAB procedure fails to invalidate the patent. Multiple PTAB procedures from multiple petitioners, often on the very same prior art already reviewed by the USPTO during examination, are being launched one after another by infringers to keep the infringement case in court stayed, to drive patent holder costs to untenable levels, and, playing the odds, to eventually invalidate every claim. One patent holder suffered 125 separate PTAB procedures against just 10 patents until all of the claims in all of the patents were invalidated.⁸¹

Unlike litigation in court, PTAB litigation does not end with financial settlement or a license agreement. The patent holder is fighting solely to preserve the patent right. Therefore, investors or contingency attorneys will not help because the risk of losing is extraordinarily high with no hope of any payout. This leaves most patent holders with no

⁷⁶ See http://www.uspto.gov/aia_implementation/bpai.jsp “An inter partes review may be instituted upon a showing that there is a reasonable likelihood that the petitioner would prevail with respect to at least one claim challenged.” “A post grant review may be instituted upon a showing that, it is more likely than not that at least one claim challenged is unpatentable.”

⁷⁷ See <http://www.venable.com/10-reasons-every-defendant-in-patent-litigation-should-consider-inter-partes-review-04-23-2014/>

⁷⁸ <http://www.ipwatchdog.com/2017/06/14/90-percent-patents-challenged-ptab-defective/id=84343/>

⁷⁹ Senator Jon Kyl, Remarks at Executive Business Meeting of the Senate Judiciary Committee (Mar. 31, 2009), available at <http://judiciary.senate.gov/webcast/judiciary03312009-1000.ram>; (“[T]he patentee is at a distinct disadvantage where the only alternatives are to pay the costs associated with an opposition proceeding or forgo his rights under the patent. The repugnance of such a quandary needs no explanation.”); Anthony H. Handal, Re-Examination: Some Tactical Considerations—A Private Practitioner’s Viewpoint, 9 AIPLA Q.J. (1981) (“[I]t is possible that a number of patents might be lost solely due to the inability of the patent holder to financially deal with the problem.” “Like other forms of action under the patent law, the new reexamination procedure is susceptible to substantial misuses.”); see also Interview by the Reexamination Center with IP lawyer Taraneh Maghamé (Oct. 12, 2009) (noting opportunities for requesters to abuse the reexamination system and explaining that “[s]uch abuse takes the form of serial reexaminations of the same patent . . . or the filing of non-meritorious requests for reexamination”), at http://www.maghamelegal.com/uploads/The_Reexamination_Center_Executive_Interview_-_Taraneh_Maghamé.pdf.

⁸⁰ See supra at 29

⁸¹ <https://www.patexia.com/feed/weekly-chart-32-not-a-single-claim-survived-after-125-ipr-challenges-20170314>

access to money other than what they have themselves, so an infringer can easily drive the patent holder into financial ruin succeeding based on access to money alone.

Anyone can petition for a PTAB procedure, and remain anonymous. In fact, several new companies were founded for the sole purpose of initiating PTAB procedures against third party patents.⁸² Often, these companies engage in extortion-like activities asking for licenses that they can sell to infringing companies or a cut of future settlements in exchange for dropping the PTAB procedure.⁸³ ⁸⁴ Other third parties are leveraging these PTAB procedures to force patent holders in settlements that pay nothing to the patent holder.⁸⁵ The same large multinational corporations who lobbied to pass the AIA, which created the PTAB in the first place, fund these PTAB extortion companies.⁸⁶ In a different twist on PTAB abuse, the founder of Dallas-based Hayman Capital Management, L.P. challenged 15 key drug patents to PTAB procedures. While it seems unlikely that a hedge fund would want to harm drug companies, short selling stock then filing PTAB procedures against key patents to crash the stock price could make the hedge fund millions of dollars.⁸⁷

A single PTAB procedure can burn five or more years of the patent's enforceable life, or about 30%. During the pendency of the PTAB procedure, most courts stay litigation until the PTAB procedure resolves, and it is not possible to start litigation against new infringers.⁸⁸ That lost time is not added back to the patents term. It is just lost altogether, which substantially devalues the patent.

The PTAB is a politically driven administrative tribunal. Administrative law judge's have no code of conduct⁸⁹. Their chain of command ends with the President. The presidency is by its very nature a political office.

Any President can strengthen or weaken patent rights by changing PTAB rules and by passing down policy through chain of command to administrative law judges. Thus, every election brings with it the likelihood that patent rights will be made either stronger or weaker and this could happen every four years.

American politics is heavily influenced by political contributions of large corporations. This means that patents will forever be a political football due to political influence. A property rights system subjected to this degree of political influence will never be stable.

⁸² See https://www.eff.org/files/2014/05/29/hacking_the_patent_system.pdf

⁸³ See <http://www.therecorder.com/home/id=1202678962497/Trolls-Taste-Own-Medicine?mcode=1202615733861&curindex=0&slreturn=20141119235938>

⁸⁴ See <http://interpartesreviewblog.com/curious-case-new-bay-capital-llc-virnetx-inc/>

⁸⁵ "Success ... is defined as a positive institution decision, invalidation, or no money settlement by entity."
<https://www.unifiedpatents.com/success/>

⁸⁶ See <http://www.ironedome.com/>

⁸⁷ See <http://www.patentspostgrant.com/the-ptab-as-a-hedge-fund-tool>

⁸⁸ See <http://www.iplitigationcurrent.com/2014/07/21/new-guidance-from-the-federal-circuit-on-motions-to-stay-litigation-pending-a-ptab-proceeding/>

⁸⁹ <http://www.ipwatchdog.com/2017/05/31/uspto-response-foia-confirms-no-rules-judicial-conduct-for-ptab-judges/id=83914/>

The common denominator of poorly performing economies is weak property rights. In banana republics, the dictator arbitrarily determines the strength of property rights based on political favoritism. It is impossible to forecast if any particular property right will be weakened in the future. In these environments, virtually no one will invest in property to improve it, and property goes unimproved.

The PTAB effectively grants the Executive Branch dictatorial power of one of our nation's most important property rights. The value of a patent cannot be known because of the very real risk that the unelected political appointee with the power to make patents weak or strong will change in four years or less. That means investors cannot invest in early stage startups because the risk is too high.

- The AIA forced patent suits against similarly situated infringers to be filed separately. Independent of that, the Supreme Court in a case called *TC Heartland v Kraft* defined the term “reside” for the purposes of venue to mean the state where a company is incorporated. Now patent infringement cases must be filed in the state of the infringer. Unfortunately, there is no counterbalancing provision that allows a patent holder to sue an infringer where the patent holder resides.

For the most significant inventions that we as a nation want invented here, those with the greatest commercial success that have created or significantly improved entire industries, particularly those in technology, there are often dozens or even hundreds of infringers, and these infringers often reside in a dozen or more states. In these cases where there are dozens of infringers, *TC Heartland* means that patent suits should be filed in the state where the defendant is incorporated, so similarly situated patent infringement cases could end up scattered across a dozen or more states.

Managing this complexity and cost will be prohibitive for all but a few inventions. Certainly the logistics will become impossibly difficult and costs will skyrocket as each court will require local counsel, and the inventor, technical and damages experts, and lawyers will need to travel to each court multiple times. But the real problem comes when different courts find different answers to the same questions of claim construction, validity and more. When any court finds something unfavorable to the inventor, all infringers in other courts will likely petition their court to adopt that decision. This will generate a cascade litigation in every court for virtually every decision. If decisions conflict, the resulting chaos will eventually need to be sorted out in the Federal Circuit causing multiple appeals. What happens when one court invalidates the patent? Do all the other courts adopt that same theory of invalidation? *TC Heartland* will bring litigation chaos to the most valuable inventions.

From a practical perspective, *TC Heartland* under the current venue laws means that many of the most valuable new technologies will very likely be unenforceable in the United States. These are the same technologies that construct our infrastructure and defense and create most of our new jobs.

- A patent can take more than 10 years of examination at the PTO before it is granted.⁹⁰ In one case, a patent application has been in examination for almost 40 years.⁹¹ A patent term begins on the filing date and ends 20 years later.⁹² In addition, a patent is a wasting asset and highly time sensitive. However, most of the time lost in examination is not added to the backend of the patent. It is just lost altogether. Many patents lose a large percentage of their life, and therefore a large percentage of their value, due to PTO delays. Some USPTO art groups allow less than 10% of patent applications.⁹³
- The Supreme Court in a case called Alice v. CLS Bank threw the definition of what is patentable subject matter under 35 USC 101 into chaos by creating an exception to 101 called the “abstract idea”. However, the courts provided no definition of what constitutes an abstract idea.

Today nobody knows what is or isn't patentable, and this vacuum has brought the patent system to a screeching halt for technology inventors. No investor can reasonably assume that any patent will be held valid if challenged as an abstract idea, and 67.6% of those challenged are found abstract.⁹⁴

Many other Supreme Court decisions have slashed damages, eliminated obviousness tests and changed other long-standing tenets of patent law. Virtually all changes have damaged the ability of small entities to defend their patent rights against multinational corporations. The net effect has been to rip the floor out from inventors for the benefit of large moneyed corporations who steal inventions and to open the exit door for startups to move to China.

Paul Morinville's story is typical of thousands of inventors, so it can be used to illustrate how damage from the last 15 years of rapidly changing patent laws has destroyed US inventors and startups. It is critical to understand if Congress is going to fix this mess in a way that encourages startups capable of competing with big tech monopolies and other corporate giants. Since startups bring America most of its job growth and new technology, Congress should pay close attention to how patent law effects startups. A failure by Congress will thwart job creation, economic growth, new technology innovations, and our national security.

While Morinville worked for Dell through the 1990's, he invented what became the core enabling technology of enterprise middleware industry standards. He brought it to Dell management to build internally.

Dell executives thought so highly about the invention that told him to start a company and they would fund it. He left Dell on April 3rd, 2000 with an agreement to fund his new startup after Dell helped me incorporate and file for patent protection.

⁹⁰ The authors has multiple patents pending more than 14 years.

⁹¹ See <http://www.patentlyo.com/patent/2014/01/hyatt-v-uspto-three-generations-of-poor-examination-are-enough.html>

⁹² See 35 U.S.C. § 154 (setting the patent term as 20 years from the date on which the application for the patent was filed).

⁹³ <http://www.ipwatchdog.com/2016/07/12/patent-office-refuses-understand/id=70809/>

⁹⁴ <http://www.bilskiblog.com/blog/2017/06/alicestorm-april-update-and-the-impact-of-tc-heartland.html>

The dot.com bubble crashed within two weeks of leaving Dell. Dell shut down Dell Ventures, which meant they would not fund Morinville's startup. But Dell executives set meetings with the top venture capitalists (VC) in Texas.

VC's thought it was a great invention and that it would certainly create a strong value proposition to customers. But the patent was pending and because the claims were not issued, they did not know what was protected. Therefore, they would not invest. But they said to come back when the patents issued.

It took seven years for the first patent to issue. So in 2007, Morinville went back to the same VC's. But by then the largest software companies on the planet were selling about \$3 billion dollars of products infringing my patents. In 2006, a Supreme Court case called *eBay v MercExchange* had restricted injunctive relief. To be awarded injunctive relief, Morinville would have to prove it was in the public interest. But his startup did not have a product on the market, so passing a public interest test would be impossible. In other words, these big tech multinationals stole the invention and now they'll keep it.

So the VC's said that if they invested, they would be investing in a patent infringement lawsuit, which is not what they do. Morinville needed a lawyer not a VC.

Morinville found contingent fee attorney and began a licensing program. One company licensed my patents, but the rest of the companies ignored my communications. Morinville readied suits, but then *Bilski v Kappos* sent the patent system into chaos came in 2009 by requiring a machine or transformation test and Morinville's law firm stopped all licensing activity. No other attorneys would take the case due to uncertainty created by *Bilski*.

Finally, in 2010, *Bilski* was overturned. Later that year a CAFC case seemed to restore the patentability of tech patents.

In early 2011, Morinville sold one patent family to an investor who started licensing the patents. Proceeds from the licensing campaign funded the commercialization of the remaining inventions working with the Purdue Technology Center in Merrillville Indiana. Morinville was finally on the way to achieve the American Dream. Today, there should be 200 high tech jobs in Gary Indiana, one of the poorest areas in the country.

But in 2013, the results of the PTAB were made public. The kill rate of challenged patents was over 90%. This radically increased risk for Morinville's investors and they stop licensing my patents, which shut off funding.

Because Morinville was using my patents to fund my company, I was hit hard by the PTAB 90% kill rate earlier than others. The Supreme Court put a steak in its heart in 2014 when a decision called *Alice v CLS Bank* created an exception to the word "any" in Section 101 called the abstract idea.

In 2013, Morinville hopped in his truck, drove to Washington DC and started going door to door to educate Congress on the unintended consequences of the America Invents Act and to stop the Innovation Act.

Randy Landreneau joined Morinville and over the next two years, then pair sat in 67 Senate offices and over 350 House offices educating Congress about the unintended consequences of the AIA and the Innovation Act. The House pulled the Innovation Act off the floor. With the Innovation Act dead, its companion bill, the PATENT Act was introduced in the Senate Judiciary Committee. Morinville visited Iowa 40 counties educating Iowans of the unintended consequences that the PATENT Act would bring Iowa inventors and farmers. Senator Grassley abandoned the legislation shortly thereafter.

Over the next two years, Landreneau and Morinville educated inventor clubs building US Inventor to thousands of citizen activists.

At US Inventor, we are not inventors who assign our patent rights to big corporations. Nor are we the big corporate assignees masquerading as inventors. We are human beings, Americans, who patent our own inventions so that we can put food on our tables and send our kids to college by starting up companies. We are in almost every state and most congressional districts. We are unpaid volunteers who are not funded by any corporations. Instead we rely on small occasional donations from our citizen activists.

Our patents once encouraged investment that we needed to build our companies and compete in the market against the largest corporations, but that is no longer the case.⁹⁵

Last year, Randy Landreneau took the lead as President of US Inventor. Morinville now licenses the Chinese patents of an 83-year-old American woman inventor in China. The US counterparts of these patents have been wrongly invalidated by the PTAB as obvious on an IPR petition filed by Google at a time when the USPTO was ran by the former VP of Patent Strategy of Google, Michelle Lee.

But these patents stand in China. China's patent system is fast, inexpensive, and fair.⁹⁶ While it is not possible for American inventors to get their day in a US court⁹⁷, it is possible to get their day in a Chinese court. Congress could learn a lot from the Chinese.

Big tech multinationals operate on the thin outer edge of technology – the browser. The core technologies of their businesses are business methods, including page ranking algorithms (Google), “like” or “friend” buttons (Facebook), shopping carts (Amazon), online auctions (eBay), and many more.

Big tech business models are built on business methods, which can easily be made irrelevant in the eyes of consumers by a startup with better software or business method protected by a patent. Big tech cannot protect themselves from creative destruction served up by a startup with a presumed valid patent bearing an exclusive right. To protect their monopolies, big tech needed to destroy patents.

Other big tech companies assemble things like computers and routers with parts made from others. The big tech assembler often infringes on the patents of small inventors by directly infringing or by purchasing infringing products from foreign manufacturers. For these

⁹⁵ <https://www.ipwatchdog.com/2017/08/11/us-inventor-patents-on-fire-ptab-protest-uspto/id=86757/>

⁹⁶ <https://www.ipwatchdog.com/2018/10/07/journey-chinese-patent-system/id=102117/>

⁹⁷ <https://www.ipwatchdog.com/2019/05/02/newest-patent-litigation-venue-district-amazon-federal-court/id=108808/>

multinationals, crashing the patent system simply reduces the cost of stealing from small inventors.

Their fictional patent troll and false bad patent narratives have been very effective, gutting the patent system for those who could challenge their monopolies. The result is that big tech monopolies are untouchable because inventors with better tech cannot get investment to commercialize their inventions.

President Trump agrees. In April 2019, President Trump said in the NIST Green Paper on improving the Return on Investment (ROI) for federally funded R&D at page 69: "The protection of IP rights is an essential tool in attracting private capital."⁹⁸

As small American inventors still attempt to commercialize their inventions without much needed funding, big tech multinational corporations simply steal the tech, embed it into their systems and using their monopolistic user base and deep pockets, saturate the market with infringing product thereby denying the market to the small American inventor and the sending the startup into the dustbin of history.

As a result of big tech hijacking the patent system, we now face a rapidly developing national security disaster as early stage funding in technologies critical to our national security flees to China because patent rights can be defended there. In China, a patent dispute will be completed in less than 18 months. 84% of the suits are won by patent holders. Of those requesting injunctive relief, 86% got it. Of foreign entities requesting injunctive relief, nearly 100% got it – the Chinese are marketing to attract foreign investment. And it works. In 2017, 48% of early stage funding of artificial intelligence startup went to Chinese firms. Only 36% went to US firms.⁹⁹

As China attracts startup funding for artificial intelligence, quantum computing, blockchain, machine learning, IoT, 5G, and other technologies critical to national security and economic growth, it is developing geographic concentrations knowhow in particular technologies and money to invest in startups developing the next phase of that technology. This is exactly how the Silicon Valley became the tech center of the world. But we now risk losing these technologies to China and it will take generations to retake if once these tech areas are fully established.¹⁰⁰

The answer to the question of how to reform Section 101 is not inconsequential. It will decide who we are as Americans. Will we remain the world leader in new technologies? Or will we destroy our economic growth and job creation engines, while we sacrifice our national security?

Congress will pick the winners by this legislation like they have in the past.¹⁰¹ If Congress writes 101 to perpetuate big tech monopolies, American innovation will slow and will be overtaken by China.

Big tech monopolies like all other monopolies do not innovate. Instead they milk their business models. For example, Bell Telephone, which became ATT, was a protected monopoly from

⁹⁸ <https://www.nist.gov/tpo/return-investment-roi-initiative/green-paper>

⁹⁹ <https://www.cbinsights.com/research/china-artificial-intelligence-investment-startups-tech/>

¹⁰⁰ <https://www.ipwatchdog.com/2018/03/04/petri-dish-effect-technology-china-generations/id=94323/>

¹⁰¹ <https://www.ipwatchdog.com/2016/12/20/google-classroom-picking-economic-winners-losers/id=75861/>

1877 to 1984.¹⁰² Very little changed in phone systems during that time except things that reduced labor. But immediately after the government broke them up, we got electronic answering machines, digital lines, cell phones and then smart phones, Wi-Fi, the internet and much more, all of which sprang from innovative startups enabled by the patent system. Even today, Apple has been lulled to sleep allowing Huawei phones to surpass iPhones in technology and market share.¹⁰³

Patents are often referred to as monopolies.¹⁰⁴ But that is a fundamental misunderstanding of how patents work to enhance competition. The truth is that a patent is a natural anti-monopoly. Most inventors do not have the millions of dollars it takes to commercialize a tech invention and bring it to market. That means inventors need money. But investors need collateral. If a patent cannot be defended because it will be invalidated or it costs too much to defend, the patent cannot be used as collateral. Without investment, a tech startup cannot bring their wares to market and therefore cannot challenge big tech.

This hearing is about judicially created exceptions under Section 101. The most damaging of these exceptions is known as the abstract idea. The Supreme Court created this exception in *Alice v CLS bank*, but it did not define it then and has refused to define it ever since. The Supreme Court has shown that it is incapable of fixing the mess it created and Congress must act.

The Supreme Court let free a demon targeted at tech inventions that has rendered complete swaths of technology unpatentable or uninvestible. These fields include the same technologies that China is attempting to capture in their 2025 Initiative: artificial intelligence, blockchain, IoT, 5G, machine learning and others critical to our national and economic security.

Tech patents are seldom allowed by the USPTO because of 101 jurisprudence, but if a patent somehow slips through, the courts will kill 64% of those challenged as abstract ideas.

Today, big tech cannot be challenged with better tech because the only effective tool enabling competition has been destroyed for the very type of tech inventions that big tech has monopolized, business methods and software.

Big tech defends 101 exceptions because eliminating patents and/or patent protection for business methods perpetuates their monopolies. Big tech can sit back and watch for any company gaining market share or providing products that could potentially disrupt their business models, thus using startups as a cost-free way to test new products in the market.

Then they swoop in and steal the startup's technology, embed it into their own systems, and using their massive installed base of users and their big tech big bucks massively commercialize it thus taking the market from the startup and killing it.

A startup with better tech cannot challenge the big tech goliaths unless their patents are strongly presumed valid and wield an exclusive right.

But why are some venture capitalists and startups arguing that Section 101 exceptions should not be eliminated? Why are some tech startups different than others? For example, Jared Kushner

¹⁰² https://en.wikipedia.org/wiki/Bell_System

¹⁰³ <https://www.cnbc.com/2019/04/15/huawei-is-open-to-selling-5g-chips-to-apple-for-iphones.html>

¹⁰⁴ <https://www.ipwatchdog.com/2019/04/09/startups-with-patents-are-the-ultimate-anti-monopoly/id=108102/>

argues that VC's do not want to fix 101. The answer is in the kind of startups. Oscar, Slack, Robinhood, Stripe, Spotify, Twitch and GitHub are all current and past investments by Josh Kushner, Jared's brother. These apps are sold through Apple App Store and Google Play.

Apple App Store is a monopoly controlled by Apple. The only way to sell phone apps that run on iPhones is through the Apple App Store. Apple completely controls the content on this store. Apple even denies access of apps that are too similar to existing apps on their store and any app that competes with apps provided by Apple.¹⁰⁵ Apps can also be arbitrarily removed for any reason. This is monopoly control.

Those selling apps on an app store do not need patents because the app store effectively is a patent system protecting them from infringers via Apple's monopolistic abuse. Apple picks the winners and the losers, with Apple always winning.

Non-disclosure agreements forbid app developers from publishing Apple rejection notices or even talking about the reasons for being ejected from the app store. Therefore, Apples abuse is hidden from public scrutiny and Congress. It is not known how many apps have been rejected to thwart competition.

This creates pressure for app developers to remain on the good side of Apple. If you fall from their graces, your app will be removed, and you will be gagged.

Google's Play Store is similar.

Amazon's marketplace works very similar in exercising monopoly control.¹⁰⁶

Not all software companies are app stores. Many provide cutting edge technologies that could displace big tech monopolies. The effects of Section 101 harms those inventors and startups the most. When they become a threat or an encumbrance, big tech giants stifle that competition by burying competing companies at the bottom of news feeds and search results.^{107 108 109 110}

The sad result of destroying the US patent system is that these tech companies could monopolize thus enabling abuse their monopolies to stifle competition and steal patented inventions. If they steal an invention, they can easily invalidate the patent due to the PTAB and the abstract idea. And since eBay v MercExchange, even if they fail to invalidate the patent and they lose an infringement case, the worst that will happen is they will be awarded a compulsory license with damages calculated by a liberal arts major in a robe who has never started up a company or marketed a product, and cannot possibly know what the market value of an invention is.

If they steal it, they keep it and the cost is lower than licensing it in the free market.

¹⁰⁵ <https://www.mobiloud.com/blog/avoid-app-rejected-apple/>

¹⁰⁶ <https://www.ipwatchdog.com/2019/05/02/newest-patent-litigation-venue-district-amazon-federal-court/id=108808/>

¹⁰⁷ <http://exclusive.multibriefs.com/content/online-travel-business-are-googles-algorithms-stifling-competition/travel-hospitality-event-management>

¹⁰⁸ <https://torontosun.com/2017/07/09/how-google-stifled-the-competition/wcm/f971399a-59f4-4f20-989b-64a46833991f>

¹⁰⁹ <https://www.theatlantic.com/technology/archive/2010/02/how-googles-ad-system-stifles-innovation/36531/>

¹¹⁰ <https://www.macobserver.com/news/spotify-eu-complaint-apple/>

It is a simple and well-known fact that the patent system has collapsed for independent inventors and startups. While US Inventor member, Josh Malone, succeeded in his infringement case, he still lost due to the infringement by driving down profit, he failed to recover nearly \$16 million dollars spent on litigation and he was forced into litigation thus losing opportunities to develop his next big product.

Bunch O Balloons is the bestselling toy bringing in \$100 million dollars in annual revenue. TeleBrands took a calculated risk. It directly copied Bunch O Balloons ignoring patents, and massively commercialized it using their existing marketing, and production and distribution capabilities in an attempt to destroy Josh's company long before it could generate enough revenue to sue them for patent infringement. But Josh's management and steadfast determination drove Bunch O Balloons sales and positioned his company with the resources to fight an expensive multi-million-dollar patent infringement battle.

Revenue must be high enough to justify fighting a patent infringement battle. Bunch O Balloons was high enough, but most are not. Indeed, TeleBrands has been sued by over 70 time for patent infringement. All of which were forced to settle at a fraction of the value of the infringement.

Josh's win may appear to be a win for the patent system, but in reality, it should be a wakeup call showing that the patent system is not working.

The Status Quo Prevents Competition Through Gamesmanship

Now that they succeeded at virtual total destruction of the patent system, tech companies and their sympathizers are telling this subcommittee that the patent system is working, don't change anything. What they are saying is there is no possible way that a patented invention can threaten their monopoly status and they like it that way. If we prove our technology is valuable they simply take it and there is nothing we can do about it. It is a great system for the tech behemoths – no risk, all reward. The status quo provides endless opportunities to avoid liability for using technology owned by an inventor with finite legal resources. Examples abound:

The PTAB ignored the §315(b) time bar and permitted GoPro to file an IPR 2.5 years after they had filed a declaratory judgment against inventor Michael Kintner's company 360Heros.¹¹¹ The once growing business has drastically downsized and Kintner has informed US Inventor that he does not have funds for a legal defense of his patent at the PTAB. Contingency firms rely on damages to recoup their investment, but in the PTAB there is no monetary compensation for the inventor that prevails.

Apple refused to pay inventor Mark Kilbourne for his remote control deadbolt, so they asked the PTAB to revoke his patent.¹¹² The panel ruled that it "would have been obvious" to combine an old-style deadbolt with a Swiss army knife. This type of reasoning jeopardizes every patent ever issued. Kilbourne runs a small business manufacturing his invention and this unnecessary and duplicative PTAB trial imposes an extreme burden and risk to his business.

¹¹¹ IPR2018-01754 accessible at <https://ptab.uspto.gov>

¹¹² IPR2019-00233 accessible at <https://ptab.uspto.gov>

Corephotonics inventors developed a compact telephoto lens for smartphones. The USPTO is yet again assisting Apple by taking back the patent from the inventors.¹¹³ The invention is a tiny optical design with "total track length" of only 6.5mm. The PTAB construed "total track length" as "partial track length" so they could find prior art with a "partial track length" of 6.5mm. If inventors cannot rely on the USPTO to stand behind their patents then businesses like Corphotonics cannot afford to invest in R&D and innovation is discouraged.

PTAB APJs that have zero experience with video compression technology violated several of the new rules and helped Netflix avoid paying the inventors for their asymmetric video compression technology.¹¹⁴ One APJ has a B.S. in computer science with no professional experience, one a degree in molecular biology, and another in materials science. They do have 30+ years combined experience disparaging patents as litigators and PTAB APJs. They are in way over their heads causing total chaos and destruction to the U.S. innovation economy.

Rocky Snawerdt invented a secure fiber optic switch, extremely important technology. But he made the mistake of revealing his discovery to the USPTO who decimated his patent to help Alcatel and Nokia.¹¹⁵ The task achieved by the panel was to find 3 or 4 components of Rocky's invention in the prior art, using his patent as a roadmap. That doesn't mean it was obvious. That's what an invention is - putting things together in a new way no one else thought of. These APJs have no experience in the technology and don't understand the law. What they are doing is analogous to a child assembling a jigsaw puzzle using the picture on the box as a guide. It has nothing to do with the technology, the invention, or the law.

Steven & Mary Reiber's semicon-ductor wire bonding patent survived a validity challenge in district court, but the PTAB doesn't honor that holding.¹¹⁶ In addition the PTAB allowed Toshiba to play games with their corporate structure to get around the one year time bar.

PTAB instituted review of a haptic feedback patent by prolific artificial intelligence and augmented reality inventor Louis Rosenberg.¹¹⁷ Once again Director Iancu's new rules are tossed aside by the PTAB. Rather than let the real court resolve the dispute at the jury trial, the PTAB insists on inserting themselves into the middle of it. The same prior art considered in examination. Incorrect claim construction by the PTAB. The USPTO is taking the side of the multi-national infringer Samsung. More cost. More delay. Inventors betrayed by the USPTO.

Patrick Racz is the sort of inventor the patent system is supposed to encourage. He invented valuable digital rights management technology. Apple studied his technology and implemented it without authorization. After extensive litigation and a jury verdict in favor of Racz's assignee Smartflash, Apple was not even close to finished. They persuaded the PTAB to overturn the judge and jury and rule his patents invalid under section 101.¹¹⁸ This new, useful, non-obvious, and clearly defined technology was misappropriated by Apple due to the chaos in Section 101 jurisprudence and stacking panels at the PTAB and Federal Circuit. The status quo provides

¹¹³ IPR2019-00030 accessible at <https://ptab.uspto.gov>

¹¹⁴ IPR2018-01630 accessible at <https://ptab.uspto.gov>

¹¹⁵ IPR2018-00146 accessible at <https://ptab.uspto.gov>

¹¹⁶ IPR2018-01597 accessible at <https://ptab.uspto.gov>

¹¹⁷ IPR2018-01500 accessible at <https://ptab.uspto.gov>

¹¹⁸ <https://www.ipwatchdog.com/2017/04/28/conflicts-of-interest-ptab-apple>

endless tools for deep-pocketed incumbents to keep out competition, and they don't want Congress taking away a single one of them.

Dr. Thomas Sawyer founder of VOIP-Pal has been vocal about the gamesmanship perpetrated by Apple under the status quo. His company developed valuable secure domain registration technology and received several patents. When Apple petitioned their former lawyers now at the PTAB to revoke the VOIP-Pal patents, Dr. Sawyer took the PTAB corruption head on and won a hard fought validation.¹¹⁹ Apple responded by having the patents thrown out by Northern District of California Judge Lucy Koh as abstract and ineligible under Section 101.¹²⁰ Inventors cannot prevail against big tech incumbents in the status quo.

¹¹⁹ <https://www.voip-pal.com/news-interviews-more>

¹²⁰ <https://www.globenewswire.com/news-release/2019/03/26/1767347/0/en/Voip-Pal-com-Reports-Decision-in-the-Alice-101-Motion.html>

Moving Forward

The original “framework” established by this Subcommittee proposed to codify current 101 exceptions, and to expand the categories of exceptions. This would have left the patent system in disarray for a generation.

US Inventor objected and we are appreciative that the Subcommittee took stakeholder feedback seriously in the new proposal eliminating all exceptions. However, the new proposed language does little to improve the crashed patent system. Instead, it passes the confusion created under 101 to 100 and 112 leaving the patent system in disarray.

Courts define terms in law to bring exact meaning to the terms. Defining the exact meaning of any terms before that legislation is passed is therefore critical to avoiding unintended consequences. Allowing the courts to define the meaning of the terms will bring what it has always brought, confusion and uncertainty.

Provisions in the new proposed legislation bring confusion and uncertainty as the courts define the terms. In the end, it is likely that we will end in the same place with complete swaths of tech unpatentable with the effect of protecting the monopolies of big tech multinationals. This will not evade the impending damage to our national and economic security, job creation and our global lead in tech.

The following is the proposed language in bold italics and US Inventor comments below each element:

Section 100:

(k) The term “useful” means any invention or discovery that provides specific and practical utility in any field of technology through human intervention.

US Inventor strongly objects to adding Section 100(k) because it subjects all inventions to a “technology” test and a “human intervention” test.

But what does “technology” mean? Is technology anything made by man? If not, there must be some things that do not qualify as “technology”. Are drugs “technology”? Are biological monitors “technology”? Are mechanical devices “technology”? Are software inventions “technology”? Are business methods “technology”?

Also, what does “human intervention” mean? If software is invented to only work with other software without any “human intervention”, can it be patented?

The terms “technology” and “human intervention” will create long term confusion and uncertainty, and will deny patents for artificial intelligence, blockchain, IoT, quantum computing, 5G and other inventions critical to our national and economic security.

Section 100(k) defines the term “useful” used in Section 101, which means that examination under Section 101 requires that an invention “provides specific and practical utility”.

But this analysis is already performed under Section 112. USPTO Director Iancu is on the record multiple times and under oath testifying to Congress that Section 112 is working well:

In other words, and pursuant to the Patent Act of 1952, we should keep invalidity rejections in their own lanes. If something is not novel or is obvious, we should invalidate it under 102 or 103. If something is indefinite, or too broad to be fully enabled or described, we should invalidate it under 112. We have decades of case law from the courts and decades of experience at the PTO examining millions of patent applications, which guide us in our 102, 103 and 112 analyses. People know these standards and know how to apply **these well-defined statutory requirements.**¹²¹(emphasis added)

US Inventor supports changes proposed under Section 101(a) and (b) and the Additional Legislative Provisions eliminating judicially created exceptions.

We recommend that useful be removed for Section 101(a). Whether an invention is useful can only be determined when people use it. Not even the inventor can know if people will use it at the time of the invention. Often inventors file new patent applications or continuations in part to cover advancements to the original invention that make it useful after the inventor tests the market. These improvements may or may not already be covered in the specification.

In addition, no court can ever be tasked with determining whether an invention is useful. If it is not useful, it will not be infringed and therefore it not be litigated. A patent that is not useful will never make it to court.

No patent examiner can know if any given invention is useful because no patent examiner has the knowledge of the experience and needs of every human on the planet. One man's garbage is another man's treasure. An examiner can only guess what is useful and guessing brings flawed results that will undoubtedly eliminate patent protection for meritorious inventions.

The proposed Section 112(f) language is a Trojan Horse squarely favoring big tech monopolies.

Inventors describe our inventions in the specification of the patent using drawings, examples (or embodiments), details, and principles. The objective is to communicate, not to lawyers, but to other experts in the field – referred to as persons of ordinary skill. These drawings, examples, details, and principles elucidate the essence of the invention – a general description of the invention.

The claims are a separate part of the patent. They define the boundary line around what the inventor owns. This requirement was added in the Patent Act of 1836 to provide clarity and precision as to what subject matter is owned by the inventor.

We use a robust full-featured language relevant to the field of the invention in order to precisely define this boundary of our invention. It is often proper and indeed necessary for a precise boundary to use functional language. Terms like fastener, rotational, amplifier, filter, and volatile memory.

¹²¹ <https://www.uspto.gov/about-us/news-updates/remarks-director-iancu-10th-annual-patent-law-policy-conference>

The proposed revisions to Section 112 would prohibit using functional language such as this, demanding that inventors describe each and every structure. For instance instead of fastener, we would have to claim a bolt, screw, rivet, cotter pin, zip tie, epoxy, and so on. This will require an exhaustive and costly effort to catalog each and every structure that can achieve every function employed in the invention. More importantly, leaving out one single option will render the patent useless by permitting a competitor to use the teachings of the inventor by merely substituting an unclaimed element into a copycat product.

An inventor must describe every possible way of performing the same function in a highly detailed manner in the specification, and for each possible way, a new set of claims must be written. There is very high risk that courts will not accept equivalents or will restrict equivalents significantly.

Nearly every claim in every issued patent would become significantly narrowed in scope on the day of enactment to require narrowing concepts named in the specification but deliberately omitted from the claim by the responsible claim drafter.

The proposed Section 112(f) language further exacerbates the first to file provisions in the America Invents Act. Under first to file, inventors file for patent protection before they test the invention in the market, develop a prototype or design for manufacture. As these tasks are completed, inventors often to file a continuation in part or a new application to incorporate what they learned. The first application may not have things detailed in the specification well enough until the later applications are filed, thus losing the earlier filing date. An inventor is forced to conceive of every possible way of doing the same thing on the day of invention, which is a severe disadvantage for the inventor.

Proposed changes to Section 112(f) will prove disastrous to tech patents. There are 571 coding languages each with multiple ways of doing the same thing. An inventor must list every imaginable way to avoid legal gamesmanship. This is an impossible task that will make most tech patents undefendable. The proposed Section 112(f) language will force the drafter to detail every function, well-known or new, in the claims and in the specification. Given the new requirements for detail, the inventor will have to claim the invention at a code level in as many coding languages as could be used to implement the invention.

To cover all possible way of implementing an invention in software code, the specification may need to be hundreds of pages long. Depending on the complexity of the invention, some specification may require thousands of pages to cover all the possible coding languages.

This is an impossible task. All patents, especially software inventions, will be rendered valueless for investment because nobody can figure out all of the possible ways to write code for every possibility coding language in a specification, each with multiple ways of coding to same thing.

Investors are smart enough to know that that if one coding method or language is missing from the specification, the patent may be worked around and not defensible. This means that when investors perform due diligence on the investment, they will undoubtedly require that all possible coding methods for the invention are covered in the specification.

Just the burden of hiring multiple coding experts to ensure that the patent covers each possible coding method and type of code will turn away most investors. Undoubtedly, it will turn away early stage investors who do not have the resources to hire the engineers to evaluate all possibilities. These are the most important investors because without the first investment, the startup does not start.

This is a foolish clause, which will benefit no one except big tech.

Conclusion

Don't get fooled again. We need to come together to examine the unintended consequences of the AIA, eBay, KSR, and other Supreme Court legislation, and really do the due diligence on what is being proposed by this 100 and 112(f) legislation and any other patent reforms.

First, please do no more harm.

Second, learn from our mistakes. Senator Crapo you were not on this committee during the AIA but Idaho's constituent Micron was. They co-founded the infringer lobby in 2006 – the Coalition for Patent Fairness. And their CEO even came to testify – the rare CEO witness. While under oath he told this committee how bad the patent troll problem was, yet his company was selling 5,000 patents to a patent monetization entity – exactly what the infringer lobby would call a troll. Was this CEO talking out of both sides of his mouth or lying to this committee? He is dead now but the facts speak loudly.

Lesson here is to ask each witness at these hearings where they get their money from and who their words stand to benefit. Let's have a real party in interest test for each and every witness.

In the Innovation Act, Congress asked patent owners to identify their real parties in interest for the sake of determining fees to shift. And the USPTO and the courts are being asked whether a party bringing an IPR or an appeal to an IPR decision by the PTAB needs to be a real party in interest.

Even the US Postal Service is being represented by the US DOJ at the US Supreme Court to argue that the US Postal Service should be construed as a human person in order to qualify to file an IPR to kill a patent created by a startup in Alabama that the US Postal Service asked the startup to provide but then decided it was cheaper to steal it and to lawyer up and fight off any infringement claims. Why are tax dollars being used to fund lawyers at DOJ to kill off a patent created by a startup? This case was argued at the US Supreme Court in February.¹²² It was the first day back for a live hearing by Justice Ginsburg and she was on fire as were all the Justices talking at each other about how ridiculous it was for the government to put the thumb on the scales and have superior rights to due process and to the startup inventor.

What an embarrassment. China is laughing.

¹²² <https://www.scotusblog.com/case-files/cases/return-mail-inc-v-united-states-postal-service/>