

# The real problem is patent quality, not NPEs

A little historical perspective reveals that non-practising entities have been around for nearly as long as the patents they profit from. Tarring all NPEs with the same brush risks missing the real problem with the system: poor-quality patents

By Cheryl Milone

It has become fashionable to pin the blame for all of the problems in the US patent system on non-practising entities (NPEs) – patent owners that do not make or sell products. This was certainly the thrust of the White House message of 4th June, when it issued a series of executive orders and legislative proposals targeting patent owners that, in the words of President Obama, “don’t actually produce anything themselves”.

Certainly, some NPEs do need to be reined in, especially patent trolls which manipulate the patent litigation process with poor-quality patents to extort nuisance settlements from businesses that are unable or unwilling to pay the cost of standing up to them in court. However, many other NPEs – including universities, start-ups and technology licensing firms in key sectors such as next-generation semiconductors – contribute a great deal to the US economy, even if they do not have the wherewithal to commercialise their own inventions.

Any legislative and judicial reforms that conflate these two very different types of NPE – those that invent versus those that merely seek nuisance settlements – could put US innovation at risk and perhaps even hamstring the next generation of start-ups. In addition, they would utterly fail to address the larger problem in the US patent

system: the poor quality of many patents.

This view may surprise those who assume that my crowd-sourced patent research firm, Article One Partners (AOP), helps businesses to invalidate NPE patents. In fact, what we really do is help companies to invalidate bad patents (regardless of the owner’s identity or business model) and establish the quality (ie, prove the novelty and non-obviousness) of good patents. Our worldwide cadre of researchers uncover the prior art evidence that firms need to defeat a meritless infringement suit or improve the quality of their own patent portfolios.

Prior art, of course, is the Achilles heel of any patent, because a patent is valid only if the invention that it covers is novel and non-obvious. The better the search for prior art – any previous patent, technical paper or public knowledge or use of an invention that pre-dates the patent for that invention – the greater the certainty of patent validity or invalidity. The process is therefore meritorious: any patent that can survive a rigorous global prior art search by definition deserves to do so, establishing its legitimacy as a valid patent asset.

Prior art is not the only factor governing patent quality. Claim construction is also critical and a number of influential observers of the patent system – retired Chief Judge Paul Michel of the US Court of Appeals for the Federal Circuit is one – believe that examiners at the US Patent and Trademark Office (USPTO) need better training in claim construction law.

What we can say for sure about the quality of issued patents is that up to half of all those litigated in court or re-examined by the USPTO during its previous *inter partes* re-exam process were ruled invalid. If one includes patents whose claims have been narrowed as well as cancelled entirely during these re-examinations – and it

is the claims that define the limits of a patent's value and an infringer's liability – then according to USPTO data, 89% of all patents previously reviewed by the USPTO were judged either partly or wholly invalid.

**Taking the long view**

NPEs are hardly to blame for this apparently high invalidity rate. In fact, according to author and IP communications consultant David Kline – who co-authored the seminal book *Rembrandts in the Attic* – as well as Marshall Phelps' account in *Burning the Ships* of Microsoft's embrace of open innovation, NPEs were the little-known secret behind the United States' rapid early industrialisation and global economic success.

As he told a 5th June AOP webinar on the evolution of NPEs: "The American Founding Fathers deliberately and quite consciously created non-practising entities in order to expand the pool of inventors in its then-backward economy to include ordinary citizens without the wealth or resources to commercialise their own inventions."

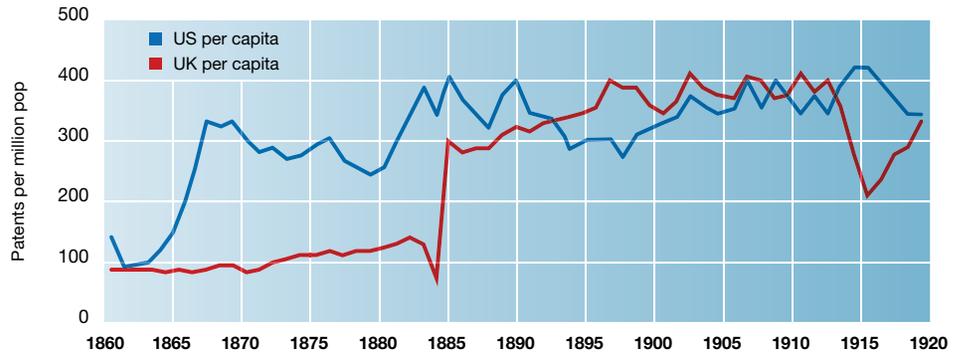
The founders, he explained, had studied the British patent system, where patent fees averaged 11 times the per-capita income of the average citizen and patent holders were required to practise their patents. They saw that these high fees and working requirements had restricted innovation activity to a few hundred members of the elite who owned the factories (or the capital) needed to manufacture products. These policies also skewed invention towards incumbent capital-intensive industries rather than the disruptive new industries that often spark great economic advances.

"So the American founders wrote three major innovations into the first US patent law in 1790," Kline explained. First, they set patent fees at a level that any ordinary citizen could afford – less than 5% of the rate in Britain. Second, they decided not to impose working requirements on patentees. Third, they wrote the patent law expressly to facilitate the licensing and sale of patent rights, thereby creating the world's first patent licensing industry.

He noted that the results were dramatic: "Britain at the time had only a few hundred inventors, virtually all of them from the wealthy elites. But in America, invention quickly became a new career path for thousands of poor but technically creative inventors like Thomas Edison who could earn income by licensing their discoveries." He cited figures showing that the US per-capita patenting rate soared until it was triple that of Britain by the time of the US Civil War, and quadruple

**Figure 1. Patents issued in the UK and US, 1860-1920**

By facilitating NPEs, the US achieved four times the per-capita patenting rate as the UK by 1885, after which the UK revised its patent laws to enable invention by those without the wealth to commercialise their inventions



Source: B Zorina Khan, *The Democratization of Invention: Patents and Copyrights in American Economic Development, 1790-1920*, Cambridge University Press, 2005

the British per-capita rate by 1885. By the middle of the 19th century, the United States was awarding five times as many patents as Britain each year, even though the populations of the two countries were roughly equal in size.

According to Bowdoin scholar B Zorina Khan – whose book *The Democratization of Invention* won the 2005 Alice Hanson Jones prize for outstanding work in economic history – two-thirds of the great US inventors of the 19th century, including Thomas Edison, were NPEs who licensed some or all of their patents to be commercialised by others.

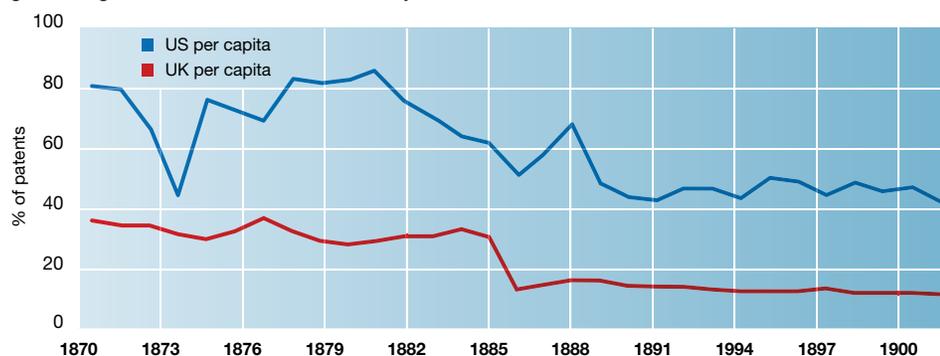
What's more, this division of labour between those who specialised in invention and enterprises that focused on commercialisation resulted in exactly what Adam Smith had predicted: superior results in innovation and economic growth, as evidenced by the United States' rapid rise to economic prominence and the broad-based prosperity of its citizens. The benefits of that specialisation and division of labour remain visible today, embodied in the thousands of university and other NPE patents commercialised by companies, large and small, each year – and by the United States' positive annual balance of trade in IP licensing.

**Is the patent system broken?**

Kline readily acknowledges that in recent years a new breed of abusive NPE has emerged. Patent trolls file spurious lawsuits seeking settlements that are less than the cost of litigation (known as strike suits). However, he insists that these bad actors should be identified by and sanctioned

Figure 2. Ratio of assignments to patents in the US and ratio of all assignments and licences in the UK, 1870-1900

On average, two thirds of all patents were licensed or assigned by NPE inventors during the golden age of innovation in 19th century America



for their extortionist behaviour, not their identity as NPEs.

“Americans especially should remember the dangers of mistaking identity for behavior,” Kline argues. “The McCarthyism of the 1950s was a response to a genuine threat from Soviet penetration agents. Where it went off the rails was in targeting people’s political identity as liberals and leftists rather than the illegal behavior of those who spied for a foreign power.”

Although patent and legal records show that today’s rising patent litigation rate is only half what it was during the golden age of US innovation in the mid-19th century, it still fuels the search for scapegoats and a belief that the system is broken. As former USPTO Director David Kappos noted in a recent article for the *Stanford Law Review*: “Many assert that the smartphone patent wars show that there is something wrong with the patent system, and that the root of the problem is inappropriately granted software patents.” However, Kappos noted that a USPTO review of software patents at issue in smartphone suits found that of those adjudicated so far, 80% were ruled valid by the courts. This, he said, is “a far cry from the dire declarations [of critics] and a rate of validity that compares favorably with other technology areas”.

Ironically, the existence of patent wars indicates that the system is functioning properly to establish the validity and settle the disputed ownership of patent rights so that these can be commercialised into new products, new services and new medical treatments. Almost every major industrial breakthrough of the last 150 years in the United States – from the development of the sewing machine, telephone, automobile, radio, aircraft, medical stent and even disposable diaper to the birth of the

semiconductor and e-commerce industries – witnessed exactly the same surge in patenting and patent litigation that we see in today’s smartphone sector.

Just as with today’s smartphone wars, the most competitive technology arenas have always been the most litigious. In Edison’s time, says Khan, the inventors of electrical discoveries were four times more likely than other inventors to be involved in patent litigation and accounted for an astonishing 41% of all patent suits filed during that period. Today’s smartphone suits probably represent fewer than 5% of all patent suits filed.

### An overloaded system

The real cause of today’s patent quality problem is not NPEs, but rather the fivefold increase in patent applications that has taken place over the last 30 years without a corresponding increase in USPTO funding, staffing and resources. More US patents have issued since 1980 than were granted during the entire 190 years of the US patent system before that date.

As a result, overworked USPTO examiners have only an hour or two to research the prior art and their search tools and databases are limited. This fact alone dictates that a significant number of patents will be issued that ought not to be, and some applicants take advantage of this to game the system.

“The problem is not simply prior art, nor even budgets that haven’t kept pace with application growth,” explains Michel. “Thirty years ago, the examiner corps was older and far more experienced. Many of them went to law school at night, paid for by the patent office – a programme, by the way, that the patent office unwisely dropped a decade ago. And while Kappos made enormous strides in modernising the patent office, examiner training is still not what it needs to be. Few examiners, for example, even consider applications in light of Section 112’s requirement for claim definiteness, enablement, and that the claims be no broader than the written description supports. This, just as much as inadequate review of the prior art for novelty and non-obviousness, is responsible for many of the poor-quality patents being issued.”

Many of these poor-quality patents go to NPEs, of course, especially patent trolls seeking nuisance settlements. However, are NPE patents as a whole of lower quality than those of operating companies?

According to one recent study by George Mason University researcher Shawn Miller, the answer may be yes. Miller found that

roughly 28% of all issued patents may be invalid due to prior art, but that the invalidity rate can rise as high as 61% for NPE patents.

However, another study by Villanova University School of Law Professor Michael Risch suggests that the answer is no. Risch found that NPE patent quality was not appreciably lower than that of other litigated patents, although it appears that the patent troll variety of NPE rarely wins judgments against defendants that can afford to fight them in court.

One entrepreneur with multiple start-ups under his belt disputes the claim that NPE patents – at least, the patents of NPEs that invent rather than engage in trollish litigation – are any lower in quality than operating company patents. Rather, he insists that the opposite is true.

“A small company’s patents have to be bulletproof and capable of surviving litigation; otherwise, no big company will ever take a licence,” notes Edward Balassanian, founder of a start-up that failed before it could produce a product, but that did patent the “pinch, swipe and zoom” touchscreen interface several years before Apple later embraced it in the iPhone. While Balassanian has nothing but praise for Apple and its high-quality innovation, he did note that “some big companies rely on quantity rather than quality – the sheer weight of hundreds or even thousands of patents – to deal with rivals in litigation or in cross-licensing negotiations”.

Clearly, big operating companies must shoulder part of the blame. After all, according to *Intellectual Asset Management (IAM)* magazine, just 100 large companies own one-third of all US patents – and a mere 311 companies own half – so by definition they own a sizeable piece of the quality problem.

Perhaps one reason for that is the well-known practice of many big operating companies performing only a perfunctory prior art search before submitting their patent applications. This is not only for cost reasons, but also because US law does not strictly require applicants to rigorously search the prior art, but only to disclose what they already know. Multiply that sort of minimal research across thousands of applications, per year per company in some cases, and one begins to get a sense of the contribution that large firms are making to the issue of US patent quality.

IAM editor Joff Wild notes: “Many patent quality issues could be solved if you put the head of patents of each of these big companies in a room with USPTO

Figure 3. **Litigation of patented inventions, 1800-1860**

The patent litigation rate during the US industrial revolution averaged 1.65% and reached as high as 3.6% in the 1840s – more than twice today’s US patent litigation rate of only 1.57%

Decade	Patent cases	Number of patents litigated	Total patents granted	Cases as percent of all patents
1800-1809	6	6	911	0.6
1810-1819	37	20	1998	1.8
1820-1829	36	27	2697	1.3
1830-1839	37	14	5077	0.7
1840-1849	198	95	5516	3.6
1850-1859	415	171	19661	2.1
1860	64	18	4363	1.5

management and kept them there until they came up with a plan to improve the quality of their patent applications.”

Apportioning blame for the patent-quality crisis is made all the more difficult by the fact that many operating companies run their own internal NPE units or IP holding companies that buy, sell and litigate patents which are never used in their products. Thus, the boundary between practising and non-practising entities has become increasingly blurred.

Ironically, only 10 years ago monetising a firm’s unpractised patents was considered best practice in the corporate world. Now, the Washington lobbyists of some large technology firms regard it as their clients’ dirty little secret and avoid all discussion of it.

**Legal fall-out from inadequate prior art searches**

However, the growing importance of good patents to company success makes *pro forma* prior art searching an increasingly risky proposition. Nothing highlights this fact better than the malpractice suit filed in March by tax software developer PTP Oneclick against law firm Katten Muchin Rosenman in an Illinois court. According to *Law360*, the software developer claimed that the law firm botched a patent prior art search and failed to discover the existence of competing software with similar functionality. This led to the USPTO’s denial of PTP Oneclick’s application for a patent on its software.

“A reasonably well-qualified attorney would have known that the failure to properly perform the [prior art] novelty search could result in the patent application being rejected,” the complaint said. Based on the law firm’s assurances that it had diligently researched the prior art, the software company said it had wasted US\$5 million readying the new

product for launch.

Another prior art malpractice case was *Magnetek v Kirkland & Ellis LLP*, where an appellate court reversed a lower court decision dismissing a malpractice suit against a law firm that the plaintiff claimed had “deviated from the applicable standard of care by failing to investigate and discover the prior art and misconduct which had not been disclosed” by a patent holder which had sued the plaintiff for infringement. The case was settled last year.

Although it is difficult to generalise from these two cases, they shine a spotlight on the explosive rise of patent malpractice actions in the United States. *Law.com* reported on 23rd January 2013 that: “As the volume of patent litigation has increased over the last decade, so has the incidence of patent malpractice suits. According to the American Bar Association, patent malpractice suits have risen steadily from 685 in 2007 to 873 in 2011, an increase of more than 30 percent.”

Since 2004, the number of patent malpractice cases has increased by a staggering 66%.

The rising incidence of such suits may ultimately place new demands upon in-house counsel and law firms to step up their game when it comes to prior art searching. The US Supreme Court decision in *Gunn v Minton* allowing patent malpractice suits to be heard in US state courts may add to those pressures, if only indirectly, by opening up new venues for action.

Also likely to increase corporate interest in boosting patent quality are high-profile cases where a diligent prior art search has made the difference between a multimillion-dollar patent judgment and a no-cost settlement. When Dutch electronics giant Philips was threatened with a patent lawsuit last year, for example, its IP chief Ruud Peters told *Business Week*: “Because of [the prior art], we could completely eradicate the assertion against us.”

Perhaps the highest-profile case for improved patent quality was offered by BlackBerry maker Research In Motion (RIM), which paid US\$612 million to patent holder NTP in 2006 to settle an infringement case. However, would RIM have paid such a huge amount had it known that three years later the USPTO would invalidate most of NTP’s patent claims after the discovery of prior art – a research paper in a university library in Norway – that predated the NTP patents?

More attention to prior art and its role in patent quality is also arising from provisions of the America Invents Act

(AIA), which took effect in March this year. Besides allowing new kinds of prior art to be used in determining patentability – including unpublished patent applications, foreign patents and inventions publicly disclosed in any language anywhere in the world – the AIA also created new ways to use that art either to block the issuance of a patent or to invalidate one after it has been granted. These include a new post-grant review programme for financial business methods patents and a beefed-up *inter partes* review. New legislation is also being proposed that would expand post-grant review of financial patents to additional classes of business method patents.

What is more, new AIA estoppel rules will prevent any grounds for invalidity that was “raised or reasonably could have been raised” in an *inter partes* review from later being used to challenge the validity of that patent in federal court or before the International Trade Commission – the latter an increasingly important venue for patent infringement action. This means that a party challenging a patent had better get the best prior art evidence of invalidity first time at bat, because it may not get a second chance.

Finally, we are now even starting to hear calls from influential media for applicants to take on more responsibility for patent quality. In an editorial of 11th June, the editors of *Bloomberg Business Week* criticised the White House’s anti-troll measures as “piecemeal changes” and demanded that “Congress should switch the burden of proof so that applicants instead of examiners must search so-called prior art to see if a patent has already been awarded”.

Such a switch would force dramatic changes in patent prosecution practices.

### **The harbinger of things to come?**

Good patents deserve legal protection because they promote innovation and create economic value. Bad patents, on the other hand, undermine the innovation benefits of the system and increase its social costs, regardless of the identity or business model of those that own them.

This is why legislative proposals that target legitimate NPEs which invent, along with patent trolls which merely employ strike suits based on poor-quality patents, will end up harming US innovation and may even hamstring the next generation of start-ups.

What is more, establishing an identity-based system of patent rights in which NPEs have reduced access to the courts to enforce their valid patents would run counter to

the express wishes of the nation's founders and the democratic rule of law on which the United States is based.

A better approach would be for all patent owners – large and small, practising and non-practising alike – to up their game with regard to patent quality. With the cost of patent litigation and the size of patent verdicts skyrocketing – not to mention the fact that patents and other intellectual assets now comprise 80% of public company market values – it is clearly in everyone's interest (including the public's) that they do so. **iam**

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## Action plan

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By failing to distinguish between NPEs that invent and trolls that file strike suits, the recent White House executive orders and legislative proposals to rein in NPEs will only harm US innovation and hinder the next generation of start-ups. Neither will they solve the larger problem in the US patent system – the poor quality of many patents:

- NPEs were originally created by the US founding fathers in order to expand the pool of inventors in that then-backward nation to include large numbers of ordinary people without the wealth to commercialise their own inventions. NPEs such as Thomas Edison were the secret to the country's early industrialisation and global economic success.
- However, in recent years a new species of abusive NPE has emerged, known

as patent trolls, which do not invent but instead file strike suits based on low-quality patents in order to extort nuisance settlements that are less than the cost of litigation.

- The rising incidents of patent malpractice suits, skyrocketing patent verdicts and litigation costs, as well as growing calls for applicants to take more responsibility for patent quality, are putting pressure on in-house counsel and law firms to raise the standard of care in their prior art searching and claim construction practices.
- All patent-owning companies – large and small, practising and non-practising alike – share a common responsibility to improve the quality of issued patents in the United States.

# What's your IQ?

170 Benjamin Franklin	180 Charles Dickens	170 Benjamin Franklin	180 Charles Dickens
190 Sir Isaac Newton	210 J. W. von Goethe	190 Sir Isaac Newton	210 J. W. von Goethe
220 Leonardo da Vinci	DIAMS iQ -millions	220 Leonardo da Vinci	DIAMS iQ -millions

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