

# INFRINGEMENT BATTLES: A CASE STUDY ILLUSTRATES THE NEED FOR REFORMS

**Kevin J. Parker**

Department of Electrical and Computer Engineering, University of Rochester, Rochester, NY, USA

We present a case of a university invention and the long, costly legal process that was required to challenge prominent infringing products. This history highlights a number of areas where reforms are urgently needed so that small entities can defend their intellectual property with realistic budgets, timelines, and solid facts—and without baseless recriminations. A call for coordinated action is made to restore the ability of the National Academy of Inventors members and other inventors and small entities to access the law in defense of issued patents.

**Key words:** Patent infringement; Litigation; Reform

---

## INTRODUCTION

Patent rights are defined by Congress; however, it is up to the inventors, or owners, to recognize and challenge blatant infringement by others. In reality, our patent rights become effectively useless if inventors and small entities do not have extravagant amounts of time and money to mount a legal challenge or defense under current U.S. practices. To illustrate some of the key issues facing inventors and smaller firms, a timeline of events is recounted around a successful technology called the Blue Noise Mask (BNM), developed in my lab at the University of Rochester (UR). The BNM made halftone rendering of images for displays and printers “cheaper, faster, and better” than earlier techniques. Constructing the first one took a great deal of computer time by a gifted Ph.D. student, who was also co-inventor. But once created, it could be stored in memory and used

by printers and display drivers with great efficiency. The commercial uses of this invention were many, so a patent was applied for, and UR outsourced the case to Research Corporation Technologies (RCT), which, at the time, specialized in commercializing inventions and had working agreements with many top research universities. The initial developments were very positive, as will be described in the timeline below.

### 1990: “THE LAUNCH”

The patent application covering the initial BNM technology was filed in December of 1990, and the United States Patent and Trademark Office (USPTO) issued U.S. patent number 5,111,310 (“The ‘310 patent”) in May of 1992. Meanwhile, RCT had created marketing and demonstration materials and had a detailed plan to contact companies that could benefit

---

Accepted: February 1, 2020.

Address correspondence to Kevin J. Parker, University of Rochester, Computer Studies Building 724, Box 270231, Rochester, NY 14627-0231, USA.  
Tel: +1-585-275-3294. Email: [kevin.parker@rochester.edu](mailto:kevin.parker@rochester.edu)

from the new halftoning technology, with follow-up from both the technical side and the business/licensing side. A California printing company was the first licensee, and many others followed. Additional patents were filed in the U.S. and selected other countries. Some legal skirmishes were fought with one large printing company over a cloned product, but those issues were resolved in favor of the BNM and a licensing deal.

### **1999: “STORM WARNING”**

By the end of this decade, the BNM patent portfolio was in a very strong position: numerous licensees, substantial academic recognition (journal papers, theses, invited talks, book chapters) as a distinct technology, and a family of patents that had already survived some legal challenges. However, the issue of possible infringement by Microsoft began to loom as a dark cloud. Some investigations produced compelling evidence that their halftoning options included the BNM but without any license or permission. As investigations continued, the evidence grew more solid that specific BNMs existed within Microsoft software and were called by specific modules that users would activate with commonly used commands. In addition, Microsoft itself, at the time, had few patents in halftoning technology for printing and display of images, so it appeared to be lagging in developments in this area. In the background discussions within RCT, it was widely recognized that inventors who remain quiet in the face of obvious infringement of their technologies may become unable to assert their rights, so ignoring “the elephant in the room” is not a safe option for patent holders.

### **2001: “IN COURT”**

After some preliminary discussions, RCT filed suit against Microsoft for infringement of six U.S. patents related to the BNM halftoning. After a Markman hearing on the meaning of the claims, RCT moved for partial summary judgment that certain Microsoft products contain infringing halftoning masks. Microsoft filed a counter-motion for partial summary judgment that the same claims were invalid. As background, the standard defense by infringers is two-pronged: first that they do not actually infringe and second that your patents are

invalid. There are many branches of arguments that can be used for either of those two prongs. In this case, arguing against clear evidence that their embedded halftone arrays did not infringe on any of the six BNM patents would be rather difficult, so the second prong (invalidity) was a better bet for Microsoft.

The federal court in Arizona (where RCT was headquartered) granted RCT’s infringement motion and then appointed a special master to consider some additional summary judgment motions. In plain terms, the federal district judges are unlikely to be experts in patent law or complicated technologies. This is a general weakness of the U.S. system. Special domain experts are then hired to sort out the more complicated issues. This means that you are paying in time and money for a lengthy process where an outside expert declares that when you claimed “a chair with four legs,” you actually meant a chair with four legs. However, there is no guarantee that the judge or jury will ever understand the meaning of “four legs” if the invention is more technical, for example, an invention involving “four capacitors.” The long delays and arguments over the meaning of “four legs” keep all the lawyers paid, sometimes for years, but drain the cash out of small entities. This process should be streamlined and made rational and affordable.

### **2003: “ABANDON HOPE, ALL YE WHO ENTER HERE”**

Around this time, the case was transferred to a new trial judge, a visiting octogenarian who was notorious for his conduct and judgments. His actions and pronouncements while robed had resulted in a long trail of concerns written up in newspapers and magazines over the years as an example of disturbing conduct in the judiciary. We shall refer to him as Judge Royal (a pseudonym to avoid further recriminations). One of his unjudicial habits was to apparently pick sides early on in a case, after which the favored side could do no wrong and the other side could do no right. The lead attorney hired by Microsoft, Mr. J. Voldemort (another pseudonym), of a Seattle law firm, capitalized on Judge Royal’s favorable signals and decided to “go for broke” by filing additional summary judgment motions to undermine

and reverse RCT's strong position.

Without including a formal opinion, Judge Royal reversed the prior judge's grant of RCT's summary judgment motion for infringement and also granted, without opinion, Microsoft's summary judgment motion for non-infringement. Again without opinion, he also granted Microsoft's summary judgment on invalidity. Finally, the judge granted all of Microsoft's motions *in limine* and set a jury trial to commence August 8, 2005. In plain English, this means that Judge Royal effectively told the inventors and RCT that they were getting harsh treatment in his court. It seemed that he could not fathom what the intent of the Bayh-Dole bill was or why pointy-headed academics were involved in challenging Microsoft.

### 2005: "THE NUCLEAR OPTION"

Sensing a rare opportunity with Judge Royal, Mr. Voldemort decided to go for the kill shot by directly attacking the inventors for inequitable conduct. Unfortunately, the penalties for specious arguments are difficult for inventors to assert. This is where the lawyers can argue that you are an axe murderer and pull up your third grade file where the teacher said you threw a crayon. At Mr. Voldemort's request, Judge Royal cancelled the scheduled jury trial on infringement and instead ordered a bench trial on the invalidity of the BNM patents due to inequitable conduct by the diabolical inventors. Voldemort argued that the inventors had sought to defraud the USPTO. Microsoft's argument at this inequitable conduct trial lasted an hour and featured no witnesses. Judge Royal barred RCT from presenting expert testimony on materiality. RCT's case was limited to testimony from the inventors about candor and good faith.

On November 23, 2005, Judge Royal ruled from the bench that the RCT patents were unenforceable due to inequitable conduct by the inventors. In particular, Judge Royal adopted Mr. Voldemort's argument of inequitable conduct alleging the inventors did not disclose test results to the USPTO. In fact, those tests were performed *after* the filing of the '310 patent to see how far the BNM parameters could be pushed until human observers would no longer choose the BNM over other halftone patterns. The tests were conducted to complete a Ph.D.

thesis by finding the outer limits of the parameter space and in no way contravened the basic teachings of the '310 patent (they, in fact, confirmed the preferred embodiment), but Judge Royal had already picked his side. Mr. Voldemort appeared to have gotten what he wanted: a kill shot against the patents and the inventors' reputations, more long delays and high costs to RCT for getting this travesty appealed, and a likely multi-year continuation of his billable hours just on this issue alone to argue Microsoft's side to the Appeals court. So what if he had to destroy the reputations of two academic inventors? As an old saying goes, "You can't make an omelet without cracking a few eggs." Unfortunately for the inventors, the public record now included a federal judge's ruling that they deliberately defrauded the USPTO. In this situation, for a tenured professor with a strong reputation, the ruling would probably not be a career killer. For an untenured junior professor in a science, technology, engineering, and math (STEM) field needing to win the confidence of her department chair and dean, this was a very serious problem; it was also a completely unfair and unchallengeable problem except through enormous additional time and money spent on the appeal. The one hope during this period was that the United States Court of Appeals, Federal Circuit (CAFC) had "adults in charge," meaning that all U.S. patent cases that are appealed go to the CAFC, and the judges include experts on patent laws and those with STEM backgrounds.

### 2006: "NOW PAY FOR YOUR PAIN"

After RCT appealed the latest courtroom travesties, Mr. Voldemort filed additional new motions for Microsoft back in the Arizona court seeking attorney fees, amplification of the court's findings, and an extension of the effective date for appeal pending a decision on the first two motions. Judge Royal granted the motions on the deadline and attorney fees but did not amplify its findings of fact or conclusions of law on any topic. In plain language, this means that Mr. Voldemort was not content with destroying careers and a patent portfolio; he wanted to force RCT to pay for his time and efforts at a princely rate. Judge Royal, still in character, gave him what he wanted but

without any justification. So much for naïve expectations about the law and facts!

### 2008: “THE RESET”

After a brief hearing from both sides, Judge Rader of the CAFC ruled that Judge Royal had erred in ignoring the materiality prong and in misapplying the intent prong of the inequitable conduct test, concluding with, “This court therefore reverses those findings and conclusions.” Furthermore, he stated,

“Because the trial court *incorrectly* held RCT’s patents unenforceable due to inequitable conduct, this court reverses, and, accordingly, vacates the award of attorney fees based on the exceptional case finding. This court also vacates the trial court’s summary grants of noninfringement and invalidity as well as the motions *in limine* orders. Pursuant to 28 U.S.C. § 2106, this court also remands with instructions to reassign the case.”

In plain English, this means that the CAFC had overturned all of Judge Royal’s rulings in the case and had taken a rare option of requiring a new judge for any resumption of the case.

Even with this slap-down of the notorious judge’s rulings and Voldemort’s malicious strategy, the litigation nightmare wasn’t over. The case was essentially restarted back in Arizona (minus the discredited arguments and the notorious judge), and then a new round of motions were made to the newly appointed judge about arcane points of law concerning the claims. The new judge ruled against RCT on some of these, and these were once again appealed back to the CAFC, consuming additional time and money in great quantities.

### 2010: “BACK TO APPEALS COURT”

The astute reader will note that an entire decade has passed, and there is still no resolution or justice on the core question of infringement. Finally, on December 8, 2010, the U.S. CAFC, under Judges Rader, Newman, and Plager, ruled that,

“Accordingly, the 1990 and 1991 Applications provide written description support for claim 29 of the ‘310 patent. Because Microsoft’s summary judgment motion was solely based on

written description, which should have been denied, this court reverses the district court’s summary judgment.”

In other words, the CAFC had again ruled in favor of RCT and its BNM patents and claims. Microsoft decided in its wisdom to settle with RCT at this time and take a license. Why they didn’t do that 10 years previously—when the funds would go largely to a research university instead of to Mr. Voldemort and his law firm—will perhaps never be known.

After all, license fees to research universities help to produce the “seed corn” for high tech companies, that is, new technologies and the young graduates who are skilled in their applications. However, a great irony here is that the long time CTO and founder of the research division of Microsoft, Nathan Myhrvold, had left Microsoft to form his own Intellectual Ventures, which set out to build large portfolios of patents. Eventually, Intellectual Ventures purchased the rights to some of my own patents (unrelated to the BNM) from UR, clearly not buying into Mr. Voldemort’s scorched earth strategies.

### 2020: “REFORM OR SHRUG”

The need for streamlining a system devised by lawyers, one that presents steep barriers to inventors, is still before us. Large entities can hire legal teams to file motions, challenges, and countermotions for at least a decade, as we have seen, to avoid having a claimed invention such as a “chair with four legs” be judged to in fact resemble a “chair with four legs” from their product line. Multiple forms of reviews and challenges to validity can be launched. Furthermore, litigators can personally attack inventors under various schemes without consequence, so, for the university inventor or small entity, the prospect of financial ruin and personal reputational ruin are daunting barriers to challenging an infringer. These archaic and unjust practices must not be allowed to continue. It is helpful to separate fundamental laws, such as the Constitution and the original establishment of patent rights, from the practices and bad habits that have grown up around patent rights. It is the archaic customs and bad habits that need to be streamlined and brought into the 21st century. However, realistically, only a coordinated and sustained effort by inventors and their organizations

will result in legislative changes.

For these reasons, the National Academy of Inventors, along with the Association of University Technology Managers (AUTM) and other organizations of inventors and start-ups, should form a task force to streamline the legal practices for patent infringement and defenses. The goal of the taskforce will be to choose the best possible options for modernizing the following:

- The discovery process
- Judgments on the meaning of the claims
- The arguments for and against infringement and validity

Along with these, three other key issues need to be addressed:

- There is a need for lower court(s) for patent cases that can access judges, magistrates, experts, and even jury members with STEM backgrounds and familiarity with patent law. In a similar vein, bankruptcy law is already considered a special topic treated by experts within our court system: How much more so is patent law?
- There is a need for effective penalties for attorneys who directly attack inventors with baseless charges. These penalties could range from damages and legal fees to disbarment.
- There is a need for time limits on legal proceedings, including motions.

It is possible to conceive of a 21st century process worthy of “the information age,” where either side has the option to choose a STEM-savvy court. The first six months of the process are devoted to discovery and rulings on claims and the second six months for motions and trial, with time and quantity limits on the number of arguments made. Lead with your best facts and arguments, and let the accused infringer defend with their best shot.

We should have no naïve expectations about how this proposal will be received in certain sectors that benefit handsomely from the status quo. However, the patent rights defined by Congress so many years ago were intended for inventors and small start-ups, and these reforms are required to enable a defense of those rights when necessary.

## ACKNOWLEDGMENTS

The author is deeply grateful to the RCT experts T.J. Reckart, Esq., and K. Baker for their sterling personal qualities and brilliant global strategies covering legal, business, and technical aspects of the BNM technology and also for their dedicated persistence in the face of chaos and adversity. We also recognize the perseverance of G. Munsinger, CEO of RCT during the litigation. The author also acknowledges many great colleagues and senior administrators at the University of Rochester and his co-inventor for all their positive and thoughtful efforts. Finally, we gratefully acknowledge Michael Greenbaum, Esq., who carefully drafted the original ‘310 patent so expertly that it could survive decades of challenges by litigators. The author has no competing interests to disclose. This submission reflects the opinion of the author, solely and individually.