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PATENT REFORM IMPLEMENTATION AND NEW CHALLENGES FOR SMALL BUSINESSES

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BEFORE THE

COMMITTEE ON SMALL BUSINESS
UNITED STATES
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

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PATENT REFORM IMPLEMENTATION AND NEW CHALLENGES FOR SMALL BUSINESSES

WEDNESDAY, MAY 15, 2013

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
Washington, DC.

The Committee met, pursuant to call, at 1:05 p.m., in Room 2360, Rayburn House Office Building, Hon. Sam Graves [Chairman of the Committee] presiding.

Present: Representatives Graves, Luetkemeyer, Mulvaney, Hanna, Schweikert, Bentivolio, Rice, Velázquez, Chu, and Schneider.

Chairman GRAVES. Good afternoon. We will go ahead and call the hearing to order. The Ranking Member is going to be a little bit late but she said for us to go ahead and get started so we didn't delay you all. But I want to thank all of our witnesses for taking time away from their jobs and making the trip to Washington. Some of you have come a long way, and we obviously look forward to your testimony.

Since the founding of this great Nation, intellectual property rights have been protected as a way to inspire innovation and perpetuate economic growth. Our Founding Fathers enumerated this within our Constitution. And last Congress, we passed the America Invents Act, which represents the most significant reform to the American patent system in over 50 years.

The AIA included historic changes such as moving to a first-to-file system, as well as revisions in patent fees and a post-grant review process. These reforms help strengthen our patent system to ensure that the United States remains the world leader in innovation.

In the patent arena, small firms play a critical role in developing innovation, producing 16 more patents per employee than big businesses do. Obtaining a patent is equally critical for small businesses in their ability to attract startup capital and grow their businesses. According to the United States Patent and Trademark Office, it takes more than 31 months to process a patent application. The AIA was passed to help reduce this backlog while also improving the overall quality and strength of the patent system. For small firms, this is vitally important and it helps expedite the development of businesses and, in turn, aids in creating new jobs.

However, as expected with major policy initiatives, there will be challenges and some obstacles. As Chairman, I have frequently heard from inventors and small businesses about the changes to the patent system and opportunities to address the new challenges.

Despite the substantial progress made under the AIA, many firms have expressed concerns about patent assertion entities, PAEs, or patent trolls, as they are often called. Patent trolls attempt to bring frivolous patent claims against all types of businesses, which hinder innovation and economic growth. Recent studies found that the direct cost of these litigation cases was approximately $29 billion in 2011, with 55 percent of those costs attributed to firms with less than $10 million in revenue. For small businesses, the costs of litigation are particularly harmful, and it turns their limited monetary resources away from building that next great product or service, whatever that may be.

While it is important that those with valid infringement claims protect their intellectual property, one must carefully examine if merely receiving a demand letter will cause a small company to shut its doors rather than challenged the validity of the claim to ensure its merits.

With that, again, I appreciate all of you being here, and we will start right out with our first witness. Our first witness is going to be Dennis Crouch.

Mr. Crouch is an Associate Professor at the University of Missouri School of Law, where he specializes in patent law. In addition to his work educating new legal minds, Mr. Crouch also authors Patently-O, which Business Week called the most widely read patent blog. As a leading expert in the patent community, we appreciate you being here today, and we look forward to hearing your testimony.

STATEMENTS OF DENNIS D. CROUCH, ASSOCIATE PROFESSOR OF LAW, UNIVERSITY OF MISSOURI SCHOOL OF LAW; JEFF GRAINGER, MANAGING PARTNER, THE FOUNDRY, LLC, TESTIFYING ON BEHALF OF THE MEDICAL DEVICE MANUFACTURERS ASSOCIATION; JOHN R. THOMAS, PROFESSOR OF LAW, GEORGETOWN UNIVERSITY; AND MARK GRADY, FOUNDER AND PRESIDENT, INDIGITAL

STATEMENT OF DENNIS D. CROUCH

Mr. CROUCH. Thank you, Mr. Chairman, for having me, ranking member, Members of Congress. Usually we think of patents as a form of intellectual property that is a form of property rights. But small businesses often see the patent system more as a set of regulations. And in fact, really, these days it might be called a morass of regulations. That is, regulations in terms of obtaining patent protection, enforcing those patents, a morass of difficulty in terms of figuring out how to make a product without infringing patents, and as the chairman mentioned, the difficulty in terms of litigating and challenging patents and fending off litigation from patent trolls.

Now, regulations require expertise, they require contacts, they require money. And all of those are elements that are in short supply among small businesses. And so it is no surprise that small businesses are complaining about the patent system. Now in my view, the greatest problem and the keys to any kind of solution, whether it be legislative, through the courts, or through the Patent Office, is in thinking about how to reduce this regulatory burden.

And in particular, I think the greatest problem and the best way to address this is by thinking about clarity and transparency in the patent system.

We have a problem with the patent system today in that innovators, patent attorneys, and patent applicants have a strong incentive to hide the ball when they are filing for patent protection. That is, in essence, to disguise or not fully disclose or point out the particular innovation that they are trying to protect and draft patent claims that are intended to delineate the scope of their property rights, but in fact, do so in a way that is ambiguous that leads to some confusion down the line.

And so my proposal and my idea for the best way to address the patent system is to figure out ways and focus especially at the Patent Office on clarity in patent rights, clarity in the scope of rights, clarity in defining who owns patent rights, and clarity in defining exactly what innovation has been developed. With that clarity, I certainly believe we can move toward a system where strong patent rights will be available, it will be easier to determine bad patents, invalid patents, and invalidate those. And although no with one enjoys paying licensing fees, it is a much more straightforward path when you understand the scope of a patent and it is easy to tell that your particular project does, in fact, infringe that patent.

Now I want to change gears just one minute and think about, in particular, small businesses. Now in preparation for this Committee hearing, I did some amount of research in terms of patenting amongst small business entities and I found one interesting, although perhaps not entirely surprising, finding that the percentage of patents being obtained by small businesses in this country has dropped significantly over the past 15 years or so from about 30 percent; that is, 30 percent of issued patents in 2000 were issued to companies or individuals designated as small entities. Today, that number is down to about 20 percent. So it dropped from 30 percent to 20 percent.

Now in fact, in looking at these numbers more particularly, I found that the decrease was not actually a decrease in the number of patents being filed by small entities, but just that large entities greatly increased their filings. And so, in a sense, it is not like they are falling behind by staying steady.

My view, although I did not develop particular data on this, my hunch is that this decrease in patenting is more a result of the regulatory burden, the difficulty of obtaining and enforcing patent rights, than it is on any lack of innovation among small companies. And I am sure we will get more testimony on that front.

Now there are two particular points of data that also come out from this that have to do, in a sense, with American ingenuity. One is that the vast majority of small entity filers in the United States are United States-based small companies, whereas the majority of large entities that are filing for patent protection in the U.S. are actually foreign entities. And what that means is that any focus, any help that is given to small entities has a particular effect that is primarily addressed toward U.S. companies.

Although my students would understand I could go on for a long time, but I will stop here and look for any questions as we move on.

Chairman GRAVES. Thank you, Mr. Crouch.

Our next witness is Jeff Grainger. Mr. Grainger is the managing partner for The Foundry, which is a medical device incubator located in Menlo Park, California. In this capacity, Mr. Grainger helps transition numerous innovative ideas into successful medical device startups. In addition, Mr. Grainger is a patent attorney and inventor, holding over 30 patents himself. He is testifying on behalf of the Medical Device Manufacturing Association. I thank you for coming all the way from California.

STATEMENT OF JEFF GRAINGER

Mr. GRAINGER. Thank you. I want to thank Chairman Graves and the other Committee members for the opportunity to testify today. I am a patent attorney and entrepreneur and have worked continuously in startup companies for the past 20 years, almost entirely in the medical device field. I currently work for The Foundry, which is a medical device incubator in Menlo Park, California. What we do is develop new medical technologies. We prototype them, we test them. We file for patent protection. And then we start new companies to pursue those technologies with venture capital funding. We have started 15 companies in the past 14 or 15 years, and our companies have created not only hundreds of jobs and built value for their investors but also improved the lives of thousands of patients who have heart valve disease, who have hypertension, or suffered from stroke.

While the dialogue concerning patent reform has been at times dominated by forces that wish to weaken the patent system, I am thankful to be able to speak today to help you hear another view, which is that of entrepreneurial companies that bring new medical treatments to Americans. We depend upon a strong patent system that provides fast and efficient examination, discourages frivolous patent challenges, and imposes serious sanctions on infringers.

The United States leads the world in medical device innovation, and a major source of this innovation is small entrepreneurial companies. These companies must raise substantial capital in order to develop their products, perform clinical studies, and obtain the regulatory approval, all before a single device is sold. Investments of more than $50 million, timelines of more than 10 years from invention to commercialization, are common.

Understandably, investors in medical devices are intensely concerned with the ability to obtain strong patent protection. They know that after spending the money to blaze the trail to bring a new product to market, there will be some period of protection before the product can be knocked off by competitors. Any change to the patent system that impedes our ability to get patents or that weakens the protections that are conferred by patents would be a serious detriment to our ability to raise the money we need to start medical device companies.

The America Invents Act implemented some significant changes to the U.S. patent system. While it is too early to tell whether the AIA has been successful as a whole, several aspects of the Act clearly improve the patent system for innovators, who depend upon a predictable, efficient, and competent patent process. The change to first-inventor-to-file creates more clarity and certainty by remov-

ing nonpublic information from the determination of who is entitled to a patent. Post-Grant and Inter-Parties Review improve upon reexamination by providing a process under specialized judges for overturning invalid patents, while including estoppel provisions, which ensure that challengers will think twice before launching an attack.

Of all these changes, however, the Track One prioritized examination has probably had the biggest impact on our ability to get new companies funded. Under Track One, we can get a patent application allowed within 1 year. We are now able to approach venture capital firms with issued patents in hand, rather than a collection of filed applications. As a result, we are more likely to get a our companies funded and we spend less time and less money getting through negotiations and the due diligence process.

I would like to make a comment about something that did not make it into the law. While the AIA gave the Patent Office the authority to set user fees and generate the revenues it needs, the law fell short in failing to prohibit diversion of these revenues. So long as revenue diversion remains a possibility, the PTO's budget will be uncertain and the office will be unable to do the hiring, the training, and the infrastructure improvements that must be done to improve the quality and the efficiency of the patent process.

If there is one issue in which all stakeholders in the patent system should be aligned, it is the funding of the Patent Office. A fully equipped Patent Office cannot only be faster and more efficient, but it can focus on improving the quality and rigor of patent examination so that those patents which are granted have undergone rigorous scrutiny and are appropriately limited in scope. This will ensure that patent rights are not unfairly wielded to the detriment of innovation, and I would urge the Committee to make this prohibition on fee diversion a priority.

In sum, the extraordinary innovation in medical device technology is largely the work of small venture-backed companies that depend upon strong patent protection to raise the funds needed to bring medical devices to commercialization. Streamlining and accelerating that examination process, improving patent quality, discouraging frivolous patent challenges, and imposing serious consequences on infringers are essential components of a system that protects and encourages this innovation.

The AIA takes significant steps toward achieving these goals, and it should be given a chance to work. However, we must fully fund the Patent Office and end diversion of PTO fees so it can build an organization that is faster, more efficient, and highly focused on issuing quality patents.

Finally, in addressing the problem of patent assertion entities, we must avoid diluting the important rights conferred by a patient upon which innovators rely. Rather, we should focus on improving the quality and rigor of the patent process.

It has been an honor to speak to you today. I thank you again for inviting me to testify.

Chairman GRAVES. Thank you, Mr. Grainger.

Our next witness is John Thomas who is a professor at Georgetown University Law School, where he teaches a course on patent law and has published numerous articles and books on the subject

of intellectual property law. He has served as a visiting scholar at the Congressional Research Service for the past decade and was named the inaugural Thomas Alvin Edison Visiting Scholar at the U.S. Patent and Trademark Office in 2011. He formally served as a visiting fellow at the Max Planck Institute for Foreign and Comparative Patent, Copyright, and Unfair Competition Law in Munich, Germany, and is a research scholar at the Institute of Intellectual Property in Tokyo, Japan.

Welcome.

STATEMENT OF JOHN R. THOMAS

Mr. THOMAS. Thank you, Mr. Chairman and distinguished members of the Committee. It is great to have the opportunity today to testify before you about patent reform implementation and new challenges for small businesses.

First, I want to thank the Committee and give my congratulations to the Committee for enacting the AIA. I think it has been a very positive step forward for the patent system. I am grateful. When I teach, I no longer have to say here is what the rest of the world does with respect to best patent practices and here is what we do in the United States, on the other hand. So those days are gone. And I think the Committee did a wonderful job of protecting the interest of small businesses by maintaining the small business discount, the small entity discount at the PTO, and introducing a micro entity discount that is even steeper for the aid of small businesses.

For example, the fee to file a patent application for a micro entity is only $70. So this committee has represented small firms very well.

Consideration of patent reform implementation in large measure involves a consideration of what is going on at the USPTO. And as someone who has been critical of the agency at times in the past, I do want to report a very highly favorable impression about what the agency has done. I think they have met the deadlines, they have implemented the law in a timely and transparent manner, and they deserve a lot of congratulations for doing that.

I further observe that the agency has reduced its first office action pendency to 18.7 months and has cut its inventory of filed but unexamined applications to under 600,000 cases, which, again, are pretty impressive accomplishments given its implementation of the AIA as well. The USPTO also has a large number of programs to help small businesses. There is an Office of Innovation and Development—it is right as you go in the agency in the Madison Building—that helps small businesses. There is an Ombudsman, an Inventors' Assistance Center. And the agency is very active in the conferences to help independent inventors.

Obviously, a lot of these programs are in jeopardy, or at least being scaled back, because of sequestration. And I would like to associate myself with the comments of Mr. Grainger about the importance of the agency getting the funding and how important that was in the enactment of the AIA. Obviously, the Office of Management and Budget has reportedly reasoned that the fees that the USPTO collects are, in fact, subject to sequestration, which for many of us was a surprising ruling. We will see what impact that

has on the ability of the USPTO to maintain an environment for innovation that takes us as a world leader.

The cost of certain USPTO post-grant proceedings is another area of concern for small businesses. The new Inter Parties Review proceeding costs at least $8,000. The minimum fee for Post-Grant Review is $12,000. As you know, these are mechanisms for companies to challenge patents at the USPTO in an administrative opposition system that gets them out of court and also enlists the expertise of the agency. Obviously, these are high-cost proceedings. So one issue is, is it pricing small businesses out.

Patent trolling remains another big issue for businesses of all sizes in the United States. In the 113th Congress, there are two bills right now that seem to be addressed toward patent trolling. One is the SHIELD Act that would create a fee shifting system where the loser would pay the attorney fees of the victor in patent litigation. Fee shifting seems to be a fairly good mechanism. It is used abroad, where trolling seems to be less of a problem. But it also might discourage small businesses from bringing meritorious cases, because patent litigation is notoriously uncertain. So if they have to pay the loser's fees, they may not be as willing to assert their rights.

Another bill, the Patent Quality Improvement Act, would essentially expand the transitional program for covered business method patents, increasing the array of patents to which it applies and getting rid of its sunset provision. Again, harnessing the expertise of the Patent Office, keeping people out of the courts seem like good ideas. Of course, one thing is when patents survive these proceedings, advocates can argue, Look, this patent was initially allowed by the Patent Office, and they looked at it again, and it is still a valid right. That sometimes can make patents a little more troublesome. They are galvanized by going through again.

So thinking about how to deal with patent trolling is a complicated problem. I am not sure it is amenable to a quick fix. It is something that I think is systematic with our patent system.

Just one more issue to raise and a concern to small business is the so-called integrity loophole over the respect of post-grant proceedings. Post-grant proceedings at the USPTO, while they are pending, sort of place a cloud of title on the patent. While this thing is being issued, it is a moving target, is it going to survive? What are the claims going to look like? One concern for small businesses, if opponents of the patent vote fraud or engage in misconduct in requesting the proceeding, what remedy is available to small businesses whose patents have been challenged for this period of time? Often, the patents come out many years later, unscathed, but those years don't come back, technology has moved on. Recent judicial holdings have said there is no remedy for patent holders.

So one thing Congress may wish to consider is legislation that would allow an aggrieved patent holder to obtain relief against parties that have challenged their patients in an inappropriate way.

Mr. Chairman, members of the Committee, I appreciate the invitation to come here today, and I look forward to working with you as you consider patent reform issues.

Thank you.

Chairman GRAVES. Thank you, Mr. Thomas.

Our next witness is Mark Grady. Mr. Grady is founder and president of INdigital Telecom in Fort Wayne, Indiana. INdigital was formed in 1995 and was selected by the Indiana Wireless 911 Advisory Board to build an innovative, new e-911 network to bolster public safety. As a patent holder himself, Mr. Grady understands the benefits and challenges still existing for small, innovative companies under the new patent system.

Welcome, Mr. Grady, and thanks for coming in.

STATEMENT OF MARK GRADY

Mr. GRADY. Good afternoon, Chairman Graves and Ranking Member Velázquez. Members of the Committee, thank you for having me today. I am Mark Grady, and I will tell you a little bit about our company. INdigital operates in rural areas of Michigan, Ohio, and Indiana. We serve the public, many of whom are represented by members on this committee. Thank you for inviting me to share my small business perspective for the reformed patent system. My full testimony is on file and I hope you find it useful in conjunction with these brief remarks today.

INdigital Telecom is a specialized type of telephone company, a 911 system service provider. Wireless, Voice over IP, and legacy telephone companies send 911 calls from their customers to our network, and we make sure these calls are connected to the right local 911 authority so that emergency help can arrive as soon as possible. 911 services are currently undergoing a revolution in technology. Public safety, homeland security, and first responders are all moving from legacy systems created the 1970s to modern digital and Internet-based systems. You may have heard these called Next Generation or NG911.

In the race to better create NG911 systems, small business innovators like INdigital face a number of IP-related challenges. We need a strong patent system to help us monetize our inventions. For this reason, the reforms of the American Invents Act have helped make applications more affordable and changes such as first to file and provisional patent concepts make the decision to file a patent easier. We look forward to other refinements that will raise patent quality.

Even so, we are not patent experts and INdigital is not patent-centric. Our business succeeds by putting a working product or service into our customers' hands, not just by filing patents whenever technically feasible. For our small business, the biggest challenge today is the inappropriate assertion of poor quality, overly broad patents.

As public safety providers transition to NG911, we see aggressive patent assertion happening in an unexpected place—against the public safety community and 911. For example, a company that INdigital works with acquired another entity that owns a patent issued many years ago. This happened before the patent quality improvements of the AIA. The concepts in the patent are very common in telecommunications and not at all specific to public safety. However, this company has unleashed a patent assertion firm to seek enforcement against many providers, including INdigital. The

old patent had its allegation based on a simple notion that INdigital provides 911 service.

Letters have been sent to our existing and potential NG911 customers, making the claim that INdigital is, or soon will be, infringing on the patent. In one case, a potential customer was forced to put its project on hold and start over in protective response to getting the letter.

We are increasingly concerned this will become a trend, particularly as new technologies already commonly in use by the public such as text messaging and sending pictures are being incorporated into NG911 systems. The recent terrorist bombing in Boston is a horrific and unfortunate example of how public safety and first responder access to video and related information directly from the public could and did greatly enhance emergency response in homeland security, thereby saving lives and property.

We need to work hard to implement this kind of technology into new NG systems, but first, we need this Committee to help level the playing field as it relates to 911 and intellectual property disputes.

To begin, patent law should recognize both 911 and NG911 as essential government services. All 911 patent litigation should be managed under an existing patent statute, 28 U.S. Code Section 1498. This will help defer frivolous lawsuits while ensuring that legitimate patent holders can monetize their patents.

Next, every patent complaint should contain a detailed explanation of the infringement claims. It is simply unfair to burden small businesses like ours with patent allegations that are no more substantive than a TV commercial.

Whatever other conclusions you have from this hearing, our request is that this committee take prompt action to address these frivolous 911-related lawsuits while protecting valid patent holders.

Thank you very much for your time, and I look forward to your questions.

Chairman GRAVES. Thank you very much. We will start our questions with Mr. Bentivolio.

Mr. BENTIVOLIO. Thank you, Mr. Chairman.

Gentlemen, before we discuss the merits of the AIA as it concerns small business, I would like to begin with a more fundamental question. The AIA changed our system from a first-to-invent system to a first-to-file system. I fear we have overlooked a basic question here. Article 1, Section 8 Clause 8 of the Constitution is the foundation upon which our entire patent system rests. And the language of the clause is as clear as it is plain: "the Congress shall have the power 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".

Please note the terms "inventors" and "discoveries" does not say the first person who files. And nobody could possibly believe the founders intended the word "inventor" to mean anything other than he or she who discovers a given invention. The dictionary is clear what a discovery is. Once someone else has discovered something, it cannot be discovered again.

My question to the three patent lawyers here is this: If you were tasked to defend the constitutionality of the AIA in court, when the

AIA clearly takes the right of patent away from the inventor to instead upon the first person to file, even when it can be determined that or she is not the first inventor, could you do it, and if so, how?

Mr. THOMAS. I think the current system is highly defensible, sir, the reason being it is the first inventor to file. So it is someone who has invented the technology herself and has submitted an application. Even prior to the AIA, if I invented and kept something as a trade secret for years, and Professor Crouch then filed, I would not get the patent and Professor Crouch would. So in fact, the patent law has long been the case in the United States that the patent proprietor is not necessarily the first inventor in the manner that you seek. The bottom line is it has to be the inventor herself and someone who has not derived it from another who seeks the patent. Thus, I believe that the first-to-file system comports with our Constitution.

Mr. BENTIVOLIO. Right. But you can't just change the meaning of the word "inventor" in the Constitution 224 years later. The Constitution doesn't even use the word "patent." Clause 8 specifically says Congress's job is to protect the discoveries of inventors. You can't just say an inventor now means he or she who files. In Kendall v. Windsor (1859), the Supreme Court held that only writings and discoveries of authors and inventors may be protected.

You can think this over and respond on the record. My time is short and I would like to talk about solutions.

Mr. THOMAS. Well, again, it seems to me that you have to be the first to file, but you actually have to be an inventor. So if I steal the invention from Professor Crouch and file, I am not an inventor and I won't get the patent. So I will stick to my guns on that one. Thank you.

Mr. BENTIVOLIO. I yield back my time. Thank you very much.

Chairman GRAVES. Ms. Velázquez.

Ms. VELÁZQUEZ. Thank you, Mr. Chairman. Let me take this opportunity to thank all the witnesses for being here. I am sorry I got here late. I was in another meeting.

I would like to address my first question to both Mr. Crouch and Mr. Thomas.

This week, the Supreme Court ruled for Monsanto in a landmark case regarding its patent of a genetically modified soybean seed. It found that self-replicating products can be expansively protected from patent infringement. I would like for you to comment on the impact of this ruling.

Mr. CROUCH. I will start. When I think about Monsanto's patents on their Roundup-Ready genetically modified seeds, the kind of future impact for that technology in particular is most interesting, not because of the Supreme Court decision, but because over the next couple of years, and now I think less than 2 years, the patents covering those innovations will all expire. And what that means is that anyone then who would like to can genetically modify whatever plant they want to by adding those genes into those seeds.

And so while Monsanto has really had that technology locked down for the past 20 years and not allowed kind of Roundup Ready tomatoes, Roundup Ready whatever crop you want, that is now potentially going to change, and that is going to have a dramatic

marketplace effect and we just don't know where that is going to go.

Ms. VELÁZQUEZ. In terms of short term, do you think it will hurt consumers?

Mr. CROUCH. And I think that the Supreme Court decision, which was a 9–0 decision, was entirely expected. It would have been a very surprising decision, just because although the technology at issue are these genetically modified seeds that raise some political concern about whether that is patentable, the particular legal doctrine was quite clear, in my estimation, and so no one expected really that to be overturned.

Ms. VELÁZQUEZ. Okay.

Mr. THOMAS. My views are the same of those of Professor Crouch. I understand that self-replicating technologies raise complex issues of intellectual property and agricultural policy, and farmers have often cited the traditional right to save seed and replant. And they can continue to do so, just not with someone else's patented seed. Again, it is a time-relative right, as Professor Crouch said, and soon the other case is effectively going to be moot.

Thank you.

Ms. VELÁZQUEZ. Mr. Crouch, the USPTO reduced the backlog of applications from 722,000 in December, 2011, to 607,000 in March of this year. During the same time, the number of examiners increased by 22 percent. Is it correct to assume that this decrease in the backlog is due to an increase in the staff or is there some speculation out there saying that it looks like they are applying a less rigorous approach when it comes to evaluating those applications?

Mr. CROUCH. I think that is a difficult question to fully answer. Certainly, the throughput at the Patent Office is a function of the number of examiners they have. Although the recent rise in examiners—when you have a new examiner, it takes some amount of time before they become kind of an efficient worker in that system.

One thing that has happened at the Patent Office in terms of decreasing the number of pending unexamined applications is that the Patent Office has, in essence, shifted focus toward those to reduce that particular backlog, but there is a different stack that is growing. And those are the ones that are kind of partially examined.

To answer your questions bluntly, though, there has been a significant increase in the percentage of patent applications that are issued as opposed to those being abandoned. And so that is absolutely true. And what is unclear is whether have we gone too far in that direction or not?

Ms. VELÁZQUEZ. Would you say that the bar has been lowered for patent approvals?

Mr. CROUCH. One thing that has certainly happened in the patent system is that this has very much become a major business and patents are more valuable than ever today. And so one reason that why there is a higher grant rate is that folks are putting more effort into the patents themselves and making better documents and thinking more about the patentability. But certainly, it is also true that a significant number of patents issued that should never have issued. And that is something that the Patent Office has to address. I think Mr. Grainger and Professor Thomas thought about

that in terms of funding of the Patent Office in terms of ensuring that they are capable of doing this examining activity.

Ms. VELÁZQUEZ. Thank you.

Mr. Grainger, you note the benefits that the expedited Track One process has for your companies. Could this two-track system create an advantage for those companies with deeper pockets while adversely impacting those unable to afford the higher fees, advocated with Track One?

Mr. GRAINGER. Thanks for your question. So we are the companies without the deep pockets, usually. We are in that position. And so I feel that the cost of that added filing fee is not a deterrent to using that system, and it is well worth it. It is an extra $2,400 for a small entity. For a micro entity it might be less. But in any event, I think it is an investment definitely worth making. Actually, I think the larger companies probably aren't using it as much, would be my hunch. Dennis may have the data.

Ms. VELÁZQUEZ. That they are not.

Mr. GRAINGER. Right. I think smaller entities tend to want to get their patents faster because they need the funding to move forward.

Mr. CROUCH. That is right. And to establish the credibility with investors and others. And the Patent Office did just reduce the fee down to $2,000. So it is now slightly cheaper.

Ms. VELÁZQUEZ. Thank you, Mr. Chairman.

Chairman GRAVES. Mr. Mulvaney.

Mr. MULVANEY. Thank you, Mr. Chairman. Thank you, gentlemen, for being here today.

Let's talk a little bit about the AIA and the impact that it has had. Personally, for me, having come out of a real estate background, I always liked the first to file system because it brought a certain certainty. I think if we try to run a real estate-based economy under a program where the first to think they had acquired it but didn't tell anybody else about it would be an absolute disaster. So I was somewhat sympathetic to the folks who wanted to see the first-to-file system take place.

Mr. Grainger, I will start with you because it sounds like you are probably as plugged into the small business community here as anybody. I got the impression from your testimony you think the impact on small business specifically of the AIA has been positive. Am I reading that correctly?

Mr. GRAINGER. Absolutely. That is my experience and impression. There are many aspects to the AIA, but I think the clarity that you get from first inventor to file is excellent because we now know when we look at a patent application exactly when the priority of that document begins. We don't have to wonder whether did they invent some time earlier than that. So that clarity really helps us help our investors understand who is going to own this intellectual property.

Mr. MULVANEY. I think you also mentioned that the number of patents applied for by small business entities has actually stayed the same or gotten slightly larger. Everybody else has gotten larger as well. So the percentage has gone down. But small businesses are still actively engaging in protecting themselves through applications for new patents.

Mr. GRAINGER. I will say in my industry, that is the case. I also think in the information technology industry there has been so much focus on the importance of patents, for better or for worse, in the last few years, that now they are focusing much more on filing than in the past.

Mr. MULVANEY. Ms. Velázquez asked you about some of the improvements at the U.S. Patent Office. Is that related directly to the passage of the AIA or is there a different justification or rationale behind that? That is to everybody. Have we have seen the backlog go down? We have seen the fast track systems used. Can the AIA take credit for these or would these be separate and apart from the passage?

Mr. CROUCH. I think in the time since the passage of the AIA, the biggest change to the Patent Office has been that they have had more money. And that was part of the AIA in that there was an immediate, I believe, 15 percent surcharge; they were able to add to fees. And then, in addition, since then they have been able to set their own fees in a way that essentially structures their budget in a way that allows them to examine this backlog of patents.

Mr. MULVANEY. What I am hearing from Mr. Grainger is that addition of those fees have not deferred small businesses from continuing to take advantage of applying for patents. Is that correct?

Mr. GRAINGER. That is certainly my experience.

Mr. MULVANEY. Who was it that said—and I apologize I don't remember—the sequester has been ruled to apply to fees of the Patent Office. Was that you, Mr. Thomas?

Mr. THOMAS. It was, sir.

Mr. MULVANEY. Are you aware of whether any other fees, fines, those types of things, similar types of moneys that are collected by other agencies have been treated the same or is the U.S. Patent Office being treated differently here?

Mr. THOMAS. Regrettably, I am not an expert on that point. But I am of the strong conviction that the amount of funding that's being discussed to be taken away from the agency means that that 600,000 application backlog is going to go right up and there are going to be a lot of other problems. I wish I had more information, but that is the best I know.

Mr. MULVANEY. I understand.

I will finish with you, Mr. Thomas.

You had mentioned in your testimony the SHIELD Act. And I was just wondering if you might want to talk a little bit more. I got the impression that generally you were in favor of it, but there were certain risks involved with it. This is the program that would essentially create a loser pay system within the patent infringement area of lawsuits. Tell me quickly—I have got a minute left—tell me the advantages and disadvantages, the risks and the benefits.

Mr. THOMAS. Right. So to remind the Committee, the SHIELD Act mandates an attorneys fee award in favor of any party that prevails on either validity or non-infringement, with exceptions for initial assignees of a patent, universities, and companies that spend substantial resources on the production or sale of the pat-

ented invention. That means litigants would have to post a bond before they could even get into the courthouse.

One of the issues with fee shifting, it certainly would discourage suits that may not be all that meritorious, but even a patent owner who brings a suit, it is a very close case, it is a meritorious case, it is just you lose—litigation has its uncertainties—would have to pay fees. So the risk is that it really targets specific classes of patent proprietors rather than really going at what I think we probably should be doing, is behaviors. So, in other words, identifies actors by their status, not by their behavior.

Mr. MULVANEY. How would you respond to Mr. Thomas? I am generally in favor of loser pay systems. How would you respond, though, to the criticism that having to post a bond would actually have a chilling effect disproportionately on small businesses in terms of pursuing their patent rights?

Mr. THOMAS. I believe that is correct. I would agree with that assertion.

Mr. MULVANEY. Thank you, Mr. Chairman.

I yield back.

Chairman GRAVES. Ms. Chu.

Ms. CHU. Well, as a member of the Intellectual Property Subcommittee in the Judiciary and a member of the Committee that marked up the America Invents Act, I commend Chairman Graves for convening this hearing to discuss how this bill affects the small businesses of America, and to commend all of you witnesses for the testimony. I found it to be very valuable.

In the Judiciary Committee, we are closely following the patent troll issue. From our examination, we have learned patent assertion entities don't have a favorite target. They are not just going after the large businesses but the small ones, and even individual customers.

Now, Mr. Grady, you mentioned that your business is a victim of patent privateering in which a competitor company transfers patents to patent assertion entities and provides incentives to assert them against their competitors. Companies like Google and BlackBerry are also victims of this and are speaking out. But small businesses do not have the resources of these companies to fight these frivolous infringement lawsuits.

Can you tell us about your experience in fighting the patent assertion case and did this assertion entity file suit and how much your company spent on legal fees?

Mr. GRADY. They have not yet filed suit. We have only been threatened. We have spent about $45,000 so far in legal fees and internal time to try and protect any damage to the company for the alleged infringement. So it has been very difficult. We don't know yet what the claim is. We think that it is likely to be a very simple concept.

What we have in the 911 space is that there was not a lot of technology that was patented in the 911 sector, it was all based on industry standards. So now we have got this tide that has turned that we have these PAE issues that we are battling. And what I am sort of asking for is a carve-out, that public safety be given a little bit of laser-like precision in protection, that it be governed by the Federal court as opposed to civil.

Ms. CHU. Mr. Grady and also others on the panel, I would like to ask this question about patent trolls targeting end users. In a Judiciary Committee hearing recently, I was outraged to hear that Sysco reported that 13,000 of its customers got demands from patent trolls. And these were customers that simply were using routers. They were the end users of these routers.

I wonder if you have experience with end users getting these types of baseless patent infringement cases and what your customer base has received, have any of them resorted to paying settlement fees to avoid litigations, and is there something that Congress should do to protect consumers from patent trolls that go after end users such as your clients?

Mr. GRADY. I will respond to that, too. We use a good bit of Sysco equipment in our business, and yes, our end user customers have received demand letters, both for Sysco equipment and for other digital subscriber line or DSL equipment. Most businesses, I think, that are served by small, independent telephone companies were targeted by that. And a lot of those end users got demand letters as well. Frequently, they refer them to us. We referred them to the vendor that we purchased them from, and tried to dispute the claim informally as much as we could. But it has been an ongoing problem.

Ms. CHU. And do you know if anybody has paid these fees?

Mr. GRADY. Not to the best of my knowledge. I was involved in a matter in 2002 prior to AIA where a small business was hit with a shopping cart violation proceeding, and we successfully defended would against that.

Ms. CHU. Anybody else on the panel?

Then, Mr. Thomas, you acknowledge that the U.S. Patent Office is considering small businesses in a more improved way through the America Invents Act. And I successfully amended the bill to create a pro bono program designed to help financially undersourced independent inventors and small businesses. Are you familiar with the pro bono program and how it helps small businesses? If so, do you think there are improvements that can be made to not only sustain the program but make it more successful?

Mr. THOMAS. I am familiar with the program. I believe it is very beneficial. It is my understanding it is up and running in several regions of the country. The USPTO has augmented that with a 1–800 help line that is staffed by retired senior examiners. They come on in and help people who are having trouble getting their applications through. They have inventors conferences all over the country that people are attending. So I think the pro bono program, it is just starting, so I think it is early days before we can assess it fully. Again, with sequestration, it means these programs are going to be scaled back.

Ms. CHU. Okay. Thank you. I yield back.

Chairman GRAVES. Mr. Hanna.

Mr. HANNA. Thank you, Chairman.

This is for anybody, but maybe Mr. Grainger. Patent trolling. I guess the overlying assumption is it is a bad thing. But there have been estimates that less than 8 percent of the total number of cases brought would actually survive in court. Can you talk about what that means? It seems like profiteering, pirating, yet people

still opt to pay fees to settle it. So the whole thing is kind of this mix-match of leverage, disproportionate and unfair. Can you just talk about that, if you think I am at all right in that?

Mr. GRAINGER. I would say at the outset that patent assertion entities, or trolls, have not been a big issue in the medical device industry. However, reportedly, some of the biggest trolls out there, some of these organizations that collect intellectual property, are amassing war chests of medical device-related, health care-related patents. So we may see this in the future.

My view is that needs to be addressed on two fronts: One would be just the Patent Office doing a better job so that overly broad patents are not issued in the first place. And maybe there needs to be some sort of systemic reexamination of patents in certain art spaces, particularly in the computer software space. But in addition, what really makes the whole troll industry thrive is that everybody settles. And if you can get at that problem——

Mr. HANNA. It works in the legal profession.

Mr. GRAINGER. Maybe there could be a pool created for companies to collaborate in defense of these claims, and also maybe an insurance scheme has been proposed to fund defending rather than just settling. If you——

Mr. HANNA. What you are saying is it is unbalanced and there is no one on your side if you were that victim?

Mr. GRAINGER. Right.

Mr. HANNA. Mr. Thomas.

Mr. THOMAS. I tend to agree with your assessment, and I am impressed the Committee is aware of this issue at this level of detail. I think there was an effort in the AIA to deal with trolling, in terms of having rigorous post-grant reviews at the agency that would get suspect patents before them.

Obviously, the price of the proceedings is high. Also, it is a public goods problem. Many are accused of infringement; who is actually going to lead the charge to invalidate the patent. Why should I do the effort if I can get Professor Crouch to do it. That also tends to be an issue. Again, I think quality patent grant and an effective and efficient revocation proceeding at the agency may be the way to go.

Mr. HANNA. Is there a good side to it? Why would you pursue a patent to basically take it if you didn't have an opportunity to do something more with it? I know that may be beside the point.

Mr. THOMAS. There are many different flavors of patent trolls, which makes it difficult to elucidate this problem. Some are startup companies, some are universities, some are companies that are marketing other products but not that particular product. So we have a lot of different kinds of patent assertion entities, or non-practicing entities to deal with. The good side can be sure, it is a small company that wants to market its product, just hasn't done it yet. But short of sorting out behaviors that we like and those that we don't, I think——

Mr. HANNA. Is it possible that if you lose a lawsuit, you should pay more than the cost? That there should be some compulsory damages associated with it?

Mr. THOMAS. Absent an antitrust violation or sham litigation, we don't currently have such a system. That seems to me to be fairly

Draconian, but I have to think about it. I have never heard that proposal before.

Mr. HANNA. Thank you. I yield back.

Chairman GRAVES. Mr. Rice.

Mr. RICE. Thank you, members of the panel, for being here and testifying today. I have learned a lot about patent law. Generally, what I am hearing from you, I think, is that you like the effects of the AIA. That you think it is a good law and generally a move forward, is that correct? What would you do, outside of this trolling issue and potential for loser pay and these other types of things you are talking about, what would you suggest to make this law better?

Mr. THOMAS. One area that was subject of very significant discussion during the debate that led to the enactment of the AIA was damages reform. And ultimately, it did not make it into AIA. That remains a point of significant concern, especially for manufacturers of products of many components. So the notion is, I have got my iPhone sitting here, I turn it off, and one statistic suggests that one patent out of six relates to a smart phone. There are over 200,000 patents that cover this phone. So how do courts assess damages when you infringe just one patent on functionality in the phone? So manufacturers of electronic products, the hard tech companies, are seeking clarification of damages, particularly when, again, the patent just covers a small part of the product. This is called apportionment. Patent lawyers calling that apportioning damages. Apportion means something different, I think, to you, but to patent lawyers that is what apportionment is. Many people think it is unclear. On the other hand, we have medical device manufacturers and pharma companies who are concerned that are by watering down patent damages, you ultimately devalue the entire system.

Mr. RICE. Is there anybody else on the panel who has any ideas about trying to make this AIA any better? Are there fixes we can do?

I am real concerned about American competitiveness and jobs. Is there anything we can do to shore it up, make it better, and make us more competitive in the world?

Mr. CROUCH. I will step in here. On the damage reform point, I think one reason why it didn't get put into the AIA was because that traditionally really has been a common law question for the courts to decide. And in the lead-up to that AIA, the Court of Appeals for the Federal circuit, kind of feeling the wind of Congress, made several important decisions that have really clarified that law in a lot of important ways.

Although I believe that the AIA is a good law and an important change in terms of clarifying the law, I don't think it really addressed the greatest problems in our patent system. Patent applications filed today will be under this first-to-file system. But if someone picks it up—even a patent attorney, even one of our Court of Appeals for the Federal circuit judges—and reads that patent, likely they won't able to tell you what the invention really is. We have a problem in our system where folks are filing patent applications that just aren't clear what invention are they trying to claim here, what have they really come up with? And so it turns out that it is currently within the power of our Patent Office to address that

and to force patent applicants and their own examiners to make sure that it is in those documents.

We had a little talk about real property rights. The nice thing about real property rights is you can really tell where the boundary line is. With patents today, it is impossible to tell where the boundary line is; where does your patent stop and where does somebody else's begin?

If anything could change, that would be the most significant change, I believe.

Mr. RICE. Thank you very much, gentlemen. You have something you want to add?

Mr. GRAINGER. I would echo that. That is why I go to the quality and rigor of the examination process, just making sure the patent application clearly tells you what the invention is, and is appropriately limited in what it is trying to cover so we don't have——

Ms. VELÁZQUEZ. Will the gentleman yield?

Mr. RICE. Absolutely.

Ms. VELÁZQUEZ. Thank you.

Mr. Granger or Mr. Thomas or Mr. Crouch, given the statements or comments that you just made, that is why it is so important to have the rigor. Do we need legislation to achieve that goal?

Mr. GRAINGER. Maybe the—my friends in academia could talk about that, but I think that the—the law is there. It tells you what you need—what the requirements are to get a patent, but it is being interpreted loosely and perhaps without, you know, sufficient rigor.

Mr. CROUCH. And so I don't think any of us are here—we haven't—we don't have any proposed legislation for you today, but certainly the way you have to think about the Patent Office is as an agency that needs oversight, and that could come from strong statutes that clearly tell them what their job is, or it can come from oversight from this committee and other committees to ensure that they—that the job is being done with rigor.

Ms. VELÁZQUEZ. Mr. Thomas.

Mr. THOMAS. I agree with what has been said, and I also would additionally suggest that the AIA brings about these post-grant review proceedings that would provide a means for harnessing the energy of the private sector to sort of turn its private attorneys general come in and challenge the patents and that perhaps we should give that a little bit of time to play it through.

Ms. VELÁZQUEZ. Thank you. Thank you.

Mr. RICE. I reclaim. I yield back.

Chairman GRAVES. Mr. Schweikert.

Mr. SCHWEIKERT. Thank you, Mr. Chairman. A couple of things. First, it is always fun when the people sitting next to you have asked the questions you wanted, but let's—before AIA, after AIA, you and I are a small business or someone that has come up with an invention, we have angel funding. Easier to finance, get investment today compared to before the new law?

Mr. GRAINGER. I think so, absolutely, because I think, number one, we can get our patents done—issued much more quickly, so that angel stage, you know, maybe I still got a patent application, but 6 months later, I can have a notice of allowance in hand.

Mr. SCHWEIKERT. One of the discussions, and this is for everyone on the panel, maybe a bit ethereal that was happening during the AIA was the ability to almost sell a future on your idea, that, look, we are heading towards filing our patent, will you help me finance, you know, the additional rigor and engineering I need, and because my timeline, are we seeing that out there? Are we seeing people being able to raise money on the ideas?

Mr. CROUCH. Well, sir, and I think Mr. Granger will likely agree with me, but the most common approach is to get—is to have some amount of funding and quickly, as quick as you can, file your patent application. And this change with the AIA, what it allows is not—right, the change that Mr. Grainger is referring to is not that we not—not that it is now a first-to-file system, but under the AIA, you have a right to a—an expedited examination if you pay a fee, and so, right, and so you—right, so you hope to scrape enough money together to get these patent applications and hopefully a patent before, right, and then at that point, because you are able to get it quickly and because some of the—it is more clear because of the prior art, at that point it may well be easier to get funding.

Mr. SCHWEIKERT. For all of you, are you seeing out there in the sort of angel-type of investing world, are you seeing more structure to be able to do that sort of run fast mechanics thing; we are going to put up the money, let's do this instantly, not spend, you know, a year contemplating, you know, the mechanics and the design.

Mr. CROUCH. And my comment would be that the structure of that particular marketplace is much less affected by the impact of this particular legal change than kind of the general structure of the marketplace and the availability of financing in general for small businesses.

Mr. SCHWEIKERT. Everyone agree?

Just as an aside, AIA had an ombudsman. Anyone have an experience with it yet?

Mr. THOMAS. Yeah. The ombudsman is—provides assistance when patent applications are sort of—get clogged up. There is some problem, the application is not advancing to the agency, so there is the ombudsman program. It has been operating. I have heard positive things about it.

Mr. SCHWEIKERT. Okay. Last question. Has anyone done a study on patents we are seeing, particularly in technology, on their lifecycle of value? Is that lifecycle getting shorter and shorter and shorter and—or, as you spoke of on, you know, your iPhone, you know, that you are holding and is that speed of that technology changing the value of these patents?

Mr. CROUCH. So, one study I have done looked at the payment of something called maintenance fees. Those are the renewal fees that once you get a patent issued every, right—I think after 4 years you have to pay a fee, after 8 years, and after 12 years you have to pay a fee, and these are essentially like taxes.

Mr. SCHWEIKERT. Uh-huh.

Mr. CROUCH. And if you don't pay the taxes, you lose your patent. And so over the past 15 years or so, the percentage of entities that are paying the fees, all of the fees, stretching out to the end, has increased, and so that—that is something that is going up, and

at the same time the actual fees have gone up, and so folks are—so, folks are paying more and more often paying that.

Now, the change—I would estimate the change in why that is happening is generally because of this recognition of patents sets a strong form of intellectual property right; whereas, 20 years ago, most companies did not think about patents on a CEO level and now they are, small and large companies.

Mr. SCHWEIKERT. So, and we are not going to have time because I was heading towards this whole discussion of patents almost become commoditized out there as, you know, you can borrow on them, trade them, you know, and how you turn them into cash flow. But Mr. Chairman, thank you. Yield back.

Chairman GRAVES. Mr. Bentivolio, do you have another one?

Mr. BENTIVOLIO. Thank you, Mr. Chairman.

Just want to follow up on Mr. Thomas. Just so I understand this correctly. If person A, for instance, has evidence they invented a product in January and they file in June, and person B, for instance, in another State, in another garage, invents something in March and files it in April and they happen to be the same invention, who gets the patent?

Mr. THOMAS. As someone who has just been busy writing final exams, this is in a good spirit for me.

Mr. BENTIVOLIO. You are a student, so I think—right.

Mr. THOMAS. Under the AIA, the new law, Inventor B gets the patent because he is the first to file.

Mr. BENTIVOLIO. Okay. So, the original inventor who actually invented the product or whatever, in January, even though because—you know, maybe because of money or they wanted to perfect their patent or improve upon it, filed later, the actual inventor doesn't get the patent, correct?

Mr. THOMAS. Having been deposed many times, so I have to disagree with the question to some degree, it depends on what you mean by "first inventor." Under your hypothetical, B has self-invented the technology and then——

Mr. BENTIVOLIO. Mr. Thomas, I am just going by the Constitution. That is all I am doing. I am using the Constitution as my guide. I am not a patent attorney. I am an inventor, okay. So, January I invent, or you invent or Fred invents something and—but he—because of money or time and circumstance, he can't get to the Patent Office. Maybe he is a better inventor than he is in calling patent attorneys and he files after somebody else. He loses.

Mr. THOMAS. That is correct. And let me also point out that prior to the AIA, under your hypothetical, if can change the facts of it, if inventor A had invented first but then sold the product more than a year before he sold—he filed.

Mr. BENTIVOLIO. I understand.

Mr. THOMAS. He would be divested of the patent.

Mr. BENTIVOLIO. I understand.

Mr. THOMAS. So even under the predecessor regime—in other words, that has been the Patent Act of 1952, which governed prior to the AIA under your reasoning, it would also be unconstitutional, because I think it is unlikely that the entire history of the U.S. patent system has been—has not comported with the Constitution. I

will have to come to a different conclusion than you about its constitutionality.

Mr. BENTIVOLIO. Well, I am just going by the definition on the OED, what an inventor is, and it is the authority for definition of words, and in 1789, what the word "inventor" meant.

Mr. THOMAS. One way to discern the meaning of legal documents is to look at the dictionary. Another is to consider intellectual property policy. If we had patent terms that run 20 years from the date of filing, we want to get the patent in, filed, and as long as it is the person himself is an original inventor under the AIA, that person can obtain the patent. I think that is a salutary policy goal for this country.

Mr. BENTIVOLIO. Thank you. I yield back.

Chairman GRAVES. With that, I want to thank all of you for participating today. Your testimony, obviously, underscores the importance of maintaining a strong patent system, one which allows entrepreneurs to thrive by commercializing innovative products and services. We will continue to monitor the implementation of the AIA and its impact on small firms as well as continuing to examine some ways to strengthen the patent system and mitigate the effects of patent controls on small businesses.

So with that, I would ask unanimous consent, that Members have 5 legislative days to submit statements in support of materials for the record, and without objection, that is so ordered, and with that, the hearing is adjourned, and we appreciate you being here.

[Whereupon, at 2:15 p.m., the Committee was adjourned.]

APPENDIX

Committee on Small Business
United States House of Representatives

Prepared Statement and Testimony by
Dennis Crouch*

On the Topic of

Patent Reform Implementation and New Challenges for Small Businesses

May 15, 2013
Washington, DC

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* Associate Professor of Law, University of Missouri School of Law; J.D., University of Chicago School of Law; B.S.E., Princeton University (Department of Mechanical and Aerospace Engineering and Engineering Management Systems).

My academic research interests focus on patent law, intellectual property law and internet law. In addition to traditional academic publications, I am the founder of the *Patently-O Patent Law Blog* that has a daily circulation of over 30,000 and is regularly read by most US patent law practitioners. Prior to joining the University of Missouri faculty, I was a visiting professor at Boston University School of Law and worked as a patent attorney at a major intellectual property law firm in Chicago where I represented inventors pursuing patent protection as well as clients litigating claims of patent infringement. Prior to entering law school, I served as a United States Peace Corps Volunteer in rural Ghana, West Africa; worked as a manufacturing engineer in upstate New York; and conducted research on microgravity combustion with NASA.

I am not a registered lobbyist, I do not represent any clients, and I do not own stock in any particular company with a vested interest in patent rights (beyond broad-based mutual funds).

I. Introduction:

The US Patent System is not so different from other areas of business regulation. Entrenched market leaders have a competitive advantage in a costly and complex regulatory world where legal nuances and personal connections make a major difference in the flow of regulatory approval and enforcement. In this arena of repeat players, small businesses are at a comparative disadvantage. Some have called for elimination of the patent system as a whole as the only clear mechanism for allowing competition without undue regulation.[1] However, a more reasoned and Constitutionally appropriate approach looks for ways to simplify the patent system so that the process of obtaining and enforcing patent rights is more straightforward and transparent. At the same time, reforms are needed to make it easier to identify and eliminate bad patents.

Patents offer a particularly attractive policy tool because the regulatory structure is entirely funded by user-fees. This is in stark contrast to other government incentive mechanisms such as direct grants or tax loopholes. The societal cost of the patent system comes from the higher prices of patented goods and from the potential chilling of competitor innovation. The policy challenge then is in finding the sweet spot where patent rights are strong enough to incentivize but not so strong as to cause major market harm. Drafters of the Constitution made this balance by suggesting "exclusive rights" for inventors but only for "limited times."[2] Today we continue to search for the right levels of rights and limits.

Small businesses are on several sides of the patent debate. Innovative companies obtain patents to protect their market space and to drive royalty revenues. However, those same companies face threats from the tens of thousands of other US patent holders who are protecting their own positions.

II. Patenting by Small Businesses:

The baseline of a competitive marketplace is free and open competition. Patent rights serve as a limited exception to that baseline in order to provide additional incentives for invention and commercialization of those innovations. The exclusive rights offered by patent protection provide a powerful foothold for small businesses who, though innovative, may not-yet be able to fully realize the market potential of their product or service. Patents also have the potential of serving as a commodity of exchange for small

[1] See, Michele Boldrin and David K. Levine, *The Case Against Patents* (2012) at http://research.stlouisfed.org/wp/2012/2012-035.pdf.

[2] United States Constitution, Art III, Section 8, Clause 8.

businesses who focus on developing new technology rather than new products as well as a signal of innovative activity for potential investors.

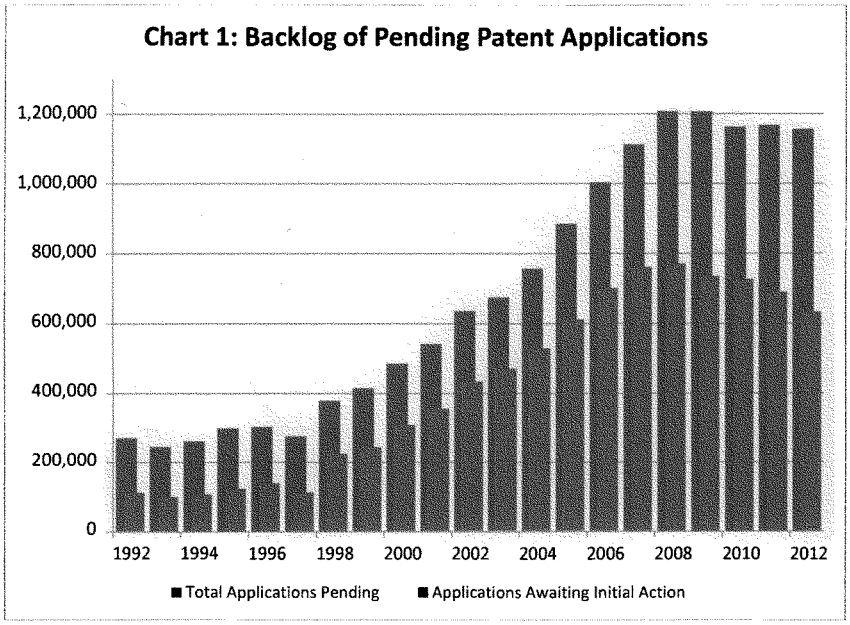
Substantive Examination: All US patents pass through a substantive examination process. To be patentable, an invention must be a non-obvious advance over what was known in the prior art.[3] The recently effective First-to-File system provides a strong incentive for applicants to quickly file for patent protection in order to avoid losing rights.[4] However, a patent applicant has no enforceable patent rights until a patent issues. Even then, federal patent lawsuits have become incredibly expensive. Pushing this expense is the institutional mindset that every patent is susceptible to challenge.

Backlog and Delay: On average, it takes more than three years for a patent application to pass through the USPTO system.[5] The bulk of that delay is due to a large backlog of patent applications pending review at the USPTO. Chart 1 shows the size of this backlog going back twenty years. Although the USPTO is focused on addressing that backlog, the hole remains large. One immediate solution offered by the USPTO is prioritized examination. For a payment of $4,000 (or $2,000 for a Small Entity), a patent applicant can move to the prioritized application queue and largely bypass the backlog queue.

[3] 35 U.S.C. § 103.

[4] Leahy-Smith America Invents Act of 2011, fully effective March 16, 2013. Although the prior system was a first-to-invent system, it also provided substantial incentive to quickly file for patent protection.

[5] Dennis Crouch, Average Pendency of US Patent Applications, Patently-O at http://www.patentlyo.com/patent/2013/03/average-pendency-of-us-patent-applications.html.



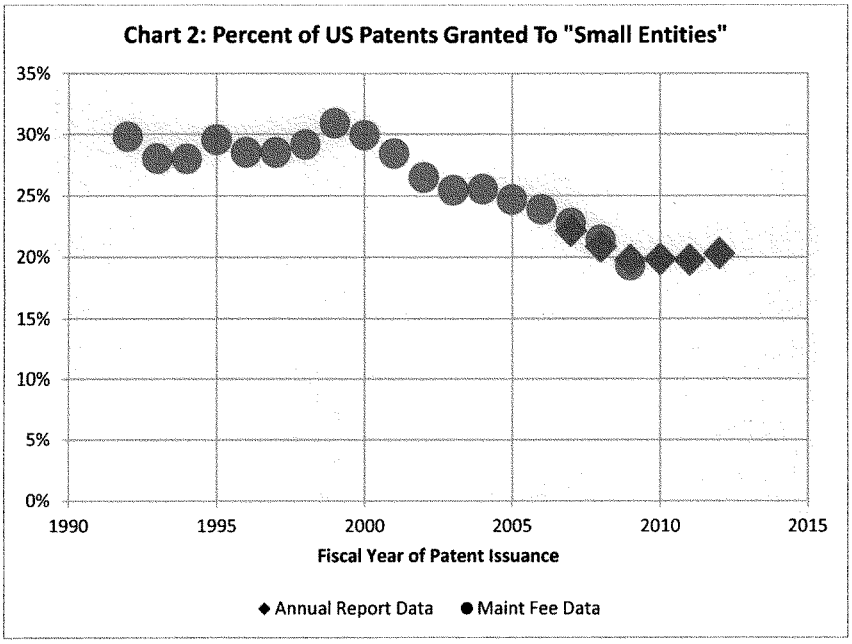
US law provides that inventors are the initial owners of patent rights. Most often, rights are quickly transferred to the inventor's company as required by the relevant employment or partnership agreement. In general, patents are fully transferrable and can be bought, sold, divided and licensed. For the most part, the law of patents does not shift according to the patent owner's identity. However, the law does provide for 50% reduction of most patent fees for patent applicants with "Small Entity" status.[6] "Micro Entity" applicants now receive a 75% reduction in fees. However, few innovative small businesses will qualify for Micro Entity status because of the low income requirements.[7] The greatest cost for Small Business patent applicants is in patent attorney fees and the conventional wisdom is that a quality patent attorney is an extremely important element for ensuring successful patenting.

[6] 37 C.F.R. 1.27.

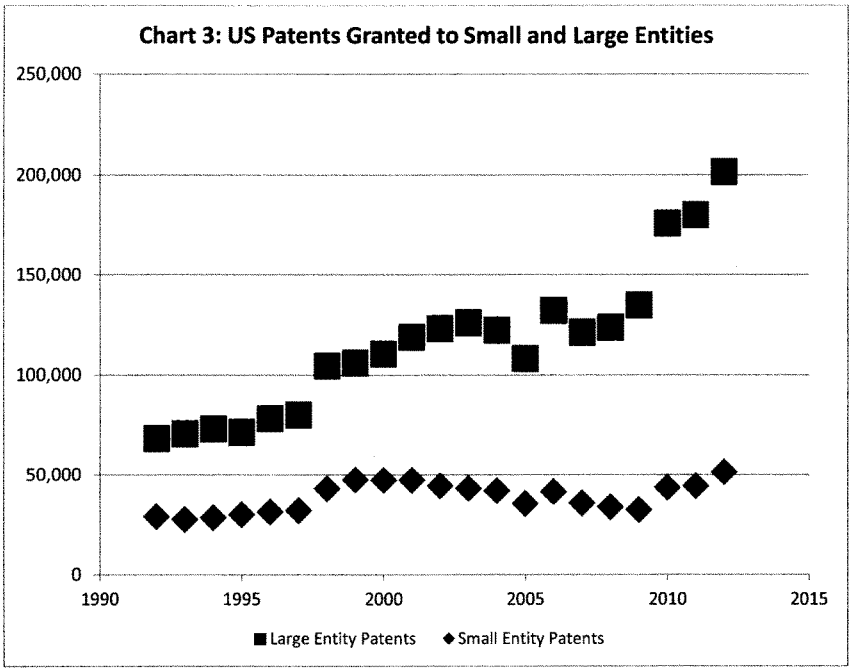
[7] Oddly, the law provides that patent applications coming from US Universities will qualify for Micro Entity status.

Abandonment by Small Entities: Apart from post-grant maintenance fees (renewal fees); the USPTO generally sets its fees for Small Entity users well below its cost. Up until the most recent fee changes, maintenance fees have been relatively inexpensive. Still, even with a 50% discount, Small Entities are much more likely than Large Entities to abandon their patent rights rather than pay ongoing USPTO fees.

Decrease in Percent of Small Entity Patents: Over the past decade, the percentage of patents being issued to Small Entities has dropped precipitously from around 30% in 2000 down to 20% today. Chart 2 shows a time series of the percent of patents granted to Small Entities and the relative drop in Small Entity patenting is visually apparent from the chart.[8] The percentage change is does not reflect a major actual decrease in Small Entity filings but instead is better explained by the increase in US patent filing by Large Entities during that time -- especially by non-US Large Entities. Chart 3 shows the number of patents granted to Large and Small Entities each year.



[8] In order to get a more full scope of coverage I combined two sources of data for this chart, (1) USPTO annual reports from 2011 and 2012 (Table 11) and (2) an analysis of maintenance fee payments.



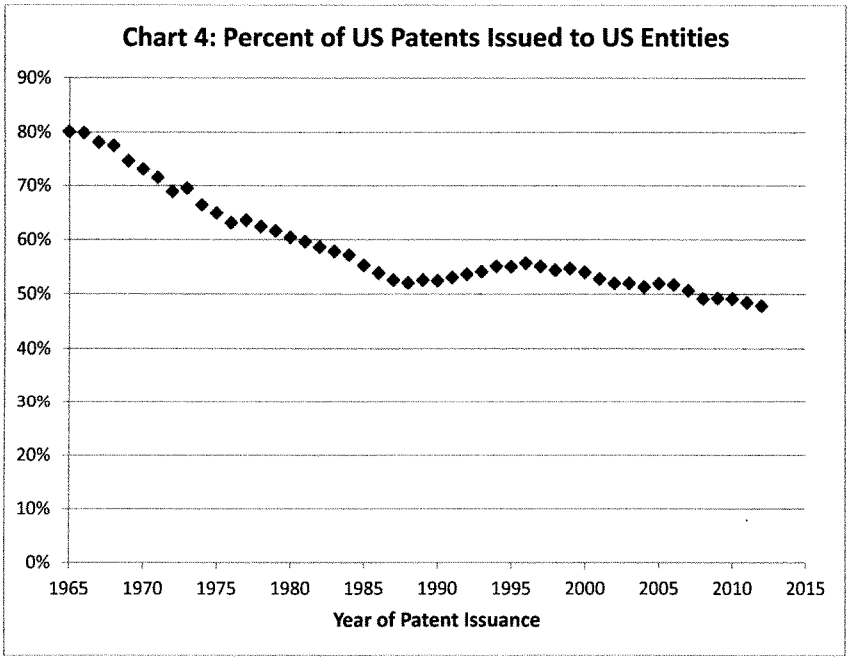
Growth and Maturation of Small Entities: A patent issued to a Small Entity has an estimated 10-20% chance of shifting to being held by in large-entity status. That change may occur through organic growth of the owner; through acquisition by a larger entity; or by licensing the patent right, for instance. Moving forward, these shifting patents may serve as a useful source of information on growth and maturation of small business enterprises.

Foreign Influence on the US Patent Regime: Through a number of reciprocal international agreements, beginning with the Paris Convention, the US has promised citizens of other countries access to the US patent system. Under these agreements, an innovative foreign company seeking exclusive rights in the US market could obtain US patent protection and enforce those rights in US courts against US competitors. Despite the offer of rights, the bulk of US patent filers have always been for US originated inventions. This practical statistic meant that US patent reform primarily impacted US companies and US inventors. Over the past six years, this statistic changed, and for the

first time in history, the majority of US patents have been issued on foreign-originated inventions. (Chart 4).

This decline in US-centric dominance of the US patent system could serve as a sign that US innovation needs additional encouragement. In addition, however, the decline may signal a need to change our outlook on the role of patent rights in US policy. Certainly, the offer of patent rights encourages innovation and disclosure of new inventions. However, this incentive is felt around the world – encouraging companies in Australia or Germany to innovate in order to capture an exclusive slice of the US market.[9]

Of note, while foreign small businesses still qualify for the benefits of Small Entity Status, small foreign corporations are much less likely to file for US patent protection than their larger counterparts. The result is that a focus on improving conditions for small entity patentees continues to primarily benefit US entities.



[9] See *Commonwealth Sci. & Indus. Research Organisation v. Buffalo Tech.*, 542 F.3d 1363 (Fed. Cir. 2008) (Australian government entity suing on its US software related patent in the Eastern District of Texas).

III. Patent Trolls and Finance-Backed Patent Licensing Companies

Over the past ten years we have seen a rise in the activity of patent licensing companies - often termed patent trolls. Many of these licensing entities are the byproduct of inventive ideas that originally failed in the marketplace but whose patents remain. Other patent licensing companies have formed around the model of buying-up hundreds or thousands of patents and then seeking to license the accumulated portfolio. These processes have been fueled by a growing influx of investment funds that pay for both acquisition and enforcement through the use of contingency fee litigators. In these situations, there is a strong incentive to make the patents work to generate revenue because neither the investors nor the litigators typically get paid unless the patents are licensed or enforced by a court. Over the past few years, the majority of new patent infringement lawsuits have been filed by patent licensing companies seeking profits rather than competitor versus competitor lawsuits.

For small businesses, the major benefit of this change is a revitalized marketplace for patents. In this new regime, an innovative company can turn its innovations into a royalty stream even without delivering an actual product to consumers. Unfortunately, the market for patents is not standardized and small businesses suffer from a tremendous information asymmetry. Again, transparency and accountability are mechanisms to smooth these transactions. The USPTO can facilitate this process by ensuring that the real party in interest of a patent is publicly disclosed and by improving patent clarity in a way that makes it easier to be certain as to the scope of a party's patent rights.

Although the potential bankroll of large companies make them more often the subject of patent litigation, small businesses also face the threat. And, thousands of small and mid-sized companies are sued for patent infringement each year -- both by competitors and by patent licensing companies. Today, many cases settle in an unsatisfying way with the accused infringer paying a settlement fee simply in order to avoid the high cost of fully defending the lawsuit. One solution here again is clarity and transparency. Although no one enjoys paying royalties, the situation is more palatable when the scope of the patent and the value of the innovation are clear. Unfortunately, few patents today call-out the actual inventive concept or clearly delineate the scope of what is and what is not covered by the patent right. It is within the USPTO's power to address these concerns directly as part of the examination process. The hope here is that patents with well-defined scope will also help develop the market for patents and patent licensing in a way that leads to market transactions without the need for wasteful litigation.

A further element of clarity also calls for better notice regarding patents of public concern. Large entities and entrenched players already share information. However, some have called for a more public database of patent enforcement attempts that would allow small business understand common risks of operation and to collaborate in challenging patents being asserted across an industry.

Everyone recognizes that the USPTO issues a number of patents that - if challenged - would likely be found invalid. However, it is expensive to challenge bad patents. As part of the America Invents Act of 2011, Congress implemented a system of *post grant* and *inter partes* reviews. These new post grant opinions were intended as cost-effective mechanisms for challenging wrongly-issued patents. Unfortunately, the USPTO has set the filing fees for these reviews at a cost that is prohibitive for small businesses and public interest groups wanting to challenge patents. The filing fees for a post-grant review is $30,000 and an *inter partes* review is $23,000 with no discount on either for small entities. That fee structure is unusually large -- especially in cases where the patent is clearly invalid.

One factor that makes patents so powerful is that there is no need to show copying or even knowledge of the patent in order to prove infringement. From this frame-of-reference, patent infringement appears akin to a strict-liability-tort. In addition to the clarity-of-rights discussed above, I would propose a focus on adding some peace-of-mind for small business owners by (1) ensuring the availability of private insurance to guard against claims of innocent patent infringement and (2) better standardize and publicize contractual indemnification for downstream users and retailers.

Thank you.

Written Testimony of Jeffry J. Grainger

Managing Partner, The Foundry LLC

May 15, 2013

U.S. House of Representatives

Meeting of the Committee on Small Business

Hearing on How Procedural Changes under the America Invents Act Affect Small Businesses and the Impact of Patent Assertion Entities on Small Firms

TESTIMONY

My name is Jeff Grainger. I want to thank Chairman Graves and the other Committee members for the opportunity to testify today. I am a patent attorney with an engineering degree, and have worked continuously in start-up companies over the past 20 years, almost entirely in the medical device field. I am also an entrepreneur, having founded my own start-up company and participated in starting a number of others. Currently I am a partner at The Foundry, which is a small company, often called an incubator, based in Menlo Park, California that develops new medical technologies and starts new companies to pursue those technologies with venture capital funding. The Foundry has started about 15 companies since it was started in 1999. Our companies have not only built value for their investors and created hundreds of jobs, but the medical technologies we have developed have advanced the state of the art in medical treatment and improved the lives of thousands of patients. These technologies now allow heart valves to be repaired using catheters inserted through blood vessels rather than through open heart surgery, high blood pressure to be treated through a single catheter treatment rather than a lifetime of drugs, and blood clots to be removed rapidly from cerebral blood vessels to reduce the damage caused by strokes.

While the dialogue concerning patent reform has been at times dominated by forces arguing to weaken the patent system, I am thankful to be able to speak today to ensure you hear a different view, the view of the innovators and entrepreneurial companies that bring new medical treatments to Americans: We depend upon a strong patent system that provides a fast and efficient examination process, discourages frivolous patent challenges, and imposes serious sanctions on infringers. I have genuine concern for those who are harassed by patent trolls, or "patent assertion entities;" however, in addressing that problem, I urge the Committee to maintain a strong patent system that ensures the American medical device industry will remain on the forefront of innovation and that the most advanced medical technologies will be available to American patients. It is from this perspective that I approach the topic of today's hearing.

The development of new medical technologies in this country is highly dependent upon the continued ability of small entrepreneurial companies to start and grow. Venture-backed companies founded by biomedical engineers or physicians are more than ever the primary source of groundbreaking new therapeutic and diagnostic devices. The established multinational medical device companies rely more and more upon the acquisition of these companies rather than internal R&D programs for product innovation and expansion into new markets. The availability of venture capital is thus critical to allow new medical innovations to reach patients.

Investing in medical devices is not for the faint of heart. Medical device companies must raise substantial capital in order to develop their products, perform clinical studies, and obtain regulatory ap-

proval, all before a single device is sold. Investments of more than $50 million and timelines of ten years or more from invention to commercialization are not uncommon.

Investors in medical device start-ups are thus intensely concerned with the ability to obtain strong patent protection. They need to know that after a company has blazed a trail over many years to bring a new product to market there will be some period of exclusivity before the product can be knocked-off by competitors. When we approach venture capitalists for financing a new company, patent protection is a threshold concern that must be satisfactorily addressed before we have any chance of receiving an investment. Any changes to the patent system that impede our ability to obtain patents or that weaken the protection conferred by them would be a serious detriment to our ability to raise the funds necessary to start medical device companies.

The America Invents Act (AIA) implemented significant changes to the US patent system. These include First Inventor to File, Post Grant Review and Inter Partes Review, special procedures for certain business method patents, third party prior art submissions, supplemental examination, Track One prioritized examination, and USPTO fee setting authority, among others. While it is too early to tell whether the AIA has been successful as a whole, several aspects of the Act clearly improve the patent system for innovators, including medical device entrepreneurs and start-up companies.

The change that has garnered perhaps most attention is the change from a first-to-invent system to a "first inventor to file" system. However, for many patent filers including The Foundry, this has resulted in little change in the way business is conducted. Under the first-to-invent system, if a party was second to file a patent application, the statistical chances of proving earlier invention were extremely low, and counting on it was risky. Our standard practice has therefore always been to file as rapidly as possible. Taking one's time in filing on the assumption one could prove earlier invention was not a rational approach.

While not having a significant effect on how we file for patents, the change to "first inventor to file" is good because it creates greater certainty and reliability in the patent system. Because it revolved around secret information about when and how an invention was made, the first-to-invent system was fraught with uncertainty. The prospect, however unlikely, that someone who filed after us could prove earlier invention created a cloud over who owned the intellectual property. Even if we had filed before another party, there remained a lingering risk that they might have invented first, a risk that could not be clarified except through expensive interference proceedings or litigation. In financings and strategic negotiations, this uncertainty lengthened the due diligence process, increased legal fees, and threatened the ability to reach a deal. Under "first inventor to file," the determination of who is entitled to patent an invention is clearer, simpler, and based on data available to all parties. Moreover, in the vast majority of cases, the results will be the same as they would be under a first-to-invent system.

Another significant change under the AIA pertains to post-grant proceedings for challenging issued patents. Post-Grant Review allows a patent to be challenged by third parties on almost any grounds during the first nine months after grant, while Inter-Parties Review allows a patent to be challenged beginning nine months after grant on ground related to novelty or obviousness. Both procedures serve an important purpose in providing a process for overturning patents that should not have been allowed in the first place, without having to engage in costly litigation.

Importantly, the Act establishes a Patent Trial and Appeals Board (PTAB) composed of specialized administrative law judges who will decide Post Grant and Inter Partes Reviews. This is an important change from the former reexamination procedures, which were decided by patent examiners. Many practitioners felt they could not rely on patent examiners to overturn patents in reexamination, even when new information was presented clearly calling into question the validity of the patent. The chances were good that the reexamination would result in an affirmation of the patent, which could then be perceived as stronger since the Patent Office had approved it twice. By establishing the PTAB with specialized judges, it is hoped that the new AIA procedures will result in better and more predictable decisions.

Another important aspect of both types of post-grant proceedings is the estoppel provision that prevents a challenger from later challenging a patent in another proceeding or in litigation on grounds that were raised our could have been raised during the first post-grant proceeding. This is a critical aspect of the procedures, for not only does it prohibit re-litigation of the same issues, but it creates meaningful consequences for those who decide to challenge a patent. The estoppel provisions appropriately cause a challenger to think twice before launching a Post Grant or Inter Partes review. They help to ensure that innovators will not be forced to defend groundless or serial post grant challenges by those with greater resources.

Of all the AIA changes, perhaps the most impactful for medical device start-ups is "Track One" prioritized examination. Under this provision, for a higher filing fee, our patent applications are examined and either finally rejected or allowed within one year. In some cases we are getting our patent applications allowed within 6 months. This ability to get a decision from the Patent Office rapidly can have a dramatic impact on our ability to get our projects funded. For a new startup, we are able to approach venture capital firms for funding with a patent already in hand, or with an official indication of what is patentable. We are also able to build our patent portfolios much more rapidly, so that when we seek later rounds of funding, we have multiple patents issued protecting various aspects of our technologies. This can eliminate much of the concern investors have about the availability and scope of patent protection. As a result we are more likely to get projects funded and can get through funding negotiations faster, with lower legal costs, and with potentially higher valuations than we have in the past.

The last aspect of the AIA on which I wish to comment relates to the PTO budget. If there is one issue in which all stakeholders in the patent system should be aligned, it is the provision of sufficient funds to the Patent Office so that patent pendency is reduced, patent examination is more competently performed, and patent quality is increased. These goals benefit everyone, including those who would like to obtain patents faster, those who seek a more efficient and intelligent examination process, as well as those who want to reduce the issuance of poor quality patents.

To accomplish these goals, the PTO must receive sufficient funding to hire and train more and better-qualified examiners, update its computer systems, and implement other important programs. Yet, even though the PTO generates a revenue surplus from user fees each year, its revenues are subject to diversion by Congress for other purposes. The Office is thus unable to rely on receiving the level of funding needed to expand and improve its services.

Establishing reliable funding for the PTO was recognized to be an important issue to address in patent reform legislation. To this end, the AIA gave fee setting authority to the office, allowing it to set user fees at an appropriate level to generate the revenue it needs. But the AIA fell short in failing to prohibit the diversion of PTO revenues by Congress. So long as revenue diversion is a possibility, the PTO's budget will remain uncertain, and the office will be unable to do the planning and hiring that it needs to do to achieve its larger objectives.

A fully equipped Patent Office can focus on improving the quality and rigor of patent examination, so that the patents that are granted have undergone rigorous scrutiny and are appropriately limited in scope. This, more than any proposal to weaken the rights of patent owners, will ensure that patent rights are not unfairly wielded to the detriment of innovation. Therefore I would urge the Committee to make the prohibition on fee diversion a priority for any future legislation aiming to improve the patent system.

In sum, the American medical device industry continues to lead the world in innovation. Much of this innovation arises from entrepreneurs and small companies who depend on strong patent protection in order to raise the substantial funding needed to bring a medical device through clinical trials to commercialization. Streamlining and accelerating the examination process, improving the quality of patents, discouraging frivolous patent challenges, and imposing serious consequences on infringers are essential components of a patent system that protects and encourages such innovation. In order to attain these goals, we must fully fund the Patent Office and end diversion of PTO fees so it can build an organization equipped to handle the changing and expanding landscape of inventions. Further, in order to solve the problem of patent assertion entities, we must avoid diluting the important rights conferred by a patent upon which innovators rely, but rather focus on improving the quality and rigor of the patent process.

It has been an honor to speak to you today, and I thank you again for inviting me to testify.

Prepared Statement of John R. Thomas
Professor of Law, Georgetown University

Before the

Committee on Small Business

United States House of Representatives

On

"Patent Reform Implementation and New Challenges for Small Businesses"

May 15, 2013

Mr. Chairman and distinguished Members of the Committee: Thank you for the opportunity to testify on the subject of patent reform implementation and new challenges for small business. I testify today in my personal capacity.

The Small Business Administration recently found that small businesses that patent regularly obtain 16 times more patents per employee than larger firms. Because patents matter to small businesses, this Committee deserves congratulations for participating in the enactment of the America Invents Act and subsequent technical corrections legislation. As someone whose principal occupational task is to teach patent law, I am grateful that I no longer need to describe internationally adopted rules reflecting best patent practices—and then have to explain how the U.S. patent system operates differently. The Committee should also take pride both in maintaining the small entity discount at the USPTO, and in engineering even steeper discounts on filing fees for micro entities. For example, the fee assessed against a mirco entity for filing a patent application is a modest $70. These measures will surely inure to the benefit of small businesses.

Consideration of patent reform implementation in large measure involves an assessment of the efforts of the USPTO. As a legal academic who has observed that agency for many years—and on occasion been critical of it—I wish to report my highly favorable impression of its implementation efforts. In my personal opinion, the USPTO has persistently met its obligations under the AIA in a timely and professional manner. Particular accomplishments for the agency include:

- Leading a transparent rule-making process with due regard to public commentary.
- Staffing the Patent Trial and Appeal Board with experienced lawyers of exceptional quality.
- Educating its staff of 8000 patent examiners about the new provisions of the AIA.
- Making great strides towards full operation of four satellite offices across the United States.

I further observe that the USPTO has reduced its First Office Action pendency to 18.7 months and decreased its inventory of unexamined applications to 600,000 cases—two notable achievements in view of the agency's contemporaneous implementation of the AIA.

The efforts of the USPTO to contribute towards small business and independent inventors should also be acknowledged. Agency programs that are of particular benefit to these constituents include:

- An Office of Innovation of Development that oversees the agency's efforts to assist independent inventors and small businesses. These efforts include outreach programs for independent inventors, women, small business concerns, minorities, and other underserved constituencies.
- An Inventors Assistance Center (IAC) that provides patent information and services to the public. The IAC is staffed in part by retired, experienced examiners who answer general questions concerning patent examining policy and procedure.
- An Ombudsman who assists in getting stalled patent applications back on track.
- Independent Inventors Conferences, conducted around the country, which deal not just with the patent application process, but also entrepreneurship and marketing.
- A Global Intellectual Property Academy that conducts a number of programs for U.S. small businesses; one recent program was titled "What Every Small Business Must Know About Intellectual Property."

Although the efforts of the USPTO have been exemplary, issues remain for small businesses. First and foremost is the potential impact of sequestration. One of the primary points of concern during the pendency of the AIA was USPTO fee diversion. To that end Section 22 of the AIA established a Patent and Trademark Fee Reserve Fund that was intended to allow the agency to retain the fees it received for services provided. While I am no expert on sequestration, to my understanding the Office of Management and Budget has reportedly reasoned that fee payments to the USPTO are not "voluntary" within the meaning of the Budget Control Act—with the result that USPTO fees are not exempt from sequestration. Understandably, loss of substantial revenues from the USPTO budget could have a significant deleterious impact upon the agency's ability to protect the nation's environment for innovation.

The cost of certain USPTO post-grant procedures is also a potential issue for small firms and independent inventors. The new *inter partes* review proceeding costs at least $9,000, while the minimum fee for post-grant review is $12,000. These relatively high rates are based upon the congressional decision in the AIA to allow the USPTO to assess fees designed to recover the aggregate estimated costs of the proceeding to the agency. Given that the AIA requires post-grant proceedings to be conducted by at least three administrative patent judges of the Patent Trial and Appeal Board, one would expect the fees to be substantial—and indeed I believe that the agency faithfully complied with the statute in setting its rates. Nonetheless the fees are very costly and may contribute to a pricing out of small entities from robust administrative challenges to patent validity.

Patent trolling remains a significant concern for U.S. enterprises of all sizes. In my opinion, trolling results from systematic problems within the U.S. patent system and is not amenable to a quick fix. In the 113th Congress, two bills are directed towards patent trolling issues. The SHIELD Act mandates an attorney's fees award in favor of any party that prevails on either validity or non-infringement, with exceptions for initial assignees of a patent, universities, and companies that spend substantial resources on the production or sale of the patented invention. Further, unexempted litigants must post a bond for these fees before they could even commence litigation. Fee shifting certainly holds the potential to deter non-practicing entities from asserting weak patents. Yet it might also discourage small businesses from bringing meritorious cases in an often unpredictable litigation environment. In particular, the SHIELD Act would cause certain types of patent proprietors to pay fees if they lose infringement cases, no matter how close the issues in the case may have been.

Another bill, the Patent Quality Improvement Act of 2013, would make two changes to the Transitional Program for Covered Business Method Patents. First, the sunset provision associated with that post-grant proceeding would be eliminated. Second, the post-grant proceeding would be expanded in order to cover virtually any sort of business method patent. Augmentation of the transitional program would potentially enlist the expertise of the USPTO to weed out improvidently granted patents in a timely manner. Nonetheless, patents that survive a second round of review may actually become more robust and troublesome—after all, advocates may assert that they withstood USPTO scrutiny twice and ought to be readily enforced by the courts.

In closing, I appreciate the invitation to provide my views to the Committee on these and other patent reform proposals, and looks forward to working with Members of the Committee as it continues to consider these issues.

INdigital Telecom Testimony of Mark Grady, Founder and President

Before the Committee on Small Business U.S. House of Representatives May 15, 2013

Prepared Testimony and

Statement for the Record of

Mark Grady, Founder and President

On Behalf of

INdigital telecom

Before

The Committee on Small Business

U.S. House of Representatives

Hearing on

Patent Reform Implementation and New Challenges for Small Businesses

Wednesday, May 15, 2013 - 1:00 p.m.

2360 Rayburn House Office Building

Good afternoon. Chairman Graves, Ranking Member Velázquez and Members of the Committee. I am Mark Grady, Founder and president of INdigital telecom (INdigital), a leading provider of advanced 9-1-1 public safety communications services. INdigital began in 1998 as a cooperative effort of several independent telephone companies in the rural areas of Michigan, Ohio, and Indiana, including New Paris Telephone, in northern Indiana, which I also manage.

Thank you for allowing me the privilege of sharing with you our small business's perspectives on the opportunities and challenges surrounding patent reform, and its impacts on our business, communities, innovation, and jobs.

By way of background, INdigital telecom is a specialized type of telephone company, a 9-1-1 system service provider. Wireless, Voice over IP, and legacy telephone companies deliver "9-1-1" calls their customers make to our network, and based on the location of the caller, we manage the vital process to make sure these calls are connected to the appropriate local police, fire, or medical authority so that emergency help can be on the way as soon as possible. Through our systems in Ohio, Indiana, and Michigan, we provide a vital service that protects the lives and property of the citizens in these communities—many whom are no doubt represented by members of this Committee. Along the way, our company has created 38 high paying technical jobs, and has provided training to many more interns and technical staff.

We are working hard every day to provide an important public service, and we are proud of the jobs that we do and the communities we serve.

As to the connection between our business and intellectual property matters, I need to explain that even today many 9-1-1 networks continue to use technology that dates from the 1970's. We envisioned that this technology had to, and was going to change. In 2005, over four years before industry standards were adopted, we pioneered methods of using new digital internet protocols to provide advanced 9-1-1 public safety communications. What we created helped launch the revolution that is occurring now in public safety. Many of you may recognize the term "Next Generation" or "NG9-1-1". That's what I am referring to. It's a complete re-invention of the old 9-1-1 network using new digital systems and methods to deliver advanced emergency services.

Small company innovators like INdigital face a number of IP-related challenges. In the public safety industry, there are giants like AT&T and Verizon, who use many different suppliers to create full service public safety networks. There are also other large companies that perform backroom 9-1-1 location analysis and call processing. The work of these companies primarily serves the large telephone companies in the big population centers, and other large industrial businesses. INdigital is a small company serving more rural areas. For example, our largest market is Fort Wayne, the 74th largest city.

As a small business, we cannot afford the in-house resources of a large company. We must rely on outside counsel for our IP needs

such as patents, copyrights, and other intellectual property matters. Even so, we are active and directly license the IP of others, cross-license our IP, and provide critical protected technologies to other business partners, and our customers.

As noted before, 9-1-1 emergency services are going through a technological evolution. As other providers in the telecom industry realized the need to update their 9-1-1 networks, INdigital has been successful in capturing market share with its 9-1-1 innovations. Therefore, we recognize the need, value, and importance of a well-defined and efficient patent system to protect and monetize those innovations. We appreciate and support Congress's efforts in these regards. INdigital believes in and supports a robust intellectual property system that works for small business, not against it.

Having said this, please note that INdigital is not 'patent centric.' Our patent law firm understands our business and our culture, and recognizes that our IP works in conjunction with the actual products and services we provide, not in the abstract. Our business succeeds by understanding our customers' problems, then putting a working solution into our customers' hands for refinement, not by just cranking out low quality patents whenever technically feasible. Often, our patent applications only start after the products are deployed and proven. In short, like many small businesses, patents are a by-product of and support our innovation, not the reason we exist.

Even so, we believe that, on balance, the new provisions of the American Invents Act ("Act" or "AIA") has been and will continue to be of some benefit for INdigital. Certainly, patent fee reform is helpful to our small business, as is the "first to file" and "provisional patent" concepts that makes the decision to file a patent clearer and easier. It's beyond my expertise, but it's my understanding that the AIA attempts to make it easier to challenge poor quality patents. Also, I have read about special rules for challenging new "business method" patent applications. While these sound sensible as ways to increase patent quality, these seem to be too expensive for a small business like ours. Again, we're not patent experts, and are only now starting to see how net patent applications will be processed and enforced under the Act. We remain optimistic that the Act, with some refinements, will yield faster results for higher quality patents without harming small businesses.

As the public safety landscape transitions to NG9-1-1 and to a more competitive environment, we are seeing an increased use of patents in our industry sector. We are increasingly aware that companies are hiring armies of patent attorneys, and are buying stagnant companies solely for their patent portfolios. This brings me to the biggest IP challenge that we and other small businesses face today—the inappropriate assertion of poor quality over-broad patents. This is especially troublesome for us when they apply to 9-1-1 public safety, an area that clearly deserves as much special protection from frivolous lawsuits as "business methods."

One of our 'frenemies', a company that INdigital works with often on many types of projects, has fallen behind in developing new NG9-1-1 technology. Rather than innovate in-house, they ac-

quired another entity that was issued a very broad telecom-related patent many years ago.

Under pre-AIA patent law, there was insufficient legally relevant prior art, and, unfortunately, the patent was approved. The concepts in the patent are very common in telecommunications, and not specific to public safety. However, this company has unleashed a patent assertion firm to seek enforcement against us of this old patent based, in large part, on the simple notion that INdigital provides "9-1-1 service."

In case you are curious, nothing would please me more than to explain to this Committee exactly how INdigital has infringed this patent, but . . . I cannot. We have analyzed the patent, and we have had it analyzed by other experts. We are unable to determine how the NG9-1-1 industry standards we follow in our products and services are infringing, yet the litigation moves forward with swift precision. In one form it is a letter to our existing and potential customers that claims that INdigital is, or soon will be, infringing upon this patent. It doesn't take much to imagine what our customers or potential customers think when they receive such a notice, or the fear, uncertainty, and doubt it generates throughout the 9-1-1 public safety community. Our public safety customers are often units of local government. They don't need or want the distraction or expense of a 'potential for infringement' letter from a patent assertion firm.

A more pressing problem is that many new technologies commonly used by the public today such as text messaging and sending pictures are not part of the current 9-1-1 public safety system. Just image how many lives or how much property could be saved if they were. The recent terrorist bombing in Boston is a horrific and unfortunate example of how public safety and first responder access to video and related information directly from the public could (and did) greatly enhance emergency response and homeland security. 9-1-1 Centers desperately need new technologies and new equipment as the country transitions to NG9-1-1 services. A local 9-1-1 Center isn't resourced or funded to sort out the complex legal demands of patent claims, especially ones that say even offering "9-1-1" could be infringement.

In one recent case, after receiving the letter, a potential customer had to put its project on hold to completely reissue its request for proposal. As a small business person, an innovator, an employer, and a citizen, I believe this cannot be Congress' intent for our patent system. The patent system should not be used to put Americans' lives and property in jeopardy by delaying their access to new and innovative 9-1-1 public safety and homeland security services. IP rules should first serve inventors—not investors—to bring innovation to the marketplace, not fruitless litigation which destroys jobs and companies, and wastes a small company's limited resources. But, that is exactly what is happening.

So that our message to this Committee is clear, please note that INdigital supports, in general, the process and other improvements in the America Invents Act. As the trade press detailed, we recognize the difficult negotiations and compromises required to pass the

AIA. Unfortunately, however, for all the progress that was made, the Act has not remedied these current IP issues as they relate to essential 9-1-1 public safety services.

As we continue to work to develop and deploy important new life-saving NG9-1-1 services, we are forced to divert our limited resources to plan for the business and financial impacts of unknown patent assertion claims. This has directly affected our innovation efforts, ability to hire new employees, and our work to help protect our communities. From the perspective of our small business, the AIA is incomplete until our nation's 9-1-1 public safety and homeland security system is secure.

As we begin to benefit from the other aspects of the AIA, our Company is asking this Committee to take half a step back and help level the playing field as it relates to public safety intellectual property disputes. Two ideas we've heard discussed in the trade press, in our view, have particular merit and we support their introduction into law. First, the law should recognize 9-1-1 and NG9-1-1 for what they are; essential government services, and patent litigation claiming 9-1-1 infringement should be managed under an existing patent statute—28 United States Code Section 1498. This will help control the costs of the court process, yet still guarantee a legitimate patent will be enforced and the patent holder compensated. Second, every infringement complaint should contain a detailed explanation of the claim—something more than just the assertion of a "hypothetical" infringement we receive today. It is unfair to burden small businesses with patent allegations no more substantive than a TV commercial.

No doubt there are other useful concepts that can be considered. Whatever the conclusions from this hearing, our request is that this Committee take prompt action to discourage frivolous 9-1-1 public safety related lawsuits while protecting valid patent holders.

In conclusion, thank you for your time and the opportunity to help you understand the IP problems faced by INdigital and other small business entrepreneurs today. I look forward to your questions.

Committee on Small Business

Hearing: "Patent Reform Implementation and New Challenges for Small Businesses"

May 15, 2013

Questions for the Record Submitted by Rep. Bentivolio

Questions for Mr. Grainger:

1. Can you please elaborate how it is that Congress is looting the USPTO's surpluses?

Answer: While I am not expert on the precise amount of the PTO's revenues that has been appropriated for other purposes, it has been reported that over $1 billion has been diverted in the past 20 years. Having been on the management team of multiple companies I know the importance of certainty with regard to the level of funding that will be available to allow for strategic planning and organizational and infrastructure improvements. Even if the USPTO has good ideas about how to solve its major challenges, if its level of funding cannot be relied upon, the office cannot put its plan into effect. The office now has the authority to set its own fees, and it has the ability to forecast fairly accurately the level of filing and prosecution activity to expect. But it has no assurance as to how much of its revenue it will be allowed to keep. If the PTO had control of its revenues, it could reliably predict its funding levels for years to come, and it could implement meaningful changes and infrastructure improvements. Until that happens, or Congress passes specific budget allocation that the office needs to make those improvements, we are likely to see little change. It is important to remember as well that such improvements are not just needed to reduce the patent backlog and shorten pendency, but to improve the quality of the examination process so that fewer "bad" patents are issued. For this the office needs to hire more and better-qualified examiners, conduct more examiner training, allow examiners more time to examine each application, and upgrade its computer infrastructure to allow more comprehensive and efficient searching and data access. These are major undertakings that cannot be implemented without budget certainty.

2. From your testimony I infer that you create companies based off of patents. Can you please elaborate, perhaps by naming some claimed inventions, on the novel ideas developed, how it is that they, in your mind, attain the standard of "inventive genius" above and beyond simply being "new gadgets"?

Answer: I would ask the question, has anyone among your friends and family suffered from high blood pressure, stroke, or heart valve disease? These diseases are not treated with gadgets. High blood pressure is treated with drugs, but for many patients drugs do not work or cause unacceptable side effects. The Foundry invented the first device-based therapy available for high blood pressure that has the potential to provide a lifetime of benefit from a single thirty-minute catheter procedure. In a clinical trial of the device, patients receiving the catheter treatment experienced a drop in blood pressure substantially higher than they did from drugs and, three years later, continue to maintain that reduction.

The device has been approved in Europe and is in clinical trials for approval in the U.S. Medtronic recognized the value of this technology and acquired the company for more than $800 million. See http://www.medtronicrdn.com/intl/healthcare-professionals/index.htm. Similar stories can be told about the devices we invented for removal of clots from cerebral blood vessels to reduce the damage caused by stroke (Concentgric Medical, acquired by Stryker), and for repairing diseased mitral valves using a catheter rather than open-heart surgery (eValve, acquired by Abbott). Both devices were pioneering advances without any comparable devices available for treating those diseases. Currently we are working a catheter to enable replacement of the mitral heart valve without open heart surgery, and a device to relieve osteoarthritis of the knee for patients not ready or not able to undergo knee replacement. While companies have been working on these problems for years, none have succeeded in developing a successful device-based treatment.

It is not entirely accurate to say that The Foundry creates companies based off of patents. We start by identifying major clinical needs, then we develop the technologies needed to solve those needs. If a technology shows the promise of working clinically, we start a company to pursue it. We file patents on everything we invent because we know it is a requirement to obtain funding for these companies. Often we find that others have invented technology that will complement or that is better than what we have invented, and we will attempt to acquire rights to that technology. In most of the companies we have created (now working on the fifteenth), the patents protecting their core technology include some invented internally and some we have acquired from others.

3. The America Invents Act cited in its Constitutional Authority Statement Article I, Section 8, Clause 8. Explicitly, this clause secures to authors and inventors their writings and discoveries. As I observed, the AIA removes this security from an inventor, transferring it to a first-to-file entity who was not the first to invent. Is that not explicitly forbidden by I:8:8? If not, please explain how the definition of inventor is lawfully changed from "one who invents" to "one who files."

Answer: With the disclaimer that I am not a constitutional law scholar, I believe Article I can be interpreted to require that a system be established that allows all inventors to obtain patent protection for their inventions. However, I do not believe it prohibits the establishment of a system that makes sense in terms of efficiency and creation of economic value, so long as all inventors have reasonable opportunity to participate in that system. In my view the first inventor to file system eliminates huge waste in time and resources spent in resolving first to invent disputes, when it was well-established that a party who was second to file rarely won these contests. Under the first-to-invent system, inventors who took their time in filing a patent were hurting their own chances of obtaining enforceable patent rights, as well as creating uncertainty and perceived risk for other parties who were more prompt in filing. Further, the new system increases the efficiency of commercializing valuable inventions by allowing inventors and funders to

know, based on public information, whether a particular party is entitled to a patent or not. On the other hand, the cost to an inventor of participating in the first-inventor-to-file system is minimal—a few hundred dollars to file a provisional application—which I believe is not an unreasonable obstacle even to an individual inventor, and well worth the benefits it confers to the system as a whole.

The Supreme Court has ruled repeatedly that "inventive genius" is the standard by which an invention overcomes the "obviousness" hurdle to patentability. Has the USPTO ever endeavored to define standards of inventive genius, and if so, what was the outcome?

Answer: I am not familiar with any judicial opinions or USPTO rules that attempt to define "inventive genius." There are numerous factors which are considered in determining non-obviousness. One case frequently cited on this topic is *Graham v. John Deere,* 383 U.S. 1 (1966).

5. One issue today is that end-users of a device, using it for its normal intended purpose, infringe on patents that the manufacturers of the devices do not infringe upon. (See Ars Technica, "Meet the nice-guy lawyers who want $1,000 per worker for using scanners," April 7, 2013.) The situation is plainly absurd. Is there a judicial remedy for the victims of the patent trolls? What legislative remedy would you envision? More specifically, how is it that an end-user, using a device in an advertised manner, it taken to be an "inventor" when the maker of the device is not?

Answer: Because a patent confers on the he patent owner the exclusive right to make, use, and sell the invention, it allows the patentee to prohibit others from using the invention. The doctrine of patent exhaustion, however, prohibits the patentee from enforcing the patent against downstream users of a patented item after a sale of that item which was authorized by the patentee. In the cited example if the patent holder never authorized the sale of the device to each user, patent exhaustion would not be a defense. Moreover, if the patent in the example covers only the end users' use of the device and not the manufacture, sale or use by the manufacturer or seller, then patent exhaustion is inapplicable. I am not aware of any legal theory that would provide a defense to the victims in the example, other than the usual defenses of invalidity or non-infringement. I understand that in some cases the validity of the asserted patents is questionable, but defending a lawsuit is too expensive for such victims. Thus a legislative approach might allow end users to form alliances to collaborate in the defense and funding of such suits. In additions, legislation could penalize plaintiffs who bring lawsuits that are clearly meritless, such as by loser-pays schemes or imposing other sanctions. Vermont, for example, just amended its consumer fraud statute to allow damages to be awarded for bad faith assertions of patent infringement. Further, legislation could prohibit the enforcement of patents against end-users where an infringement action could be brought against the manufacturer or seller under a theory of direct or contributory infringement or a theory of inducement to infringe.

6. Do you believe the lifetime of a patent, the same across all types of utility patents, is reasonable in its duration for all types of inventions?

Answer: I think it is worth considering whether a shorter patent term would make sense in fields where product lifecycles are shorter, development costs are lower, and/or the time required to bring a product to market is less. The challenge lies in determining which fields should get the shorter term, which inventions fall into those fields, and how to handle inventions in those fields that are exceptions to the general rule on lifecycle, development cost, or time to market. For example, one could reasonably question whether a method of buying a product by clicking a mouse only once should be given twenty years of patent protection. Yet, even defining a "business method" can be a challenge, when many drugs, medical devices, and other articles are protected by patents on methods of use or administration which some might call methods of doing business.

7. If two companies independently invent the same thing within a reasonable period, doesn't that suggest the invention is really neither's to exclude from the other? Does innovation and invention mean the same thing?

Answer: After 20 years in medical device start-ups, I can confirm that one can almost be certain that while one party is working on an innovative new idea, another party somewhere in the world is or soon will be working completely independently on the same idea. I believe the patent system is in large part responsible for this phenomenon by incentivizing and requiring patent holders to disclose their technological advances so that others can build upon them. If patents were not available whenever m multiple parties invented the same or similar inventions within weeks or months of each other, few patents would be issued. The system enables multiple parties to begin at the same starting line with the same information available to all, so by its very nature creates a tight race to the next advance. However, were the patent incentive no longer there, publication of inventions would cease, and the ability to advance the art would decline.

On the second question, I believe innovation is a general term for creating something new in a particular field, while invention, at least in the context of the patent system, has a specific legal meaning. Invention is arguably narrower than innovation, and requires that an innovation meet a particular set of requirements defined by the law before it becomes an invention.

How would you devise some standards for the patent office to reject issuing patents for gadgetry?

Answer: I don't believe the government should get into the business of defining what is a "gadget" and what is a valuable invention. What may seem like a gadget today may well prove to bring great economic value. The answer lies in where the threshold for non-obviousness is drawn. If a qualified and well-trained patent examiner truly (1) has done a comprehensive and effective search; (2) cannot find any disclosure of the invention anywhere in the prior art; and (3) cannot find any combination of references that reason-

ably can be combined and together disclose all the elements of the invention, then the invention is non-obvious and a patent should be allowed. To ensure this is done competently on a more consistent basis, the patent office needs to hire better-qualified examiners, increase examiner training, and improve searching techniques and systems.

9. How do we return the patent office to its constitutional role of protecting real ingenuity, by stopping the issue of frivolous patents?

Answer: See comments above regarding hiring more and better-qualified examiners, increasing examiner training, allowing examiners more time to examine patents, improving PTO computer infrastructure, and developing better searching techniques and systems.



GEORGETOWN LAW

John R. Thomas
Professor of Law

May 30, 2013

Ms. Susan Marshall
Clerk
Committee on Small Business
2361 Rayburn House Office Building
Washington, DC 20515

Re: Questions for the Record
Patent Reform Implementation and New Challenges for Small Businesses

Dear Ms. Marshall:

Thank you for the opportunity to respond to questions for the record submitted by Representatives Bentivolio and Schrader in connection with the hearing on "Patent Reform Implementation and New Challenges for Small Businesses" on May 15, 2013.

1. **The America Invents Act cited in its Constitutional Authority Statement Article I, Section 8, Clause 8. Explicitly, this clause secures to authors and inventors their writings and discoveries. As I observed, the AIA removes this security from an inventor, transferring it to a first-to-file entity who was not the first to invent. Is that not explicitly forbidden by I:8:8? If not, please explain how the definition of inventor is lawfully changed from "one who invents" to "one who files."**

In my professional opinion, because the AIA awards patents only to individuals who actually developed the invention themselves, rather than derived it from another, the first-inventor-to-file principle is permissible under the Constitution. As a textual matter, the Constitution does not require that a patent be awarded only to the "true and first inventor," as did the English Statute of Monopolies of 1623, 21 Jac. 1, c. 3, s. 1. As indicated by the wording of Question 5, reprinted below, the term "inventor" is commonly used to mean a person who originated the invention himself, rather than having learned of the matter from another individual. Further, the Supreme Court has recently confirmed that Congress enjoys broad ability to tailor the intellectual property laws under Article I, Section 8, Clause 8. *See Golan v. Holder*, 132 S. Ct. 873 (2012) (granting copyright protection to foreign works formerly unprotected in the United States did not violate Constitution); *Eldred v. Ashcroft*, 537 U.S. 186 (2003) (extending copyright term to life of the author plus seventy years did not violate Constitution).

I further observe that under the predecessor first-to-invent system, the first-inventor-in-fact did not always obtain entitlement to a patent. Prior to the enactment of the America Invents Act,

if a first-inventor-in-fact maintained his invention as a trade secret for many years before seeking patent protection, he may have been judged to have "abandoned, suppressed, or concealed" the invention. In such a case a second-inventor-in-fact may have been awarded a patent on that invention. *See* 35 U.S.C. § 102(g). Courts reasoned that this statutory rule encouraged individuals to disclose their inventions to the public promptly, or give way to an inventor who in fact does so. *See Del Mar Engineering Labs. v. United States*, 524 F.2d 1178 (Ct. Cl. 1975). As the first-inventor-to-file rule acts in a similar fashion to this longstanding, predecessor patent law principle, conflict with the Constitution appears extremely unlikely. *See generally* John Burke, *Examining the Constitutionality of the Shift to "First Inventor to File" in the Leahy-Smith America Invents Act*, 39 JOURNAL OF LEGISLATION 69 (2012-13); Robert P. Merges, *Priority and Novelty Under the AIA*, 27 BERKELEY TECHNOLOGY LAW JOURNAL 1023 (2012).

2. **The Supreme Court has ruled repeatedly that "inventive genius" is the standard by which an invention overcomes the "obviousness" hurdle to patentability. Has the USPTO ever endeavored to define standards of inventive genius, and if so, what was the outcome?**

Congress has not delegated substantive rulemaking authority to the USPTO. *See Merck & Co. v. Kessler*, 80 F.3d 1543, 1549-50 (Fed. Cir 1996) ("As we have previously held, the broadest of the PTO's rulemaking powers—35 U.S.C. § 6(a)—authorizes the Commissioner to promulgate regulations directed only to 'the conduct of proceedings in the [PTO]'; it does not grant the Commissioner the authority to issue substantive rules."). As a result, the USPTO is not a position to define the governing standard of nonobviousness under 35 U.S.C. § 103.

3. **One issue today is that end-users of a device, using it for its normal intended purpose, infringe on patents that the manufacturers of the devices do not infringe upon. (See Ars Technica, "Meet the nice-guy lawyers who want $1,000 per worker for using scanners," April 7 2013.) The situation is plainly absurd. Is there a judicial remedy for the victims of the patent trolls? What legislative remedy would you envision? More specifically, how is it that an end-user, using a device in an advertised manner, is taken to be an "inventor" when the maker of the device is not?**

Patent proprietors have long been allowed to commence infringement litigation against any user of a patented invention. In the past patent owners were likely more reluctant to commence litigation against individual users of a patented invention, as compared to the manufacturer or other central source of supply, but this situation has apparently changed. Note that the subject of the infringement suit is not the inventor of the patented invention, but rather an accused infringer.

Possible solutions for lawsuits against end users include: (1) a mandatory stay of the proceeding until a contemporaneous suit against the manufacturer is complete; (2) the establishment of a small claims court where such suits could be transferred; and (3) greater private use of infringement indemnifications within the private sector.

4. Do you believe the lifetime of a patent, the same across all types of utility patents, is reasonable in its duration for all types of inventions?

Commentators have for many years recognized that technologies and industries vary in ways that are salient to the patent system. In particular, the costs and risks of conducting R&D differ widely among industries. Some sectors are marked by stand-alone, discrete advances, while others feature steady, cumulative innovation. Product cycles also vary markedly different sectors of our economy. In view of these and possibly other distinctions between technologies and markets, policymakers may not be particularly confident that a one-size-fits-all patent system ideally encourages innovation throughout a diverse array of industries. One possible point of adjustment is the term of the patent, which in theory could be adjusted to fit the perceived needs of distinct industries.

Others have questioned the wisdom and practicality of line-drawing among different industries and technologies within the patent system. Defining a specific industry or category of technologies may prove to be a contested proposition. Even if an industry or technology remains relatively stable, the innovation environment within it might change. The legislative effort to enact sector-specific patent laws may provide an opportunity for politically savvy firms to exert more lobbying and political power, at the possible expense of less sophisticated firms. Finally, distinct patent terms among industries or technologies may lead to strategic behavior on behalf of patent applicants. For example, a computer program that controls a fuel injector within an automobile could possibly be identified as either an automobile-related or a computer-related invention.

In addition to these practical concerns, U.S. membership in the World Trade Organization (WTO) may restrict congressional ability to tailor the patent system to account for different industries and inventions, to the extent that compliance with WTO standards is desired. The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement) is a WTO-administered treaty that stipulates minimum standards for many forms of intellectual property protection. Article 27 of the TRIPS Agreement expressly provides that, with some exceptions, "patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced." Under the TRIPS Agreement, there is little possibility for implementing variable patent terms for distinct technologies. In sum, a regime of uniform patent duration is a second-best solution to determining the scope of patent rights—but it is one that is more practicable than its alternative. *See generally* Michael W. Carroll, *One For All: The Problem of Uniformity Cost in Intellectual Property Law*, 55 AMERICAN UNIVERSITY LAW REVIEW 845 (2006).

5. If two companies independently invent the same thing within a reasonable period, doesn't that suggest the invention is really neither's to exclude from the other? Does innovation and invention mean the same thing?

The world's patent laws assess the state of the art as it existed prior to the filing date of the application to determine whether a particular invention should be patented. This question captures the insight that review solely of the "prior art" may not be the most appropriate measure of patentability. Rather, contemporaneous invention—even if that inventive activity occurred

after the filing date—may also be an important measure of whether society should award exclusive rights to one of the inventors. For further discussion of this issue, see Mark A. Lemley, *The Myth of the Sole Inventor*, 110 MICHIGAN LAW REVIEW 709 (2012).

Following the AIA, a contemporaneous inventor may be able to establish a prior commercial user defense under 35 U.S.C. § 273. If that defense is successfully invoked, the patent proprietor would not be able to exclude the contemporaneous inventor from using the patented invention. The patent could still be enforced against third parties, however.

Many authors use words "innovation" and "invention" synonymously. Others draw distinctions between the terms. For example, Professor Robert Merges writes:

> An invention refers to the practical implementation of the inventor's idea. This often takes the form of a prototype or model. An invention, then, is more than a concept (it is usually a tangible thing), but less than the fully worked out product or process first offered for sale to customers. An innovation is the 'debugged' and functional version of the invention: the version first offered for sale.

Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CALIFORNIA LAW REVIEW 803 (1988).

6. **How would you devise some standards for the patent office to reject issuing patents for gadgetry?**

7. **How do we return the patent office to its constitutional role of protecting real ingenuity, by stopping the issue of frivolous patents?**

I understand both questions to be directed to concerns over improvidently granted patents. Congress has tasked the USPTO with routinely making the complex determination of whether a particular invention, or its obvious variant, has been used or described anywhere in the world prior to the date the patent application was filed. In my opinion, the best way to promote timely and accurate patentability assessments is to increase the resources available to the agency. At a minimum, the USPTO should be able to keep the fees it collects, rather than having that revenue diverted to other, unrelated government functions.

8. **The America Invents Act (AIA) allows post-grant reviews of patents that have been granted for unpatentable ideas. It is very possible to have a situation where a company that is being sued in federal court for patent infringement has challenged the patentability of what they are being sued for at the USPTO. It is also possible that a company could find a decision against it in federal court for a patent that the USPTO later finds unpatentable. In that circumstance, it doesn't seem the company would have much recourse if the federal court decides its case first and the company is found to owe a significant amount. For a small business, such a process could cripple its business. What should be done to fix this? How do we ensure that companies who are sued for patens the USPTO finds invalid can recoup any fees they pay as a result of federal court proceedings?**

Following *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. 313 (1971), once a patent is held invalid it is ordinarily invalid as to all parties. More specifically, *Blonder-Tongue* allowed the use of the doctrine of defensive collateral estoppel when the accused infringer shows (1) that a patent was found invalid in a prior case that had proceeded through final judgment; (2) the two cases involve identical issues; and (3) that the party against whom estoppel is applied had a full and fair opportunity to litigate. However, *Blonder-Tongue* and subsequent case law do not contemplate a refund of damages award if the patent-in-suit is declared invalid in subsequent proccedings.

Although the scenario described above is certainly possible, it does not seem to be a particularly common one. Under the AIA, post-grant and *inter partes* review must be completed within 12-18 months. Litigation, including an appeal and possible petition to the Supreme Court, commonly take much longer to complete. This issue seems one that is best handled by competent lawyering rather than legislative intervention.

* * *

Thank you again for the opportunity to participate in this hearing. I appreciate the invitation to provide my views to the Committee on these and other patent reform proposals, and look forward to working with Members of the Committee as it continues to consider these issues.

Sincerely yours,

John R. Thomas
Professor of Law

Committee on Small Business

United States House of Representatives

Prepared Responses to Questions for the Records

from Representative Bentivolio

Dennis Crouch *

On the Topic of

Patent Reform Implementation and New Challenges for Small Businesses

February 4, 2014

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*Associate Professor of Law, University of Missouri School of Law; J.D., University of Chicago School of Law; B.S.E., Princeton University (Department of Mechanical and Aerospace Engineering and Engineering Management Systems).

My academic research interests focus on patent law, intellectual property law and internet law. In addition to traditional academic publications, I am the founder of *Patently-O,* with a daily circulation of over 35,000 and that is a regularly read by must US patent law professionals. Prior to joining the University of Missouri faculty, I was a visiting professor at Boston University School of Law and worked as a patent attorney at a major intellectual property law firm in Chicago where I represented inventors pursuing patent protection as well as clients litigating claims of patent infringement. Prior to entering law school, I served as a United States Peace Corps Volunteer in rural Ghana, West Africa; worked as a manufacturing engineer in upstate New York; and conducted research on microgravity combustion with NASA.

I am not a registered lobbyist, I do not represent any clients, and I do not own stock in any particular company with a vested interest in patent rights (beyond broad-based mutual funds).

Bentivolio Question: *1. You recommend ensuring the availability of private insurance to guard against claims of innocent patent infringement. Does that really solve the problem, or would it simply transfer the risk to the insurer and average out the costs across the market?*

Crouch Response: The US legal and business environment creates many major risks for small and medium sized businesses. Although rare, these risks are often outsized and too large to be self-insured against. A strong US insurance market helps to mitigate these risks so that those business operators can go about their business with the assurance that they are protected against these rare-but-major potential liabilities.

Patent infringement litigation is an area where entrenched leaders hold competitive advantages because of the costs and complexity of the system. In this arena of repeat players, small businesses are at a comparative disadvantage and an insurance market for unintentional patent infringement would help level this playing field. Because of their broader industry knowledge, Insurance providers may be especially good at identifying and eliminating bogus claims for relief (as they do in other areas of liability insurance). At the same time, an insurance market for unintentional patent infringement would not eliminate or detract from a patentee's ability to enforce its valid patent rights.

Bentivolio Question: *2. You recommend better standardization and publicizing contractual indemnification for downstream users and retailers. Can you please explain how what sounds like a big-government solution solves a fundamental issue of frivolous lawsuits threats and/or frivolous patents creating real threats?*

Crouch Response: A US patent provides its holder with the exclusive right to make, use, sell, import, and export the covered invention. That right extends to stopping an end-user from unlicensed use of the invention so long as the patent right has not been exhausted. As part of a business-to-business transaction, large business typically negotiate the contractual indemnification associated with potential patent infringement of the product being sold, such as when a computer manufacturer purchases elements from microchip manufacturers. Except for their core business products, small businesses are much more likely to purchase goods and services from a retail outlet just like an ordinary consumer and without negotiating over these particular terms. This leaves small businesses at potential risk.

The Uniform Commercial Code (UCC) that has been enacted in every state creates the background rules for business transactions. The Code was largely designed as a way to define clear understandable baseline rules in order to facilitate transactions. Those baseline rules of understanding can ordinarily be contracted-around, but offer clear, standardized, and well understood default rules. That same process can be done with patent infringement indemnification so that all parties understand their relative risks and obligations early in the process.

My suggestion does not arrive on a blank slate. Rather, U.C.C. 2–312 already includes an implied warranty of non-infringement.

However, there are a number of important uncertainties associated with what that warranty and those uncertainties have been compounded by two recent Supreme Court cases.[1] See, *Bowman v. Monsanto Co.,* 133 S.Ct. 1761 (2013) (holding farmer liable for patent infringement for replanting seeds purchased on the commodity market) and *Quanta Computer, Inc. v. LG Electronics, Inc.,* 553 U.S. 617 (2008) (interpreting the scope of the patent exhaustion doctrine).

Setting of these default rules for market transactions is a core a critical role of Government as the ultimate arbiter of contract and property disputes.

Bentivolio Question: *3. The America Invents Act cited in its Constitutional Authority Statement Article I, Section 8, Clause 8. Explicitly, this clause secures to authors and inventors their writings and discoveries. As I observed, the AIA removes this security from an inventor, transferring it to a first-to-file entity who was not the first to invent. Is that not explicitly forbidden by 1:8:8? If not, please explain how the definition of inventor is lawfully changed from "one who invents" to "one who files."*

Crouch Response: The US Constitution does not authorize the grant of patents to non-inventors. Thus, a patent regime would overreach its authority by granting patent rights to a non-inventor (other than a non-inventor who possesses a legal interest in the patent right based upon a chain-of-title from the inventor).

The question then is whether the AIA provides the USPTO with authority to grant patents to non-inventors. The answer to this question largely depends upon the meaning of the constitutional term "inventor."

Three possible definitions include:

1. An inventor is the first to conceive of an invention.

2. An inventor is the first one to conceive of an invention and reduce that invention to practice (either actually or constructively by filing a patent application) without abandoning, suppressing, or concealing the invention.

3. An inventor is someone who conceives of an invention and reduces that invention to practice (either actually or constructively by filing a patent application).

Although the first definition offers simplicity in statement and strong moral appeal, it has never been the rule. Rather, for more than a hundred and fifty years, the US patent system has regularly granted patent rights to someone who was the second-to-conceive of an invention because the first-to-conceive failed to properly pursue his or her rights, either by failing to diligently pursue reduction-to-practice or else in unduly abandoning, suppressing, or concealing the invention. In those cases, the first-conceiver's activities were essentially ignored and the next-best inventor was granted the patent. The second definition above highlights the traditional

[1] Uncertain issues include, for instance, when is infringement of a process patent indemnified; is the merchant who induces infringement required to indemnify; and does the indemnification pass-through to any subsequent purchasers?

nuance associated with being an inventor under the pre-AIA first-to-invent rules. As you'll note, the definition has allowed for many second-conceivers to get a patent so long as the first-to-conceive failed to properly and fully protect her rights.

The third definition appears to roughly fit to the working definition of invention under the first-to-file rules of the AIA. The definition of inventorship is no longer tied to being the first-one to conceive or reduce the invention to practice. Rather, anyone who completes those steps qualifies as an inventor. Under the first-to-file rules then, the one inventor who receives a patent will be determined by speed at filing a patent application. I should note there, that my use of the term "conceive" implies that the invention was not fully derived from elsewhere, but instead was created and realized in the mind of the inventor.

For proponents of the AIA, this third definition is merely a mild modification of the definition already used in the first-to-invent regime. The first inventor is still given first potential rights, but only if she is able to quickly file a patent application before someone else independently invents and files their own application. There is no precedent that I know of that rejects this definition as defying the Constitutional requirement.

The one *potentially major* caveat is the potential that the AIA could be interpreted to grant patent rights to individuals who do not fit any definition of the world inventor. In particular, the statutory change removed the explicit requirement that the patentee be the inventor. That change was designed to make it easier for corporate patent owners to file applications on behalf of potentially non-cooperative employee inventors, but could have dire Constitutional implications. The USPTO has recognized this potential problem and has provided its interpretation that inventorship is still a requirement of patentability required by the statute. The USPTO points to the introductory patent provision: 35 U.S.C. § 101 that indicates a patent is to be granted to an individual who "invents or discovers any new and useful process, machine, manufacture, or composition of matter."

Bentivolio Question: *4. The Supreme Court has ruled repeatedly that "inventive genius" is the standard by which an invention overcomes the "obviousness" hurdle to patentability. Has the USPTO ever endeavored to define standards of inventive genius, and if so, what was the outcome?*

Crouch Response: The test for patentability is not "inventive genius" but rather whether the invention would have been obvious to a skilled artisan.

A patentable invention must be novel and must also take a substantial step beyond what was done in the prior art. In US law, we use the term "nonobviousness" as the key term for defining this substantial step. In a 1941 decision, the US Supreme Court did write that a patentable invention "must reveal the flash of creative genius, not merely the skill of the calling." *Cuno Engineering v. Automatic Devices.,* 314 U.S. 84 (1941). However, that decision was rejected by Congress in the 1952 Patent Act that established the

modern test of obviousness and rejected the "flash-of-genius" requirement. Today, the statute reads as follows:

> A patent for a claimed invention may not be obtained ... if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.
>
> Patentability shall not be negated by the manner in which the invention was made.

35 U.S.C. § 103.

Although section 103 was amended slightly in the AIA, those amendments have been seen as technical and not substantively altering the test of obviousness. Thus, the leading cases on obviousness continue to be *KSR Int'l Co. v. Teleflex, Inc.,* 550 U.S. 398 (2007) and *Graham v. John Deere Co.,* 383 U.S. 1 (1966). These two cases (along with the statutory language) largely define the process of determining obviousness that has been implemented by the USPTO and that is used by courts.

If it so chose, Congress could further raise the standard of patentability to only allow patents for ideas of exhibiting "inventive genius." However, such a change would represent a major disruptive shift in patent law and would likely violate many of the international agreements that the US has pushed through over the past several decades.

Bentivolio Question: *5. One issue today is that end-users of a device, using it for its normal intended purpose, infringe on patents that the manufacturers of the devices do not infringe upon. (See Ars Technica, "Meet the nice-guy lawyers who want $1,000 per worker for using scanners," April 7 2013.) The situation is plainly absurd. Is there a judicial remedy for the victims of the patent trolls? What legislative remedy would you envision? More specifically, how is it that an end-user, using a device in an advertised manner, is taken to be an "inventor" when the maker of the device is not?*

Crouch Response: First, only an very small number of individuals have been sued for patent infringement over the past 100 years apart from wealthy corporate owners sued under a corporate veil piercing theory. However, an increasing number of patent holders are considering end-user campaigns against relatively small companies who are merely using off-the-shelf technology in a manner that it was intended by the manufacturer. Compounding this issue, a number of these patents (including the ones mentioned in the *Ars Technica* article) are of questionable validity.

If we focus here on the hardship caused to small and medium sized businesses, I should first note that the two solutions noted above (insurance and standardized indemnification) could go a long way toward protecting these interests.

I also would support an expanded fair-use doctrine of patent infringement that would permit small-scale and non-commercial use of another's patented invention without fear of being charged as an

infringer. Such a doctrine would have very little negative impact on patent valuation, but could go a long way in relieving fears associated with being accused of patent infringement.

Bentivolio Question: *6. Do you believe the lifetime of a patent, the same across all types of utility patents, is reasonable in its duration for all types of inventions?*

Crouch Response: The primary policy goal behind patent rights is to encourage innovation. The offer of potential exclusive rights provides an incentive to research and develop new technologies and new solutions to contemporary problems. Rather than granting rights in perpetuity, the drafters of the US Constitution determined that those rights should be of limited terms. To the extent a patent carries monopoly power, that power will only be temporary, and, following a patent's expiration, the ideas behind the invention will be fully available for free public use. In general, a longer patent term is thought to be more valuable to a patentee and thus provide a stronger incentive for research while a shorter patent term reduces the negative monopoly impact and give the public earlier access to the invention.

The "optimal" patent term has been the subject of substantial economic research and the most agree-upon conclusion is that the patent term should be just long enough to provide the necessary incentive to innovate. In a world of perfect information and bureaucratic efficiency, the term could be adjusted on an invention-by-invention basis where we determine the term necessary for the patentee to recoup its investments in research and development along with an appropriate rate of return. That approach is a fools-dream.

A more practical approach could be to divide patent term according to the market area or area of technology. Areas that require more incentive (typically larger investment over a larger period of time) could be given longer patent terms while areas that require less incentive would be given less patent term. Other levers could be used, such as increasing/decreasing the patent damages award for particular areas of technology or increasing/decreasing the requirement of proving obviousness for those areas of technology.

I have developed a tentative stance against dividing the patent system by areas of technology. My position is largely based upon issues of political economy, tradition, and reflection on the Copyright Act. In particular, the current system where all patent rights (regardless of technology) are given the same level of respect requires a substantial amount of cross-industry agreement before any change will be made. Lobbying by one industry (such as the branded pharmaceutical industry) is countered by lobbying by another industry (such as the high-tech and software industry). If the definition of rights were defined by-industry I fear that we would see a great increase in lobbying power by those industries in ways that protect industry incumbents but that tend to exclude new entrants.

Although something of an aside, the structure patent examination and patent term help to direct research toward particular types of inventions. In particular, the patent examination process typically takes about three years and the patent is not enforceable until it issues. Subsequently, the patent will be in force four about

seventeen years. Thus, valuable inventions are those that will see market value during that seventeen year period beginning three years from the patent application date. New patents are thus something corporations consider as part of their five and ten year strategic plans rather than offering profits for the immediate year. In my view, that delayed value is useful because it rewards longer term planning and strategy that, in turn, hopefully leads to increased stability and more lasting economic security.

Bentivolio Question: *7. If two companies independently invent the same thing within a reasonable period, doesn't that suggest the invention is really neither's to exclude from the other? Does innovation and invention mean the same thing?*

Crouch Response: Yes, I agree that near-simultaneous invention is one indication that an invention was obvious. However, such an occurrence is not conclusive proof because innovation races occur regularly where multiple companies (or countries) are each racing to be the first to reach the same hard target.

Invention and innovation are related but not the same. I use invention as a term of art in patent law and innovation more loosely as an advance that may or may not be patentable.

Bentivolio Question: *8. How would you devise some standards for the patent office to reject issuing patents for gadgetry?*

Crouch Response: The three primary standards for issuing patents on gadgetry are (1) that the invention represents a substantial advance in technology (nonobviousness); (2) that the invention is fully described in the patent application so that others can read and understand the invention (enablement); and (3) that the patent claims are written in a way that informs the public of the patent's scope (definite claims). These standards are all in place and the USPTO has policies in place so that these standards are considered by the patent examiner for each and every patent prior to issuance. I have studied the patenting process extensively and have found that the USPTO initially rejects the vast majority of patent applications (80% +) based upon one of these three standards. Following that initial rejection, most patent applicants are able to amend their patent to better fit within the statutory guidelines. Some applicants are successful in this argument, but more than 100,000 patent applications are abandoned each year based upon their failure (in the eyes of the USPTO) to meet the requisite standards.

Bentivolio ?Question: *9. How do we return the patent office to its constitutional role of protecting real ingenuity, by stopping the issue of frivolous patents?*

Crouch Response: To be clear, the USPTO makes many mistakes and issues thousands of patents each year that do not meet the appropriate standards discussed above. The agency needs to do a better job. Although there are some litigation abuses in the system, I continue to see the greatest problems with the patent system as derived from poorly issued patents. In truth, the Patent Office has struggled with this issue for its entire history—ever since Thomas Jefferson took on the role as the original patent examiner. We should not expect to find a single all-powerful solution that

stops the issuance of frivolous patents but instead we should expect a daily struggle to maintain the highest standards and rigor. The following is a concise and abridged list of several ways that Congress can move this forward:

1. Over the past decade, Congress has been quite lax at exerting detailed oversight over the USPTO and its patent examination process. Former USPTO Director David Kappos had a strong working relationship with Congress. However, it has been more than one year since Director Kappos left the position in January 2013. As we stand now, the USPTO has been without a Senate approved Director for more than one year, and has been without even an Acting Director for the past three months. At this point, direct Congressional oversight may be the best way to push the Administration toward getting the agency quickly back on track.

2. One of the most effective ways to improve the patent examination quality may be to Ensure that the USPTO receives funding necessary to hire, train, retain, and retrain excellent patent examiners who are both skilled in the appropriate areas of technology and also committed to the valuable filtering role of the Agency.

3. In addition to personnel, proper examination also requires quality infrastructure so that examiners can quickly and accurately identify the best potential prior art and link that prior art to the patentee's claim language. As with personnel, that infrastructure requires necessary funding.

Thank you.





Statement of the

National Retail Federation

and

Shop.org

submitted to the

United States House of Representatives
Committee on Small Business

for its hearing on

"Patent Reform Implementation and New Challenges for Small Businesses"

held on

Wednesday, May 15, 2013

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Chairman Graves, Ranking Member Velázquez and members of the House Small Business Committee, on behalf of the National Retail Federation (NRF) and its division Shop.org, I appreciate the opportunity to submit this written statement to the Committee in connection with its hearing entitled "Patent Reform Implementation and New Challenges for Small Businesses" held on May 15, 2013.

As the world's largest retail trade association and the voice of retail worldwide, NRF represents retailers of all types and sizes, including chain restaurants and industry partners, from the United States and more than 45 countries abroad. Retailers operate more than 3.6 million U.S. establishments that support one in four U.S. jobs—42 million working Americans. Founded in 1996, Shop.org's 600 members include the 10 largest outline retailers in the U.S. and more than 60 percent of the *Internet Retailer* Top 100 E-Retailers. Contributing $2.5 trillion to annual GDP, retail is a daily barometer for the nation's economy. Retailers create opportunities for life-long careers, strengthen communities at home and abroad, and play a leading role in driving innovation. Learn more at www.nrf.com.

Comments

Members of the National Retail Federation appreciate the attention the Committee is paying to the issue of patent reform and the changing landscape of patent law and its effect on small businesses.

In recent years, over 200 retailers, including independent retailers and small businesses, have contacted NRF about patent trolls' demands and litigation because they have been, or are currently, the target of patent trolls' abusive practices. The threat typically comes from firms whose business model is buying obscure patents which are about to expire and then either licensing the patents to retailers through the threat of litigation or filing lawsuits in an effort to force a settlement. Often retailers will choose to pay the licensing fee because patent litigation is prohibitively expensive.

Many retailers are using capital resources to settle with or fight patent trolls' infringement claims that they would otherwise use to invest in their businesses, including jobs, innovation and refurbishment of their stores. Retail, at its core, is a highly competitive industry, and many retailers are using innovative technology creatively to expand and grow their businesses. Patent trolls, who are not investing in technological innovation, providing jobs or engaging in communities, employ tactics that cut at the heart of this growth and ingenuity.

Patent trolls sued more non-tech companies than tech companies in 2012.[1] Patent trolls employ a strategy that focuses on end-users such as retailers because end-users are more numerous. One manufacturer or vendor may supply a product or service to thousands of retail end-users. Thus, there are many more entities from which to

[1] Colleen Chien, "Patent Trolls by the Numbers," Patently-O, March 14, 2013. http://www.patentlyo.com/patent/2013/03/chien-patent-trolls.html

demand a royalty. The end-user retailers are also easy prey because they lack the legal resources and in-house expertise to fight complex patent infringement claims. Compared to high tech companies, retailers typically operate on thin profit margins. Patent trolls, knowing that retailers lack technical expertise, retail stores operate on thin margins, and patent litigation is exorbitantly expensive, will often price a settlement demand (which may reach as high as millions of dollars) below the cost of litigating, effectively blackmailing a retailer into settlement. This is an abuse of the system.

Patent trolls assert infringement claims covering the use of technology in all areas of e-commerce and mobile retailing because in addition to targeting specific software innovation, their claims are based on broad concepts and a general way of doing something. This approach is especially damaging to retailers, who are embracing new technology and groundbreaking innovation to better serve their customers.

For example, MacroSolve, Inc. has filed numerous suits related to violating U.S. Patent No. 7,822,816, which is a method patent covering the process that many businesses have used to develop their mobile apps. It has sued technology companies, service providers and end-users, including retailers. Over half of the defendants have settled, but the settlement details have not been publicly released. MacroSolve claims their patent covers thousands of apps as well as those yet to be developed.[2] This is of great concern to the retail community, which increasingly relies on mobile apps as part of their omnichannel presence in the marketplace.

Trolls' claims not only affect e-commerce applications but also affect the operations of traditional "brick and mortar" retail stores. Some examples of the latter are claims that purport to cover the printing of receipts at cash registers, the sale of gift cards, and the connection of any product such as a computer or printer to an Ethernet network.

These cases rarely go to trial because the damages claims are so exorbitant, and the prospect of relief through litigation so time-consuming, that retailers make a business decision to settle, rather than litigate. It has been reported that trolls lose 92 percent of cases that do go to trial, but, as noted, it is infrequent that a defendant has the fortitude and resources to litigate. Small businesses in the retail sector may find themselves particularly ill-equipped legally or financially to defend themselves from abusive claims, and dealing with these claims certainly inhibits their ability to innovate and grow.

The excessive costs associated with seeing a court case through to final adjudication are startling for retailers, especially small businesses. We have heard from our members that some spend as much as one million dollars or more annually on patent troll-related litigation and other expenses. For smaller-sized retailers, these costs could put them out of business, and at the very least

[2] Robert Evatt, "MacroSolve adds Wal-mart to list of patent lawsuits," Tulsa World, February 8, 2012. http://www.tulsaworld.com/site/printerfriendlystory.aspx?articleid=20120208_52_E1_Jsasat255194&PrintComments=1

these expenditures and the employee hours diverted to fighting patent trolls are precious capital resources that they would rather reinvest in their businesses.

The recent case of *Soverain v. Newegg* demonstrates that many costly steps involved in litigating a patent case and the enormous economic impact that just one patent troll can wreak on an industry. Beginning in 2004 and continuing up through 2012, Soverain has filed numerous suits against dozens of retailers alleging that the basic check-out technology used by nearly all websites infringe its patents [3]. One large retailer is reported to have settled the first suit for $40 million because of the fear of jury verdicts in that era in the Eastern District of Texas. Numerous other settlement amounts are unreported, but in a subsequent suit, an Eastern District of Texas jury awarded damages of almost $18 million against two other national brands.

In 2007 Soverain sued Newegg, which decided to fight back. The case went to trail three years later in April of 2010 and resulted in a judgment of $2.5 million against Newegg. But Newegg decided to appeal to the Federal Circuit, and on January 14, 2013, more than five years after the suit against it was first instituted, it obtained a judgment in its favor, reversing the lower court judgment and declaring the patents invalid due to obviousness. Although Newegg has won, it took more than five years and millions of dollars in attorneys' and legal fees. And the saga is not over yet because Soverain still has pending before the Federal Circuit a petition for re-hearing of the case *en banc* by the full court, as opposed to the panel of three judges that rendered the most recent decision.

The Newegg case is just one example of the broad infringement claims trolls are asserting against retailers. There are over one million software patents in the United States. Many software patents contain broad concepts dealing with Internet functionality and have extraordinarily vague claims.

NRF is engaged in discussions with Members of Congress to address the abusive litigation practices patent trolls utilize. Retailers support the Saving High Tech Inventors from Egregious Legal Disputes (SHIELD) Act. By requiring the patent troll to pay the defendant's attorneys fees and costs, the SHIELD Act would help deter frivolous litigation.

The America Invents Act (AIA), which the President signed into law in September 20122, established a Patent and Trademark Reserve Fund. The United States Patent and Trademark Office (USPTO) is required to deposit all patent and trademark fees collected in excess of the annual appropriation amount into the fund. The provision also provides for authorization to spend all fees deposited in this fund in the USPTO's annual appropriations. The AIA also establishes a provision requiring patent fees to be used

[3] Joe Mullin, "How Newegg Crushed the "Shopping Cart" Patent Troll and Saved Online Retail" ArtsTechnica.com, January 27, 2013, http://arstechnica.com/tech-policy/2013/01/how-newegg-crushed-the-shopping-cart-patent-and-saved-online-retail/

only for patent operations, including a share of administrative expenses.[4]

Senator Schumer recently introduced the Patent Quality Improvement Act of 2013, which also aims to produce better quality business method patents. Retailers feel his is an important step, and coupled with further litigation reform will be helpful in alleviating this extraordinary problem.

Retailers are also considering a legislative proposal which would limit the scope of discovery requests in patent litigation to "core documents" to help drive down the excessive costs associated with patent trolls' current model of abusive and endless discovery requests. These abusive discovery requests are another expensive tactic used by trolls to drive up the costs of litigation in order to compel retailers into early settlements.

While these proposals are laudable, retailers are ultimately seeking a solution that provides immunity from patent trolls altogether. As we stated earlier, patent trolls target retailers and other end-users because they are numerous and are easy prey. But as end-users of the technology being disputed broadly and vaguely, they should not be the principal targets of these far-reaching lawsuits.

Conclusion

By papering retailers with broad and vague demand letters and filing an endless series of lawsuits against retail end-users alleging the same patent infringement claims alleged against manufacturers and service providers of a particular device or technology, patent trolls are able to cast a very wide net that hauls in a lucrative catch. They have proven that many of the companies they target will settle given the extraordinarily high demands they make and the costs those companies know it will take to fight even the most frivolous of alleged claims. Addressing this abusive and growing patent litigation problem will help release retailers from the controlling grip on their industry that patent trolls currently enjoy. Because the retail industry contributes $2.5 trillion to our nation's annual GDP, removing or even loosening this grip on retailers will allow innovation and growth to flourish, and undoubtedly benefit the overall U.S. economy.

NRF thanks the Committee for their examination of the impact of patent reform and is happy to work with Members of the Committee to find effective solutions against patent trolls' egregious behavior.

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[4] USPTO.gov