AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

S. HRG. 114–603

AN EXAMINATION OF CHANGES TO THE U.S. PATENT SYSTEM AND IMPACTS ON AMERICA'S SMALL BUSINESSES

HEARING

BEFORE THE

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

FEBRUARY 25, 2016

Printed for the Committee on Small Business and Entrepreneurship

Available via the World Wide Web: http://www.fdsys.gov

U.S. GOVERNMENT PUBLISHING OFFICE

24–387 PDF WASHINGTON : 2017

For sale by the Superintendent of Documents, U.S. Government Publishing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP

ONE HUNDRED FOURTEENTH CONGRESS

DAVID VITTER, Louisiana, *Chairman*
JEANNE SHAHEEN, New Hampshire, *Ranking Member*

JAMES E. RISCH, Idaho
MARCO RUBIO, Florida
RAND PAUL, Kentucky
TIM SCOTT, South Carolina
DEB FISCHER, Nebraska
CORY GARDNER, Colorado
JONI ERNST, Iowa
KELLY AYOTTE, New Hampshire
MICHAEL B. ENZI, Wyoming

MARIA CANTWELL, Washington
BENJAMIN L. CARDIN, Maryland
HEIDI HEITKAMP, North Dakota
EDWARD J. MARKEY, Massachusetts
CORY A. BOOKER, New Jersey
CHRISTOPHER A. COONS, Delaware
MAZIE K. HIRONO, Hawaii
GARY C. PETERS, Michigan

ZAK BAIG, *Republican Staff Director*
ROBERT DIZNOFF, *Democratic Staff Director*

C O N T E N T S

Opening Statements

	Page
Vitter, Hon. David, Chairman, and a U.S. Senator from Louisiana	1
Shaheen, Hon. Jeanne, a U.S. Senator from New Hampshire	3

Witnesses

Stoll, Robert, Former Commission of Patents, U.S. Patent and Trademark Office, Partner and Co-chair of the Intellectual Property Practice Group, Drinker Biddle & Reath, Washington, DC	7
O'Shaughnessy, Brian P., Chairman-elect, Licensing Executives Society (USA and Canada), Inc., Attorney At Law & Shareholder, RatnerPrestia, Washington, DC	13
Veloso, Neil, Executive Director, Technology Transfer, Johns Hopkins Technology Ventures, Baltimore, MD	25

Alphabetical Listing and Appendix Material Submitted

O'Shaughnessy, Brian P.	
Testimony	13
Prepared statement	15
Responses to Questions Submitted by Ranking Member Shaheen and Senator Enzi	52
Shaheen, Hon. Jeanne	
Testimony	3
Prepared statement	5
Stoll, Robert	
Testimony	7
Prepared statement	10
Responses to Questions Submitted by Ranking Member Shaheen	48
Veloso, Neil	
Testimony	25
Prepared statement	27
Vitter, Hon. David	
Opening statement	1

AN EXAMINATION OF CHANGES TO THE U.S. PATENT SYSTEM AND IMPACTS ON AMERICA'S SMALL BUSINESSES

THURSDAY, FEBRUARY 25, 2016

UNITED STATES SENATE,
COMMITTEE ON SMALL BUSINESS
AND ENTREPRENEURSHIP,
Washington, DC.

The Committee met, pursuant to notice, at 10:01 a.m., in Room 428A, Russell Senate Office Building, Hon. David Vitter, Chairman of the Committee, presiding.

Present: Senators Vitter, Risch, Fischer, Gardner, Ernst, Ayotte, Shaheen, Cantwell, Coons, Hirono, and Peters.

OPENING STATEMENT OF HON. DAVID VITTER, CHAIRMAN, AND A U.S. SENATOR FROM LOUISIANA

Chairman VITTER. Good morning, everyone, and welcome, and thanks to our witnesses in particular for taking the time to be here today for this important topic. We look forward to your testimony.

Our conversation today will focus on whether the patent litigation abuse problem demands a major rewrite of our patent laws or if the changes taking place are having the desired effects, specifically with regard to small businesses. The closer the issue is examined, the more it becomes apparent to me that small business, entrepreneurs, and universities are at the heart of innovation in this country and protecting them with a strong patent system certainly is important, including to this Small Business Committee.

The U.S. patent system is really unique and it fuels our economy. On the whole, it is far more prosperous and successful than those of other countries. And small businesses provide 55 percent of all jobs and 66 percent of all net new jobs since the 1970s. They also hold 16.5 times more patents per employee than large firms. In the last 20 years, U.S. university licensing activity has specifically contributed $181 billion to the U.S. GDP, and so all those numbers speak for themselves.

Now, unfortunately, the rise of so-called patent trolls, who acquire a patent solely for the purpose of making money through royalty demands or lawsuits, have had a detrimental effect on businesses, innovators, and universities alike. So, reform there is needed. However, before Congress jumps to overhaul the entire system, the extent and scope of necessary reform, I think, really needs to be clarified.

So, today, we are here to revisit the question, how do we address patent reform while protecting innovation and not impose negative consequences on small businesses and entrepreneurs.

The first step is to examine exactly how recent changes, court decisions, and other judicial conference changes have impacted the situation, including our small businesses and universities. Since Congress has last thoroughly considered these issues and drafted legislation to address patent law, there have been several major judicial and administrative developments. As a result, patent lawsuit filings have already dropped dramatically, 40 percent, from September 2013 to 2014. But, that is still not good enough. Frivolous litigation is never a good thing and these patent trolls need to be stopped. The very threat of litigation from abusive patent trolls diverts resources away from legitimate business activity.

The second step in addressing the faults in our current patent is to take a look at the potential impacts of current proposed changes. As Chair of this committee, I made it a priority to open the lines of communication with small businesses and universities to find out what specifically they need in terms of reform so they can stop worrying about potential litigation or changing rules and get back to innovative.

When I first took over this committee, one of my top priorities was to ensure that small business voices would be heard in Congress, including on patent reform. That is why in March of last year, I held the first Small Business Committee hearing on patent reform, the first since 1961, when, actually, one of my predecessors in this seat from Louisiana, Senator Russell Long, held a hearing on a related topic on patent issues. At the hearing I called last year, 54 years since that previous one, we heard from advocates of both sides of the issues regarding specifics of legislation, and it was clearly established that a balanced approach is the only solution that would sustain and support America's innovative culture.

In the 11 months since that hearing, a considerable number of changes have gone into effect and even more have been proposed that would change the way small businesses engage in the patent system. This committee has heard from folks across the country who are being forced to divert critical resources to defend themselves against vague claims of patent infringement, and many of them go bankrupt in the process. These patent trolls are creating a substantial drain on the core of our economy, and this specific problem requires a specific solution, including one that is delicate enough to avoid disrupting the system as a whole.

Now, unfortunately, when dealing with bad actors, there is rarely a one-shot solution. That is why it is not surprising to see folks who support a comprehensive approach attempt to inflate the perceived notion of litigation abuse by including innocent, well-intended business lawsuits with those of trolls. It is essential to remember that many legitimate owners of intellectual property do not manufacture anything, but nonetheless have legitimate claims of patent infringement against other parties. A comprehensive overhaul of our patent system would fail our innovators and allow large companies to strong-arm smaller organizations, ultimately leading to a less prosperous and successful system.

It is no secret that the ever-changing federal rule book is one of the greatest obstacles for business growth and innovation. Since the passage of the America Invents Act, several reports have come out saying that the onslaught of ongoing changes is making it more difficult for small businesses to protect their patents. We have also witnessed increasing abuse of new mechanisms that were aimed to aid in the fight against the so-called trolls. There is evidence that certain hedge fund managers are intentionally shorting stocks and then challenging a company's patent at the Patent Trial and Appeal Board.

Since our last meeting on this issue, new reports have shown how the value of patents has dropped at a staggering rate in the past four years, with some reports showing a decrease by as much as 80 percent. The key, I think, is to strike a balance between combating frivolous lawsuit claims from trolls and maintaining a level playing field between small business inventors and large companies.

In an effort to support a targeted approach that takes into account the ongoing changes to the patent system and patent troll lawsuits, I have cosponsored Senator Coons' legislation, the Strong Patents Act of 2015, which also has the support of our fellow committee member Senator Hirono as well as Senators Cotton and Durbin.

Patent reform is a key issue this year and I certainly look forward to continuing to fight overly broad efforts to fix the system and to discussing and developing effective balanced solutions.

Thanks again for being here, and now I will turn to our Ranking Member, Senator Shaheen.

OPENING STATEMENT OF HON. JEANNE SHAHEEN, RANKING MEMBER, AND A U.S. SENATOR FROM NEW HAMPSHIRE

Senator SHAHEEN. Well, thank you very much, Mr. Chairman, and thank you to all of our witnesses who are here today.

As I think we would all agree, small businesses really are the drivers of economic growth, especially when it comes to technological innovation that keeps this country competitive. And small firms employ nearly 40 percent of America's scientists and engineers and they produce nearly 16 times more patents than large businesses, which is really an astounding statistic. They also produce patents that are of higher quality and more than twice as likely to be cited in technical literature. So, I think we would all agree that America's entrepreneurs have a very big stake in our patent system.

Since the passage of the America Invents Act in 2011, efforts have been underway to reform procedures at the U.S. Patent and Trademark Office, and in today's hearing, we are going to examine legislative efforts to further reform the patent process. This process is ongoing and I am hopeful that we will be able to come to some consensus that will address concerns that we have heard from small businesses as well as abuses that affect small businesses while they are trying to protect their innovators.

I believe that—and I will make an editorial comment here—I believe that one of the best ways for us to support small business innovation is through reauthorizing and making permanent the SBIR

and STTR programs, and I very much appreciate the opportunity to work with Chairman Vitter on this issue and the fact that we have already had a hearing to look at reauthorization.

I am going to abbreviate my remarks this morning and submit my full statement for the record, but I want to close again by thanking each of our witnesses and apologizing for the fact that I am going to have to leave early to attend another hearing. So, thank you all very much.

[The prepared statement of Senator Shaheen follows:]

U.S. Senate Committee on Small Business and Entrepreneurship
Hearing, "An Examination of Changes to the U.S. Patent System and Impacts on America's Small Businesses"
Ranking Member Jeanne Shaheen
Opening Statement

Thank you, Chairman Vitter.

Small businesses are the drivers of economic growth, especially when it comes to technological innovation that will keep us competitive. Small firms employ nearly forty percent of America's scientists and engineers, and produce more nearly sixteen times more patents than large businesses.

And it is not only a matter of the quantity of innovations; small businesses produce patents that are of higher quality and are more than twice as likely to be cited in the technical literature. That's why America's entrepreneurs have a very big stake in a patent system that is efficient and effective, and that protects their inventions from the start-up phase right through to commercialization.

We all have a vested interest in a smoothly functioning patent system. Patents create incentives for innovation by assuring entrepreneurs that their investments in research are protected. Patents allow innovators to publicly disseminate new technology without fear of losing ownership and control. In other words, a sound patent system is at the heart of America's innovative small-business economy.

Since the passage of the America Invents Act in 2011, efforts have been underway to reform procedures at the U.S. Patent and Trademark Office (USPTO). In March of last year, this committee held a hearing to examine these reform efforts. We heard testimony on the patent application backlog, abuses of the patent system and efforts to develop new resources for inventors. I understand that such a massive reform effort takes time to implement, and I'm pleased to hear that the USPTO has significantly enhanced its resources for small inventors.

In today's hearing, we will examine legislative efforts to further reform the patent process. This reform process is ongoing, and I am hopeful that we can address concerns that we have heard about abuses that impact some small businesses while maintaining protections for innovators. Technological innovation fuels economic growth and job creation, both nationwide and certainly in my home state of New Hampshire. Properly used, patents protect and accelerate this process.

I believe that one of the best ways for this committee to support our small-business innovators is to reauthorize and make permanent the SBIR and STTR programs. I am grateful to Chairman Vitter for already holding a hearing on this issue, and I look forward to working with him.

I would like to thank the witnesses for attending today, and though I will have to leave this hearing early, look forward to their testimony.

Thank you, Mr. Chairman.

Chairman VITTER. Thank you, Senator.

And now, as we normally do, we would invite any other opening remarks for the record so we can go directly to our witnesses, and we should also have plenty of time for questions and comments after our witnesses' testimony. Let me introduce all of them and then we will hear from them in turn.

Robert Stoll is a partner at Drinker Biddle. He serves on the firm's patent team and is Co-Chair of the Intellectual Property Practice Group. He formerly served as the Commissioner for Patents at the U.S. Patent and Trademark Office, where he was instrumental in the passage of the America Invents Act and lauded for his efforts to reduce patent pendency and improve patent quality.

Brian O'Shaughnessy is an attorney and head of the Life Sciences Practice Group at the multinational intellectual property firm RatnerPrestia, P.C. He is a registered patent attorney with 30 years of experience in intellectual property law and represents clients in disputed matters in U.S. Federal Courts, the U.S. International Trade Commission, and in post-grant proceedings before the U.S. Patent and Trademark Office.

And Neil Veloso is the Executive Director of Technology Transfer for Johns Hopkins Technology Ventures, the commercialization arm of the university. He leads a team that works closely with researchers, physicians, and other inventors to evaluate and protect intellectual property developed at the university.

Welcome to you all. Thanks to you all for being here. And we will start with Mr. Stoll.

STATEMENT OF ROBERT L. STOLL, PARTNER AND CO-CHAIR, INTELLECTUAL PROPERTY GROUP, DRINKER BIDDLE AND REATH, WASHINGTON, DC, AND FORMER COMMISSIONER OF PATENTS, U.S. PATENT AND TRADEMARK OFFICE

Mr. STOLL. Chairman Vitter, Ranking Member Shaheen, and Members of the Committee on Small Business and Entrepreneurship, it is my great pleasure to testify before you today on issues related to our nation's patent system, which fuels America's innovative spirit and serves as a major driver of job creation and economic growth.

I am currently a partner and Co-Chair of the Intellectual Property Group at Drinker Biddle and Reath, having retired from my position as Commissioner for Patents at the United States Patent and Trademark Office in December of 2011. I spent 29 years at the U.S. PTO, rising from a patent examiner to head the office that handles U.S. legislation and international intellectual property issues for the administration before becoming Commissioner for Patents.

I share your passion for helping ensure that small and independent inventors can benefit from the fruits of their labor and their creative talents. Small businesses and independent inventors are critical to revolutionary advancement of American technology. They file over 20 percent of the applications at the U.S. PTO and their patents are more likely to encompass breakthrough inventions rather than incremental change, as they have the incentive

and the flexibility to take risks that might be unacceptable for larger established enterprises.

Small businesses and independent inventors are the incubators of novel ideas and the source of inventive products that they develop or which they license or sell to others. Many large successful companies throughout our history have started from meager beginnings. Hewlett-Packard began in a garage, where its first product, an audio oscillator, was built. That garage was used for many years as a research lab and is now a private museum known as the birthplace of Silicon Valley.

Patents are a critical tool for small businesses to elbow their way into the market. Anyone who has ever watched "Shark Tank" is aware that one of the first questions an investor asks is whether the inventor has patent protection. A well functioning patent system is of particular importance to the small businesses, which to succeed often need both venture capital and the means to protect an innovative market niche.

Mr. Chairman, I applaud your leadership in introducing with Senator Baldwin the Grace Period Restoration Act of 2015, a bipartisan bill to protect American inventors and university researchers. By restoring a more workable grace period, S. 926 will permit small inventors to obtain rights in the United States if they fill shortly after a disclosure, and if other countries model this, it can become part of our international system.

In both the Senate and the House, other work aimed at making the U.S. patent system fairer and more efficient for all stakeholders continues. Members of the House Judiciary Committee, led by Chairman Goodlatte and Ranking Member Conyers, have considered the Innovation Act and the Innovation Protection Act, a measure that would preserve the resources that the U.S. PTO needs to fulfill its mission.

At the same time, Chairman Grassley, Ranking Member Leahy, and other Members of the Senate Judiciary have been working on the bipartisan Patent Act. And Senator Coons has proposed changes to the post-grant procedures at the U.S. PTO in the STRONG Act.

In parallel to the legislative debate, the courts have considered cases raising some of the very same issues Congress is examining. Octane Fitness and Highmark were both handed down by the Supreme Court last year and loosened the "objectively baseless" standard to deal with harassing lawsuits to permit judges to award attorneys' fees more liberally if, in their judgment, the suit was frivolous. The Supreme Court is also poised to hear cases contemplated by other legislative proposals on the Hill. For example, *Cuozzo* addresses the standard of claim construction at the U.S. PTO and the reviewability of the institution of an inter partes review procedure. This case and other patent cases have recently been granted cert.

At the end of 2015, the courts instituted rules that require more detailed pleadings and the U.S. PTO has taken more quality initiatives to blunt the problems of having improvidently granted patents used to harass small businesses.

Other Supreme Court decisions are further shaping the patent landscape. Some have argued that the Court's decision impacting

subject matter eligibility in *Myriad*, *Mayo*, and *Alice* have presented challenges for lower courts and for patent holders. The Court intended these decisions to be narrowly construed, but we are currently seeing about 70 percent of the patent claims challenged under the subject matter eligibility statute invalidated, with even higher percentages invalidated in the U.S. PTO post-grant procedures.

The effects of these decisions as they are being applied by the lower courts are limiting the availability of patents in core technologies—areas of computer implemented programs, diagnostic methods, and personalized medicine—and thereby limiting the ability of innovators to provide value to customers, build their businesses, and grow. These cutting-edge fields are the very technologies in which the United States leads the world.

The Supreme Court will have several opportunities to clarify the impact of their decisions as more cases having real world impacts work their way through the system. It is important for America that we get this right.

As a result of the recent patent subject matter eligibility cases in the U.S., if a claim is drawn to a law of nature, a natural phenomenon, or an abstract idea, it is not patentable subject matter if elements of the claim do not, quote, "add substantially more." In Europe, the claims must have a technical character. And in China, claims must have a technical feature distinctive from the prior arts. So, these countries have broader subject matter eligibilities than we currently do.

As changes occur through the courts and the administration action, we can now take time to study the development of case law and rules and analyze how they are affecting the system. Much work has already gone into exploring legislative solution and the Members of the Senate and House are to be commended for their efforts. Hearings like this one provide the opportunity to collect more information and will lead to legislation that will further improve the patent system and lead to more job creation and economic growth.

Thank you very much.

[The prepared statement of Mr. Stoll follows:]

Testimony of Robert L. Stoll
Partner, Drinker Biddle & Reath LLP
Former Commissioner of Patents at the USPTO

Before the
Senate Committee on Small Business & Entrepreneurship
"An Examination of Changes to the U.S. Patent System and
Impacts on America's Small Businesses"
February 25, 2016

Chairman Vitter, Ranking Member Shaheen, and members of the Committee on Small Business and Entrepreneurship, it is my great pleasure to testify before you today on issues related to our nation's patent system, which fuels America's innovative spirit and serves as a major driver of job creation and economic growth.

I am currently a partner and co-chair of the Intellectual Property Group at Drinker Biddle and Reath, having retired from my position as Commissioner for Patents at the United States Patent and Trademark Office (USPTO) in December 2011. I spent 29 years at the USPTO rising from a patent examiner to head the office that handles US legislative and international intellectual property issues for the Administration before becoming Commissioner for Patents.

I share your passion for helping ensure that small and independent inventors can benefit from the fruits of their labor and their creative talents.

Small businesses and independent inventors are critical to revolutionary advancement of American technology. They file over 20% of the applications at the USPTO, and their patents are more likely to encompass breakthrough inventions, rather than incremental change, as they have the incentive and the flexibility to take risks that might be unacceptable for larger, established enterprises. Small businesses and independent inventors are the incubators of novel ideas and the source of inventive products that they develop or which they license or sell to others. Many large successful companies throughout our history have started from meager beginnings. Hewlett-Packard began in a garage where its first product, an audio oscillator, was built. That garage was used for many years as a research lab and is now a private museum known as "the birthplace of Silicon Valley".

Patents are a critical tool for small businesses to elbow their way into the market. Anyone who has ever watched "Shark Tank" is aware that one of the first questions an investor asks is whether the inventor has patent protection. A well- functioning patent system is of particular importance to small businesses, which to succeed often need both venture capital and the means to protect an innovative market niche.

Mr. Chairman, I applaud your leadership in introducing with Senator Baldwin, the Grace Period Restoration Act of 2015 (S. 926), a bipartisan bill to protect American inventors and university researchers. By restoring a more workable grace period, S. 926 will permit small inventors to

obtain rights in the United States if they file shortly after a disclosure; and if other countries model this, it can become part of our international system. The ability to get claims that are obvious variants to the original disclosure will permit more collaboration and early publication that are important to the university community and prevent an inventor's disclosure from being used as a reference against her patent claims if the application is filed within one year of the disclosure.

In both the Senate and House, other work aimed at making the US patent system fairer and more efficient for all stakeholders continues. Members of the House Judiciary Committee, led by Chairman Goodlatte and Ranking Member Conyers, have considered the Innovation Act (HR 9) and the Innovation Protection Act (HR 1832), a measure that would preserve the resources the USPTO needs to fulfill its mission. At the same time, Chairman Grassley, Ranking Member Leahy and other members of the Senate Judiciary Committee have been working on the bipartisan PATENT Act (S 1137). And Senator Coons has proposed changes to the post grant procedures at the USPTO in the STRONG Patents Act (S 632).

In parallel to the legislative debate, the courts have considered cases raising some of the very same issues Congress is examining. Octane Fitness v. Icon Health and Highmark, Inc. v. Allcare were both handed down by the Supreme Court last year and loosened the "objectively baseless" standard to deal with harassing lawsuits to permit judges to award attorney's fees more liberally, if, in their judgment, the suit was frivolous.

The Supreme Court is also poised to hear cases contemplated by other legislative proposals on the Hill. Halo Electronics, Inc. v Pulse Electronics, as well as Stryker Corporation, et al v. Zimmer, Inc ., both deal with the issue of enhanced damages, and Cuozzo Speed Technologies, LLC v. Michelle K. Lee addresses the standard of claim construction at the USPTO and the reviewability of the institution of an Inter Partes Review procedure. All three of these cases have recently been granted cert.

At the end of 2015, the courts instituted rules that require more detail in pleadings, and the USPTO has undertaken more quality initiatives to blunt the problems of having improvidently granted patents used to harass small businesses.

Other recent Supreme Court decisions are further shaping the patent landscape. Some have argued that the Court's decisions impacting subject matter eligibility in Association for Molecular Pathology v. Myriad Genetics, Mayo Collaborative Services v. Prometheus Labs and Alice Corp. v. CLS Bank International have presented challenges for lower courts and for patent holders. The Court intended these decisions to be narrowly construed. But we are currently seeing about 70% of patent claims challenged under the subject matter eligibility statute invalidated with even higher percentages invalidated in the USPTO post grant procedures. The effects of these decisions as they are being applied by the lower courts are limiting the availability of patents in core technologies -- areas of computer implemented programs, diagnostic methods and personalized medicine – and thereby limiting the ability of innovators to provide value to consumers, build their businesses, and grow. These cutting edge fields are the very technologies in which the United States leads the world. The Supreme Court will have

several opportunities to clarify the impact of their decisions as more cases having real world impacts work their way through the system. It is important for America that we get this right.

As a result of the recent patent subject matter eligibility cases in the US, if a claim is drawn to a law of nature, a natural phenomenon or an abstract idea, it is not patentable subject matter if elements of the claim do not add "substantially more". In Europe, claims must have "technical character" and in China claims must have a "technical feature distinctive from the prior arts". So these other countries have broader subject matter eligibility than we do!

While Congress has considered a range of legislative reforms, the other branches of government have also been moving forward with challenges confronting the patent system.

As changes occur through the courts and administrative action, we can now take time to study the development of case law and rules, and analyze how they are affecting the system. Much work has already gone into exploring legislative solutions, and Members of the Senate and House are to be commended for their efforts.

Hearings like this one provide the opportunity to collect more information and will lead to legislation that will further improve the patent system and lead to more job creation and economic growth.

Chairman VITTER. Thank you very much.

And now we will turn to Mr. O'Shaughnessy.

STATEMENT OF BRIAN P. O'SHAUGHNESSY, ATTORNEY AT LAW AND SHAREHOLDER, RATNERPRESTIA, WASHINGTON, DC, AND CHAIRMAN-ELECT, LICENSING EXECUTIVES SOCIETY (USA AND CANADA), INC.

Mr. O'SHAUGHNESSY. Thank you. Chairman Vitter, Ranking Member Shaheen, and committee Members, I am grateful for the opportunity to be here today and to offer these remarks.

My name is Brian O'Shaughnessy and I am Chairman-Elect of the Licensing Executives Society, USA and Canada. LES is a nonprofit, nonpartisan professional society devoted to bringing the fruits of innovation to market. The Society recognizes the important role that effective intellectual property regimes play in growing economies and improving the human condition. We applaud the important work of this committee in the IP arena.

I have been practicing intellectual property law as a registered patent attorney for 30 years. I am here today to discuss the profound effects of recent changes on our patent system, particularly on small business.

Our patent system is the great equalizer. Properly balanced, it enables the nimble innovator, regardless of size or resources, to disrupt markets and bring forth new ideas and products, and we the public benefit both from the disclosure of those ideas and the products they produce.

Patent rights are, first and foremost, property rights. Those who would deprive inventors of their property right derogate principles upon which this country was built. The spirit of invention is intrinsically American and is seen in how we reward it. The patent system safeguards the labor and the investment of the industrious.

The patent right plays a vital role in specialization. By turning inventions into tradable assets, inventors are free to do what they do best. They can license their invention to others for manufacturing and distribution and they can go back to the lab and do more inventing.

Today, however, innovators face many challenges. With the global economic downturn, the birthrate of U.S. start-ups is below the death rate for the first time in 40 years. Economic uncertainty is especially harmful to small businesses. But, economic cycles, admittedly, are beyond our control. So, we must address those challenges that are not.

The America Invents Act, though well intentioned, has been catastrophic for entrepreneurial innovators. The AIA is eroding confidence in patents and reducing their commercial value. Accused infringers are turning to new procedures at the PTO which are invalidating patents at an alarming rate. These proceedings offer an enormous advantage for the market-dominant player. It gets the PTO to reopen prosecution of a patent and then it plays out the clock with serial proceedings, both in the PTO and then back in the courts, to bleed the patentee dry. The little guy does not stand a chance.

With the AIA, patent enforcement is down and patent valuations are near 20-year lows. As a result, investment in technology-ori-

ented businesses, both new and old, is down. Equally of concern, businesses of all sizes are turning to trade secret protection. This deprives the public of the benefit of disclosure of inventions that comes with a patent and it drives innovation underground. If inventors do not file for patents, the common store of knowledge suffers.

As the knowledge-based economy grows in importance, we should be striving for increased, not decreased, reliance on the patent system. This can only be achieved by sustaining patents as a durable, meaningful, and transparent property right.

But now, pending legislation could strike a further blow to American innovation. Both S. 1137 and H.R. 9 purportedly address abusive practices in patent litigation. However, both impose burdens on patentees that do not exist for other property owners. Small businesses are especially dependent on their IP assets and, thus, are especially vulnerable to these burdens.

These bills are untimely and unnecessary. The problems exploited in patent litigation abuse have recently been addressed. Patent pleading requirements are now consistent with other civil cases and the scope of discovery has been restricted. Moreover, the Supreme Court has made it easier to get attorney fees for bad faith patent enforcement. As expected, the incidence of fee awards has increased and even the most pro-patent courts are granting substantial awards for bad faith patent enforcement and abusive litigation is on the decline.

Admittedly, even with these constructive improvements, abuses will remain. And, so, LES is spearheading a standards initiative, bringing together the IP community, licensors and licensees, as well as financiers, consultants, valuation experts, and any other interested parties to create an open and transparent system of standards of best practices and ethical behavior for IP transactions. Courts will now have an effective tool for assessing abusive behavior. LES believes that industry self-regulation is preferable to the blunt instrument of legislation.

I thank you for the opportunity to be here today and I look forward to your questions.

[The prepared statement of Mr. O'Shaughnessy follows:]

Testimony of Brian P. O'Shaughnessy
Chairman-Elect, Licensing Executives Society (USA and Canada), Inc.
Attorney & Shareholder, RatnerPrestia

Before the
Senate Committee on Small Business & Entrepreneurship
"An Examination of Changes to the U.S. Patent System and
Impacts on America's Small Businesses"
February 25, 2016

Chairman Vitter, Ranking Member Shaheen, and Committee Members, I am grateful for the opportunity to be here today, and to offer these remarks.

I. Background

I am the Chairman-Elect of the Licensing Executives Society (USA and Canada), Inc. (LES). LES is a non-profit, non-partisan professional society devoted to bringing the fruits of innovation rapidly to market for the benefit of the global community. Founded over 50 years ago, LES is a diverse community of over 3,000 business executives, lawyers, and consultants engaged in the orderly transfer of intellectual property rights in all industries, from life sciences to high technology, and from enterprises large and small, as well as academia and government labs. LES is engaged in education, identification of best practices, career development, and networking. The Society recognizes the important role that effective and reliable intellectual property protection regimes play in the growth of economies and improvements in the human condition. LES is a founding member society of the Licensing Executives Society International, Inc. (LESI), which has a worldwide membership of over 10,000 members in 32 regional societies in over 90 countries. Licensing today is a global enterprise.

I am a registered patent attorney, practicing intellectual property law for 30 years. I am a shareholder, and head of the Life Sciences Practice of the multinational intellectual property law firm RatnerPrestia, PC. The views expressed here are those of LES, and are not necessarily those of each of its members, nor do they represent the views of RatnerPrestia, or any of its clients.

II. Introduction

We are here today to discuss how recent changes to our intellectual property protection regime in general, and our patent system in particular, affect small business. The effects are profound. The work of this Committee could not be more important, nor this topic more timely. I thank you for addressing this issue. The U.S. small business community needs your help.

III. Our Patent System – Goals and Objectives

Our patent system is the great equalizer. It levels the playing field. Properly balanced, it enables the nimble innovator, regardless of size or resources, to disrupt entrenched markets and bring forth new ideas,

products, and services. And we, the public, are the beneficiaries. James Madison said of the patent and copyright clause of the Constitution[1] that the "utility of this power will scarcely be questioned," and that the public good fully coincides with the claims of individual authors and inventors.[2]

It is important to bear in mind that when we talk of the patent system, we are talking of a property right. The Framers were influenced by the philosopher John Locke, who held that title to property resides in those who labor to bring it forth; it does not derive of the "fancy or covetousness of the quarrelsome and contentious," who "ought not meddle with what was already improved by another's labor."[3]

Lately, our public discourse has been driven by the quarrelsome and contentious. Those who would derogate ancient principles of property upon which this country was built, and deprive inventors of their exclusive right. Here is where this Committee can do its best work. The aptitude and penchant for invention runs deep in the American spirit, and is reflected both in the manner and degree to which we reward it. This Committee fulfills a noble purpose, firmly aligned with both the public interest and the innovator: to safeguard the labor of the industrious, who struggle against odds to bring new ideas and products to market to improve the human condition.

The exclusive patent right plays a laudatory role in specialization. By making innovation a tradeable commodity, small innovators need not perform all steps necessary to bring an invention to market. They can license their invention, and go back to the lab with the funds needed for more research.[4]

In addition to allowing inventors to do what they do best—invent—patents are critical to the financial success of any startup. According to a study recently conducted for the USPTO by faculty members at Harvard and New York University business schools, a startup's first patent grant increases its likelihood of receiving venture capital funding by 2.3 percent—53 percent higher than a startup without a patent.[5] The authors found that this effect was strongest for startups that (1) had raised little capital before receiving a patent; (2) were founded by inexperienced entrepreneurs; (3) are located in areas where attracting investment is harder; and (4) operated in the IT sector.[6] Ultimately, patent "alleviate investors'

---

[1] U.S. Constitution, Article I, Section 8, clause 8: "The Congress shall have 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...."

[2] Madison, J., Federalist No. 43 (1788) ("The utility of this power will scarcely be questioned. The copy right of authors has been solemnly adjudged in Great Britain to be a right at common law. The right to useful inventions, seems with equal reason to belong to the inventors. The public good fully coincides in both cases with the claims of individuals.").

[3] Locke, J., The Works of John Locke, Book II (God gave the world to men in common; but since he gave it them for their benefit, and the greatest conveniences of life they were capable to draw from it, it cannot be supposed he meant it should always remain common and uncultivated. He gave it to the use of the industrious and rational, (and labour was to be his title to it;) not to the fancy or covetousness of the quarrelsome and contentious. He that had as good left for his improvement, as was already taken up, needed not complain, ought not to meddle with what was already improved by another's labour: if he did, it is plain he desired the benefit of another's pains, which he had no right to, and not the ground which God had given him in common with others to labour on, and whereof there was as good left, as that already possessed, and more than he knew what to do with, or his industry could reach to.").

[4] *See,* U.S. Federal Trade Commission, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy", October 2003, Chapter 2, p. 6 (footnotes omitted).

[5] *See* Farre-Mensa, J., Deepak Hedge, & Alexander Ljungqvist, *The Bright Side of Patents*, USPTO Office of the Chief Economist, Working Paper No. 2015-2 (Jan. 2016), at 3.

[6] *Id.*

concerns regarding a startup's ability to monetize its invention" and help them "signal their quality to investors"[7]—increasing their likelihood of success.

But despite the good work of this Committee, our innovators and entrepreneurs are under attack. The vagaries of economic cycles are beyond our control. But, we must remember that with economic uncertainty comes lower tolerance for risk, and reduced investment, which changes the calculus for the entrepreneur. Coincident with the global economic downturn, the death rate of U.S. start-ups surpassed the birth rate for the first time in 40 years. Uncertainty disproportionately harms small businesses and entrepreneurs. And because startups are responsible for over 20 percent of gross job creation in the United States[8] the implications are profound.

In addition, changes to the "prevailing corporate ethos" may have a profound effect on startups and entrepreneurs. Modern companies and financial institutions are increasingly seeking to maximize short-term shareholder value, rather than make long-term investments. The "financialization" of the economy disfavors long-term investments in research and development that result in greater innovations, albeit without the short-term payoff.[9] Patents provide an asset for investors to back, and a more reliable promise of return on investment.

IV. Institutional Challenges to a Reliable Patent Regime

What we can, and should, address are institutional challenges. Regrettably, our institutional approach to patents has only further challenged small business and diminished innovation. Those challenges come from changes to our patent law in the America Invents Act (AIA), and precedent that has compromised the exclusive nature of the patent right (*eBay*[10]), and rewritten the law of patent eligible subject matter (*Alice*[11] and *Mayo*[12]/*Myriad*[13]). Perhaps most significantly, pending legislation (S. 1137 and H.R. 9), if enacted, will further curtail the patentee's ability to enjoy the rights granted and to seek just reward for infringement. On top of all this is profound uncertainty as the US Patent and Trademark Office (PTO) struggles to keep up with these changes.

One recent study looked specifically at the effect of the *eBay* decision on the durability of the exclusive right. The authors looked at all patent cases filed in U.S. district courts 2000-2012, and in which injunctive relief was requested.[14] Despite the Supreme Court's explicit admonishment against an interpretation to find "expansive principles suggesting that injunctive relief could not issue in a broad swath of cases"[15], the authors found a dramatic decline in both requests for, and the grant of, injunctive

---

[7] *Id.* at 5.
[8] Elisabeth Jacobs, *What Do Trends in Economic Inequality Imply for Innovation and Entrepreneurship? A Framework for Future Research and Policy*, Washington Center for Equitable Growth (Feb. 2016), at 11.
[9] *Id.* at 21.
[10] *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).
[11] *Alice Corp. v. CLS Bank Int'l*, 134 S.Ct. 2347 (2014).
[12] *Mayo v. Prometheus Labs, Inc.*, 132 S.Ct. 1289 (2012).
[13] *Ass'n for Molecular Pathology v Myriad Genetics, Inc.*, 133 S.Ct. 2107 (2013).
[14] Gupta, Kirti and Kesan, Jay P., Studying the Impact of *eBay* on Injunctive Relief in Patent Cases (July 10, 2015). Available at SSRN: http://ssrn.com/abstract=2629399.
[15] *Id.* at 1 (citing Jones, Miranda, "Permanent Injunction, A Remedy by Any Other Name is Patently Not the Same: How *eBay v. MercExchange* Affects the Patent Right of Non-Practicing Entities." Geo. Mason L. Rev. 14 (2006): 1035.).

relief, particularly preliminary relief.[16] If the exclusive right conferred in those terms by the U.S. Constitution does not, in fact, afford one the right to exclude others, then what, exactly, is the right being granted?

The FTC acknowledges the importance of the right to exclude:

> Economists recognize that without patent protection, "innovators [that produce intellectual property] cannot appropriate the full benefits of their innovation; some of the benefits go to 'free riders' without payment." If innovators know that they cannot exclude imitators and appropriate the fruits of their R&D efforts, then they may lack sufficient incentives to undertake the innovation in the first place. The problem is especially acute when the original innovator's efforts entail substantial fixed costs, and the imitators can copy the innovation cheaply. Patent rights mitigate this problem by granting exclusive rights in innovations, enhancing appropriability. Economic theory suggests that by conferring such rights to exclude, the patent system increases incentives to innovate.[17]

The inability of any enterprise, especially a smaller enterprise, to reliably secure injunctive relief encourages the free-rider or, in the parlance of the standards essential world, "reverse hold-up", or "hold-out." That is, the accused infringer refuses to negotiate a license or a settlement, recognizing that the patentee's position is compromised relative to the infringer because an injunction is unlikely. This, in turn, has given rise to the phenomena of the "efficient infringer", *i.e.*, the unscrupulous copyist who gambles infringement on the bet that the patentee will get no more than a reasonable royalty, and no injunction. If left unchecked, this phenomena will lead our patent system toward a *de facto* compulsory licensing regime, and the Framers of the U.S. *Constitution* and John Locke will roll over in their graves.

V. Challenges to Innovation

Amidst these institutional challenges, a number of reports show cause for concern over a decline in basic research, R&D funding, business formation, and job creation in the US, generally.

A. Reductions in R&D

In sounding a warning over a decline in funding for basic research, the National Science Board found:

> **U.S. Basic Research: A Need for Serious National Attention**
>
> U.S. industry and the Federal Government are the primary pillars of financial support for the U.S. research and development (R&D) enterprise. The National Science Board (Board) observes with concern the indicators of stagnation, and even decline in some

[16] *Id.* at 12.

[17] U.S. Federal Trade Commission, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy", October 2003, Chap. 2, p. 4 (footnotes omitted); *see also, id.* at fn. 29 (noting remarks from panelists at hearings that: "in the raising of capital, the marginal importance of patent grows as the size of business declines"; that "smaller firms acquire patents to protect innovative technologies and 'hopefully put them on a somewhat level playing field with larger competitors'"; and "patents are important to small new firms without reliable internal cash flow").

> discipline areas, in support for U.S. R&D, and especially basic research, by these two essential patrons and participants. A decline in publications by industry authors in peer reviewed journals suggests a de-emphasis by U.S. industry on expanding the foundations of basic scientific knowledge. More specifically, research contributions by U.S. industry authors in the physical and biomedical sciences through publications in peer reviewed journals have decreased substantially over the last decade. In addition, in this century the industry share of support for basic research in universities and colleges, the primary performers of U.S. basic research, has also been declining. Likewise, Federal Government support for academic R&D began falling in 2005 for the first time in a quarter century, while Federal and industry support for their own basic research has stagnated over the last several years. These trends are especially alarming in light of the growing importance of knowledge-based industries in the global economy.
>
> The confluence of these indicators raises important questions about implications for the future of U.S. competitiveness in international markets and for the future existence of highly skilled jobs at home. The net economic and workforce effects on the Nation and on industry of these negative changes are complex, and the Board finds that requisite data for an adequate analysis of current conditions and future trends do not presently exist. Nevertheless, the Nation must be acutely aware of the current trends as future resource allocations for basic research are debated and decided in industry and by the Federal Government.[18]

Such reports identify trends, and the trends are not necessarily attributable solely to patent policy, nor are they conclusive as to the overall and long term effect on US R&D, innovation, or the small business and start-up ecosystem. But, the NSF highlights this decline in support for research (in both the private sector and in academia) as alarming, and in need of reversal. Other reports show that new business formation is in decline[19],, and R&D investment relative to GDP in the US is likewise in decline. This is coming at a time when foreign economies are quite deliberately strengthening, not weakening, their IP regimes.

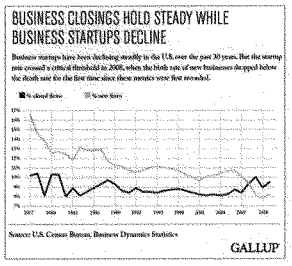
B. Declines in Start-Ups and Commercial Activity

At the same time, small business formation, growth, and survival is in crisis. According to the U.S. Census Bureau, the global economic downturn had a profound effect on the start-up economy in the U.S. Since the downturn, the death rate of small businesses has exceeded the birth rate.

---

[18] National Science Foundation, "Research and Development: Essential Foundation for U.S. Competitiveness in a Global Economy", Arlington, VA (NSB 08-03), January 2008 (citations omitted) (also at http://www.nsf.gov/statistics/nsb0803/start.htm?CFID=18888052&CFTOKEN=41708777&jsessionid=f03035a792d16dcba6df3621150b7c2113f2).

[19] *See* Jacobs, *supra* note 8, at 14; Decker, Ryan et al, *The Role of Entrepreneurship in US Job Creation and Economic Dynamism*, J. of Econ. Perspectives, vol. 28, No. 3 (Summer 2014): 3-24, at 15.



This Committee knows well the strong correlation between entrepreneurial activity and the health of the economy generally, and the innovation ecosystem in particular. The implications of this trend are thus self-evident and sobering.

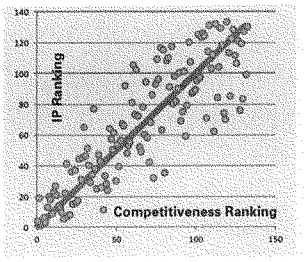
C. Income Inequality

Another challenge to the innovation economy today is income inequality. Children born in families in the top 1 percent of U.S. income are *ten times* more likely to obtain a patent at some point in their life than children born in families below the median.[20] This gap is almost entirely explained by educational disparities[21], but the implications are profound: by excluding lower-income children from our most high-quality universities, we risk cutting them out of the innovation process entirely. This is not just an appeal for general equality—it's an economic imperative. At a time when the United States' most valuable export is intellectual property—our knowledge and ideas—we cannot gamble our nation's leadership in global innovation on the accident of birth.

VI. Advanced Economies Are Dependent on Innovation and Entrepreneurial Activity

The World Economic Forum (WEF) notes that the strength of IP regimes is a reliable corollary of economic growth and competitiveness[22]:

[20] Jacobs, *supra* note 8, at 16.
[21] *Id.*
[22] World Economic Forum, Global Competitiveness Report (2009 – 2010).



The WEF paradigm involves assessing an economy for the 12 pillars of competitiveness:

> The determinants of competitiveness are many and complex. Economist have long tried to understand what determines the wealth of nations. This attempt has ranged from Adam Smith's focus on specialization and the division of labor to neoclassical economists' emphasis on investment in physical capital and infrastructure and, more recently, to interest in other mechanisms such as education and training, technological progress (whether created within the country or adopted from abroad), macroeconomic stability, good governance, the rule of law, transparent and well-functioning institutions, firm sophistication, demand conditions, market size, and many others. Each of these conjectures rests on solid theoretical foundations.[23]

A later version of that report, in noting the importance of institutions and reliable legal regimes, states:

> Ample empirical evidence has shown the importance of institutions for productivity, suggesting that their fundamental role consists in setting the right incentives and lowering uncertainty so that citizens can be confident in engaging in economic activities. Economic agents will invest only if they believe that they will reap expected benefits and returns on their work or investment without needing to spend excessive amounts of time and money protecting their property and monitoring the fulfillment of other's contractual obligations. This depends, informally, on adequate levels of trust in society; it also depends, formally, on the existence of institutions capable of ensuring a basic level of security and enforcing property rights. This in turn relies on the institutions' political set-up and power structure characterized by (1) the incidence of transparency, (2) efficiency of the public sector, and (3) the existence of checks and balances.
>
> Economic literature has documented the importance of enforceable property rights for the economy — that is, the right of control over an asset and the returns it may generate provides incentives to invest (in physical or human capital or technology), create, innovate, trade, and maintain. If physical or financial property cannot be acquired and

[23] WEF, Global Competitiveness Report (2009-2010), p. 4.

> sold with confidence that the authorities will endorse the transaction over the long run, economic growth will be undermined. An absence of property rights also drives people out of formal markets into the informal sector. De Soto suggests that no nation can have a strong market economy without adequate participation in a framework that enforces legal ownership of property and records economic activity, because they are the prerequisites to obtaining credit, selling properties, and seeking legal remedies to conflicts in court. Ensuring the protection of property rights is therefore a key role of the state.[24]

The FTC acknowledges the important and laudatory role the exclusive patent right plays in Adam Smith's specialization, and how it benefits our economy in facilitating commercialization of inventions:

> Rendering innovation a tradeable [*sic*]commodity also helps foster specialization. A small firm that has invented something need not do alone all the things necessary – from the advertising and warranties to sales and service – to bring the invention to market. Instead it can license or sell its invention to another firm, which can then do whatever tasks are needed to develop and market the invention. In these ways, the patent system facilitates the commercialization of inventions.[25]

This is the lynchpin of the innovation ecosystem, and demonstrates the value of IP as a commodity and the importance of licensing. Through the orderly transfer of reliable intellectual property rights, we bring the efficiencies of market specialization to bear. Market segmentation and specialization enable enterprises most suited to their respective roles to share responsibilities to move innovative products and services from R&D, to manufacturing, to sales and distribution, and ultimately, to the end user in the market. Without that expedient, innovation will be diminished, and product development and commercialization delayed.

VII. Complications Wrought by the AIA

The AIA, though well-intentioned, has proven catastrophic for innovators and entrepreneurs. Infringers now have two bites at the apple, and a lawsuit is merely a prelude to a post-grant proceeding in the PTO. Indeed, 87% of post-grant proceedings at the Patent Trial and Appeal Board (PTAB) involve patents already in litigation.[26] The reasoning is simple, at the PTAB the challenger has a lower burden for invalidating a patent. Litigation is commonly stayed during PTAB proceedings, and, even if the challenger is unsuccessful before the PTAB, the court case will resume and the accused infringer has yet another opportunity to persuade the fact-finder that the patent is invalid.

---

[24] WEF Global Competitiveness Report (2015-2016), p. 45.

[25] U.S. Federal Trade Commission, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy", October 2003, Chap. 2, p. 6 (footnotes omitted); *see also* U.S. Dep't Justice and Federal Trade Commission, "Antitrust Enforcement and Intellectual Property Rights, Promoting Innovation and Competition", April 2007, p. 4 ("intellectual property licensing is generally procompetitive because it allows firms to combine intellectual property rights with other complementary factors of production such as manufacturing and production facilities and workforces."

[26] Vishnubhakat, Saurabh, Rai, Arti K., and Kesan, Jay P., Strategic Decision Making in Dual PTAB and District Court Proceedings (February 10, 2016). Berkeley Technology Law Journal, Forthcoming. Available at SSRN: http://ssrn.com/abstract=2731002.

The result is an enormous advantage for the well-entrenched or market-dominant player – it gets to re-open and participate in prosecution of the patent; and, it can play out the clock with serial proceedings, dramatically increasing the financial burden on the patentee. The little guy doesn't stand a chance.

The AIA has undermined confidence in the validity of patents, and calls into question their commercial value. The decline in commercial value is reflected in an overall decline in patent enforcement, and in valuations that are near a 20-year low.[27] Amid this uncertainty, businesses are increasingly turning to trade secrets. Holding an invention in secret deprives the public of the disclosure that is the *quid pro quo* for the patent grant. It drives innovation underground, and suggests a return to ancient guilds. Patent literature is often the best resource for leading edge technological information.[28] If inventors do not avail themselves of the patent system, disclosure declines, and the common store of knowledge suffers.

As the knowledge-based economy grows in importance, we should be striving for increased, not decreased, reliance on the patent system. This can only be achieved by sustaining a solid and reliable property right in exchange for disclosure.

VIII. The Dangers of Pending Legislation

Pending legislation has the potential to strike at the heart of American exceptionalism in innovation. Amidst all the uncertainty of the past seven years – economic, legal, and institutional – now comes legislation that would make it still more difficult for innovators to protect and preserve the intellectual property they brought into being. At a time when most other advanced economies are following our historic trend of strengthening patent regimes, we are reversing course and weakening our own.

This could not come at a worse time. We are still debating and interpreting the AIA; and we are deciphering precedent redefining patentable subject matter, and whether the exclusive right is, in fact, exclusive.

Now is not the time to increase confusion as to what rights the patent holder actually possesses. And it is certainly not the time to further compromise what is often the principal asset of the small business or entrepreneur.

Both S. 1137 and H.R. 9 are said to be structured to address sharp practices in patent litigation. However, both presume that patentees generally are acting in bad faith, and impose upon them burdens not found in the rightful enforcement of other property rights. Why prejudice inventors?

Those bills are now unnecessary. The supposed remedial measures they would enact have been implemented by other means. The Judicial Conference has brought the pleading requirements for patent cases in line with other civil causes of action; and has revised the Federal Rules of Civil Procedure to restrict the scope of discovery consistent with the stakes of the litigation. Recent Supreme Court precedent has substantially relaxed the standard under which judges may award attorney fees for bad faith

[27] PWC, 2015 Patent Litigation Study (May 2015) (valuations as measured by damages awards in litigation).
[28] U.S. Federal Trade Commission, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy", October 2003, Chap. 2, p. 6, fn. 45.

patent enforcement.[29] As expected, this has increased the incidence of fee awards, and even the most pro-patent courts have lately granted substantial attorney fee awards for bad faith patent enforcement.[30]

IX. The Promise of Industry Self-Regulation

Even amidst the salutary effects of shoring up pleading and discovery in patent cases, and greater judicial discretion in awarding fees, abuses will remain. Recognizing this, LES has instituted a standards initiative whereby those engaged in IP transactions will collectively establish best practices and standards of ethical behavior in licensing.[31] LES will establish these standards through an open and inclusive process consistent with the protocols of the American National Standards Institute (ANSI), and will be modeled on the widely followed International Standards Organization (ISO) body of standards. LES will draw upon the expertise of the entire innovation ecosystem to develop standards that work in all industries, for the fully integrated manufacturer and for those that pursue more specialized revenue models, for those engaged in finance and consulting, and anyone else interested in getting the fruits of innovation more rapidly, more efficiently, and more ethically to market.

The LES Standards Initiative will preserve the incentive to innovate, harness the creativity of small business, and ameliorate the effects of bad faith patent enforcement. As such, we believe that industry self-regulation will be a more efficient and focused approach than will the blunt instrument of still more patent legislation.

I thank you for this opportunity to appear here today, and to share these thoughts with you.

I would be happy to answer any questions the Committee or its members might have, now or in the future at boshaughnessy@ratnerprestia.com or at 202-808-7365.

---

[29] *Octane Fitness, LLC v. Icon Health & Fitness, Inc.*, 134 S. Ct. 1749 (2014), and *Highmark Inc. v. Allcare Health Management System, Inc.*, 134 S. Ct. 1744 (2014).

[30] *eDekka LLC v. 3Balls.com, Inc.* (E.D. TX, Dec. 17, 2015).

[31] WEF Global Competitiveness Report (2009-2010), p. 4 (recognizing the economic advantages of private sector transparency, and development of standards: "An economy is well served by businesses that are run honestly, where managers abide by strong ethical practices in their dealings with the government, other firms, and the public. Private-sector transparency is indispensable to business, and can be brought about through the use of standards as well as auditing and accounting practices that ensure access to information in a timely manner.").

Chairman VITTER. Thank you very much.

And now, we will turn to Mr. Veloso.

STATEMENT OF NEIL VELOSO, EXECUTIVE DIRECTOR, TECHNOLOGY TRANSFER, JOHNS HOPKINS TECHNOLOGY VENTURES, BALTIMORE, MD

Mr. VELOSO. Chairman Vitter, Ranking Member Shaheen, Members of the Senate committee, thank you for this opportunity to testify on this important topic.

My name is Neil Veloso. I am Executive Director of Johns Hopkins Technology Ventures and we are the technology transfer, business development, and new company formation arm of the university.

Ever since the passage of the Bayh-Dole Act in 1980, patenting and technology transfer has joined teaching and publication as another means by which knowledge at the university can be brought out to the public. Innovation, research, and discovery are the life blood of my institution, Johns Hopkins, and it is interwoven in the fabric of the university. This is manifested in the work of Johns Hopkins Technology Ventures. Last year, we have seen 500 invention disclosures from our faculty, students, and staff. We executed 171 license agreements with established companies, but also with new companies, as well.

As part of that, Tech Ventures started over 16 new start-up companies around Hopkins Technology, and this is in line with the effect that universities and their research have had in the formation of start-ups. In fiscal year 2014, there were 853 new start-up companies that were based on university technology.

Our commitment to technology transfer involves not only a focus on licensing, but also on the incubation, formation, and developments of start-up companies, as well. Recently, our start-up companies have had good response from the market. Within the past five years, Johns Hopkins start-up companies have raised over a quarter-billion dollars in follow-on financing.

For Johns Hopkins, its licensees and start-up companies, a well functioning, robust patent system is a key to our innovation ecosystem. As the university makes decisions on patenting, we need to balance the costs and time commitment involved in obtaining those patents and pursuing those applications versus spending those resources on new inventions that may come in.

In that respect, a patent system that is efficient and cost effective for patent seekers like Johns Hopkins makes our group, Technology Ventures, more efficient for our inventors, as well.

After that licensing transaction takes place, Johns Hopkins uses its patents to grant rights to its licensees. As I said, these can involve start-up companies. We grant them the right to make, have made, use, or sell products based around Hopkins technology. We grant them the ability to sub-license that technology to others. And, also, we grant them the ability to pursue infringers.

Now, in that light, the work of this committee as it examines changes to the patent system will have effects not only to the university, but to its start-up companies, as well.

From the viewpoint of a start-up company with a fixed budget, with a strict mandate, and with a very daunting task of taking

early stage technology out to the market, having an efficient patent system, something that can protect their rights and allow them to stay within their goals and within their budget, going and make them more successful.

In closing, I would say that an approach improving targeted legislation developed in the context of the changing landscape created by judicial and administrative actions can most effectively combat abusive patent practices and maintain the capacity of our vigorous patent system.

Thank you very much.

[The prepared statement of Mr. Veloso follows:]

STATEMENT OF

NEIL VELOSO

EXECUTIVE DIRECTOR, TECHNOLOGY TRANSFER

JOHNS HOPKINS TECHNOLOGY VENTURES

BEFORE THE UNITED STATES SENATE COMMITTEE ON

SMALL BUSINESS & ENTREPRENEURSHIP

HEARING ON:

"AN EXAMINATION OF CHANGES TO THE U.S. PATENT SYSTEM AND IMPACTS ON AMERICA'S SMALL BUSINESSES"

FEBRUARY 25, 2016

10:00 A.M.

428A RUSSELL SENATE OFFICE BUILDING

Statement of Neil Veloso
Johns Hopkins Technology Ventures

Chairman Vitter, Ranking Member Shaheen, and Members of the Senate Committee on Small Business and Entrepreneurship, thank you for this opportunity to testify on this important topic. I am Neil Veloso, Executive Director for Technology Transfer of Johns Hopkins Technology Ventures (JHTV). JHTV is the technology transfer, business development and start up formation arm of Johns Hopkins University (JHU). The views articulated here are mine and do not necessarily represent those of Johns Hopkins University.

America's academic institutions are the principal source of basic research that expands the frontiers of knowledge and produces discoveries that enhance our national security, strengthen our economy, improve health, and enrich the lives of our citizens. Each year since the late 1990s, universities have performed between 50% and 60% of U.S. basic research. In 2013, universities performed just over 51 percent of all basic research and almost 21 percent of applied research conducted in the United States.[1] Academic institutions are also the nation's leading centers for clinical and translational research, food and agricultural research, and cutting-edge engineering and computational science.

University research has greatly strengthened our nation's innovative capacity and economic competitiveness. More than half of U.S. economic growth since World War II has resulted directly from technological innovation, much of which stems from scientific, medical, and engineering research conducted at our universities.[2] Although the primary means by which university research results are disseminated is through training and peer-reviewed publications, conferences, consulting and other forms of open communication, our country increasingly benefits from university technology transfer. Technology transfer is the process by which fundamental discoveries are moved into the commercial sector for development into socially and economically beneficial products and processes.

University technology transfer's contributions to our nation were greatly enhanced by the passage of the Bayh-Dole Act in 1980, which allowed universities to retain the patent and licensing rights to inventions resulting from federally funded research. The enactment of that landmark legislation sparked a dramatic increase in university-to-industry technology transfer.

Federally funded university research has played a critical role in the development of the laser and its myriad applications, microprocessors, magnetic resonance imaging and later MRI applications, the CAT scan and PET/CT scanner, Doppler radar, GPS, bar codes,

---

[1] *See* http://www.nsf.gov/statistics/natlpatterns/.
[2] Robert Solow, *Technical Change and the Aggregate Production Function.* REVIEW OF ECONOMICS AND STATISTICS 39, no. 3 (1957): 312–20; *see also* Gordon Reikard, *Stimulating Economic Growth Through Technological Advance*, AMSTAT NEWS (Mar. 1, 2011), *available at* http://magazine.amstat.org/blog/2011/03/01/econgrowthmar11/.

web browsers, and hundreds of medicines and vaccines, to name just some of the most widely known examples.

Innovation, research and discovery are the lifeblood of my institution, Johns Hopkins University, and are interwoven in the fabric of the university. This is manifested in the work of Johns Hopkins Technology Ventures, which last year received over 500 invention disclosures, executed 171 license agreements and spun off 16 new startup companies around Johns Hopkins technology. For JHTV, patents are the primary currency in which we transact our business. Changes to the patent system have a very real impact on the university, its licensees and startup companies. As such, proposed changes to the patent system call for close analysis and balanced, fact-driven debate, particularly given that the evidentiary basis for sweeping patent reform has been called sharply into question.

The most recent survey by the Association of University Technology Managers (AUTM) shows that in 2014, U.S. universities executed nearly 6,200 licensing and options agreements with companies and were issued almost 5,900 U.S. patents. Thanks to these academia-industry partnerships, nearly 10,000 patented products that originated in academic research labs are now available to the public.

Research performed at U.S. universities in FY2014 led to the formation of 853 new start-up companies, doubling the number of university based start-ups created compared to 2005. Although these start-up companies provide economic benefits to the nation, they are especially important to the regions and states in which research universities are located; more than three-quarters of these new start-up companies had their primary place of business in the licensing institution's home state.

Johns Hopkins University's commitment to technology transfer and commercialization involves a focus not only on licensing of our discoveries to established companies but also on the incubation, formation and growth of startup companies, as well. The recent record of Johns Hopkins startups in attracting follow-on financing is impressive: in the past five years, JHU startups have raised over $250 million dollars in subsequent investment. This support leads to stronger companies, sustained development and, ultimately, the creation of products and services that benefit society.

For JHTV, its licensees, and startup companies, a well- functioning and robust patent system is the key to our innovation ecosystem. A continuing challenge is JHU's management of pending patent applications. The time and money JHU expends on patent prosecution represents a thoughtful, informed commitment to a particular technology that must be balanced with the potential for successful licensing and new inventions or discoveries that would also warrant patent prosecution and protection. A patent system that is efficient and cost effective for its patent seekers will make JHTV more effective and efficient for its inventors as well.

As a patent licensor, Johns Hopkins University grants certain rights to its licensees: this can include the ability to make, use or sell products based on our patented discoveries,

the ability to sublicense to others and the right to pursue infringers. For licensees – particularly startup licensees –receiving these rights includes, among other things, the obligation to cover the cost of patent prosecution and protection activities. So just as the university had to balance the costs of pursuing patent protection with its potential benefits, those licensees must balance the costs of acquiring patent rights in the first instance versus the ability of those patents to provide meaningful protection for their products.

Beyond the effort of prosecuting and obtaining patents, changes to the patent enforcement system will have serious consequences for both university licensors and licensees. Fee shifting and joinder proposals in particular merit close attention given their potential effects on both university licensors and licensees. Changes that would significantly increase the overall risks and costs of legitimate patent enforcement would directly affect universities, startup companies, licensees of university research, and all other patent holders. Entities without extensive litigation budgets, including nonprofit universities, startups, small companies, and individual inventors, would be ill-equipped to operate in such an environment. The cost/benefit choices that university licensors and its licensees already make around patent prosecution would extend to choices made around patent enforcement.

In the areas of patent prosecution and patent enforcement, any potential changes to the patent system will affect the fundamental role of university technology transfer offices and the licensees with whom it seeks to translate academic discoveries for the creation of products that benefit the public. Accordingly, these proposed changes must be examined closely and analytically with the public benefit foremost in mind. An approach involving carefully targeted legislation, developed in the context of the changing landscape created by judicial and administrative actions, can effectively combat abusive patent practices while maintaining the capacity of our vigorous patent system.

Chairman VITTER. Great. Thank you all very, very much for being here, for your testimony.

Now, we will open it up for questions. I will start and we will proceed to our other Members here.

Mr. Stoll, you mentioned near the beginning of your testimony the great classic American success story of Hewlett-Packard starting in a garage, which was obviously decades ago. Do you think that sort of birth of enormous technology and not only a company, but eventually a whole new sector of our economy, is harder or easier to happen today as compared to when it happened decades ago?

Mr. STOLL. I believe it is probably a little harder today than it was then, but I still think it is very possible. I think that you cannot bat down the entrepreneurial personality of the inventor. I think they will continue to invent. They will continue to try. I do think that it is harder for them to enforce their patents and to elbow their way into an already existing area. So, I think it is harder, but I still think it is something that we must advocate for, because it is the driver of job creation and economic growth in the United States. It is the next Facebook, the next Microsoft, the cure for cancer.

Chairman VITTER. Right.

Mr. STOLL. So, we must support them.

Chairman VITTER. Right. Well, I certainly agree with that, and I certainly agree with your confidence in the spirit of the inventor and the entrepreneur. Unfortunately, given a lot of factors, I think it is much harder these days, not just a little bit.

Do the other two witnesses have any gut reaction to that question?

Mr. O'SHAUGHNESSY. Yes, if I may. I tend to agree with you, Chairman. I think that the problems that exist today are multivariant. There are many different angles that are creating problems, not the least of which is global competition and, of course, the global economic downturn. So, as I commented, I think that we need to provide every opportunity that we can to the small developer, small innovator who needs every chance to get ahead. The system right now really is tilted toward the well entrenched. I think we need to reverse that. We need to give the small entrepreneur an opportunity to get ahead, and we can do that effectively with the right patent policy. But that is going to require some adjustment.

I think that the trade secrets protection bill is a very good bill. I think it is a good step in the right direction. It is an important part of any IP portfolio. But, it will not do everything that is needed.

Chairman VITTER. Okay. Mr. Veloso.

Mr. VELOSO. Yes. For the inventor at a university, doing work in a lab, who creates these discoveries for a university technology transfer office for a licensee at a start-up company, you know, patent litigation, patent enforcement is maybe down on the list in terms of their goals. Really, it is really prefaced on the idea of getting that technology out there from the lab to the marketplace. So, having an efficient system, removing roadblocks, these hurdles, I

think, can make it more efficient for that transfer of discovery to take place.

Chairman VITTER. And again, over time, now compared to decades ago, the Hewlett-Packard story, do you think it is easier or harder or the same to do that?

Mr. VELOSO. I think with things like IPRs, the rise of these patent trolls, it has become more difficult. However, given the increasing prominence, staffing, professionalism of university tech transfer offices, you know, awareness of this type of transaction, there are more mechanisms in place to ease that transfer of technology. But, definitely, the issues that are being raised here can stop that momentum.

Chairman VITTER. I guess what I am getting at is my perception of the long-term trend is a trend in favor over several decades of the big guys, a trend against the small start-up innovator, entrepreneur. Do you agree that that is the long-term trend we have seen in the last several decades or not?

Mr. O'SHAUGHNESSY. I would invite your attention to the Founding Fathers and their approach. When the U.S. patent system was first envisioned, it was unlike any other patent system in the world. It was deliberately structured to give the exclusive right to inventors, not to corporations, not to members at court. It was different from the British system. It was dedicated specifically to promoting the progress of the useful arts. The initial fee structure was very deliberately set at a very, very low rate, because the Founding Fathers understood that it was important for innovation to take hold and for America to become an important player on the world industrial stage. And they recognized that this could only be done by promoting the progress of the useful arts by promoting innovation.

And I think we have gotten away from that. The system as it exists today really does favor the well entrenched, the people who already have a market advantage. What we need to be doing is giving a market advantage to the young, nimble innovator who is just starting up, trying to get into the marketplace, trying to deal with situations where the economy is very tight, the investment opportunities are very limited. But if you do not have investment opportunities in today's world, you are just not going to succeed. You are not going to manage to get over the valley of death, as it is referred to.

And, so, the patent system is the only resource that they have to produce something that can be seen as a tradable asset, something that they can show to investors and say, I have something. And even if my company fails, I have got something that can be sold later on down the pike to somebody else. So, this asset will endure, even though my company fails. That has tremendous value to investors.

Chairman VITTER. Let me ask one more related question, then I will go to my colleagues. Considering this long-term trend, do each of you think passing something broad, very comprehensive, quote-unquote, "broad based," like the Patent Act, would reverse that trend or continue or accelerate it?

Mr. STOLL. I think it is just necessary in the climate that it be a large package, and that is because, first of all, we have got con-

stituency groups supporting different pieces of it and each of them wants something included in this package. I think we need to recognize that. And I also think that the provisions relate to each other. What we are trying to do is to create an operable system with less problems for the small and medium-sized inventor, so that we need to take a look at different aspects of the system and make sure they work harmoniously together to advocate for just those types of people.

For those two reasons, I do think a package is necessary, but I also think we need to look very carefully and very finely at the provisions to make sure we are not harming people that we are intending to hurt by unintended consequences.

Chairman VITTER. Well, let me be clear. I am not talking about any package. I am talking about the general model of patent——

Mr. STOLL. And I am talking the same, yeah, a large package.

Chairman VITTER. Mr. O'Shaughnessy and Mr. Veloso.

Mr. O'SHAUGHNESSY. I must respectfully disagree. I think that the STRONG Patents Act, for example, is the proper approach at this time. The changes that we have seen through the AIA have been enormous. We are still very much in the dark as to what the AIA is going to do to our patent system. We probably will not know that really well for at least five to ten years. To now implement an even further and equally broad approach of legislative change, I think, would be an enormous mistake.

What we should be doing right now is very, very carefully focused, tailored legislation that perturbs the system to only the most modest levels at this point in time, because investment requires certainty, requires predictability. And right now, we have, bless us, very little predictability in the patent system.

Chairman VITTER. Mr. Veloso.

Mr. VELOSO. I agree. Targeted legislation really done after close examination would be the best way to go. Speaking from the aperture of a university patent holder licensor, or from a small company or start-up licensee, a broad overhaul would have these unintended consequences that could adversely affect their ability to carry out their mission and do their business.

Chairman VITTER. Okay. Thank you.

Senator Hirono.

Senator HIRONO. Thank you very much, Mr. Chairman, and I thank the panelists for your testimony.

I was a member of the U.S. House when we were debating AIA and I had serious concerns then about the impact of AIA, particularly on small inventors, and I was one of the handful of House Members who voted against that bill.

I have continuing concerns about the changes that we are contemplating to patent law because I do think that, as Mr. Stoll has said, we have to get this right, and this is a very specialized area of the law. This is why we have lawyers who totally specialize on patent law. I do not happen to be one of them, but I certainly listen to the concerns that have been expressed, not only by the three of you as to what we are doing with patent legislation, but with many others. So, I share your concerns about getting this right.

Mr. Veloso, representing the university research community, one of the suggestions made as we were dealing with the patent bill

when I used to serve on the Judiciary Committee was, well, why do we not just carve out the university research community from having to live with some of the contemplated changes. Would you support the legislation if the university research community was left alone?

Mr. VELOSO. Senator, I am unfamiliar with that particular carve-out for universities. Certainly, as Johns Hopkins is one of the largest——

Senator HIRONO. Well, it was contemplated. You know, as we try to garner support for various pieces of legislation, people who come forward and express concerns about the provisions of the legislation, sometimes it will be suggested, well, we will just take care of you folks by leaving you alone, and it was certainly discussed that we should hold harmless, basically, the university community, and whether or not that actually made it as a change to the legislation.

But, a contemplated process or a strategy of that sort, would you support, in light of our concerns about supporting innovation in our country?

Mr. VELOSO. I think holding university patent holders on the same level as any other patent holder, be it the individual inventor or a large corporation, is a fair thing to do. You know, should any changes be proposed, particularly as it would affect a university, I think it is worth further examination.

Senator HIRONO. Does anybody else want to comment about various carve-outs?

Mr. STOLL. I am against carve-outs because I do not think they are good for the system. I think what we need to do is to look at provisions and make sure they are good for everyone. I think that is a very strong concern.

I am—I have even got questions with respect to focusing on trolls. I do not know who a troll is anymore. Is it an operating company that does not use a series of patents and does not—developing them? Is it, you know, is it a university, as it is sometimes called? So, I think what we need to do is to look to get rid of parts of the system that are problematic, but problematic for anyone. I do not—I think we need to look at it in a comprehensive manner.

Senator HIRONO. Do you wish to comment, Mr. O'Shaughnessy?

Mr. O'SHAUGHNESSY. I absolutely agree. LES has a great many university members and I think most of them would agree with me that no man is an island and no member of the IP community is an island. We cannot divorce one sector of that community from the other. And, I certainly agree with Mr. Stoll that the system has to work for everybody equally. The moment we indulge in carve-outs, then we get into a great deal of difficulty and gamesmanship involving definitions and what constitutes a university or an institute of higher education or a troll or what have you. I just do not think that is a healthy way to go.

Senator HIRONO. So, I recognize that other countries have patent laws, China, there were other countries cited. So, do they look at what we are doing with our patent laws, and does it have—if we make certain changes to our patent laws that could disadvantage innovation in our country, is that something that countries such as China and Japan or any other countries, is that what they—do they look at what we are doing and does it—do we also have to pay

attention to what the effect of changes we make to our patent laws would have on an international global marketplace?

Mr. Stoll.

Mr. STOLL. Absolutely, they look to what we do, and we need to be very careful what we do, because they will do it in a manner that advantages their own domestic folks and harm American industry. So, whenever we take action, they do not necessarily take the exact same action, but they are looking very closely at what we are doing and they are looking at how they could still meet their treaty obligations under TRIPS, but try to do it in a manner that advantages the domestic industry over United States industries.

Senator HIRONO. And the other two. You do not have to. I am already finished with my time, but would you agree with that concern, the two of you?

Mr. O'SHAUGHNESSY. Yes, absolutely.

Senator HIRONO. Thank you.

Mr. VELOSO. I agree, as well.

Senator HIRONO. Thank you, Mr. Chairman.

Chairman VITTER. Thank you.

Senator Gardner.

Senator GARDNER. Thank you, Mr. Chairman, for holding this hearing today, and thank you to the witnesses for joining us, as well, and sharing your expertise.

Colorado, since the recession, just ended 71 percent growth in employment in Colorado. Our growth rate has been—excuse me, unemployment and our growth rate since the recession. About 25 percent of Coloradans who are employed own their own business in Colorado, and if you look at the number of start-ups in the last three years or so, about 17 percent of employees in Colorado are in a start-up business that has only been around for three years or less. So, it is a very innovative state and we are excited about the new Patent Office that has opened up in Denver. Obviously, with the great research universities that we have, start-up culture that we have in Colorado, it is an ideal place to have a conversation about what we can be doing even better in terms of patent, patent protections, and the innovative economy that we want to drive to in the next incoming decade.

But, I want to start with Mr. O'Shaughnessy talking a little bit about some of the challenges we see in current patent issues, talking specifically a little bit about venue when it comes to patents. I would just love to get your advice and your take on this.

Five dozen Colorado businesses have been sued in the Eastern District of Texas, a single district that is now home to 44 percent of all patent lawsuits in this country. And, so, my question is, why are small businesses in Colorado and across the country being sued in Texas over these patent issues?

Mr. O'SHAUGHNESSY. Well, unfortunately, I think, it is the nature of our system that district courts have a certain amount of latitude in terms of how cases are decided, and as it turns out, the Eastern District of Texas seems to be a particularly pro-patent court that those who are engaging in patent abuse find to be a favorable venue. The venue provisions of our federal law and our patent law, in particular, give a fair bit of discretion to the patentee.

There has been some proposals to change that, as well, and I think that might be a targeted approach that might be worthwhile.

But, you know, I think that the changes that are taking place in precedent, in particular, and by that I am referring to the changes in the ability to get attorney fee awards, has changed the attitude even in the Eastern District of Texas. Judge Gilstrap has just recently made an enormous award and with a single swipe of his pen dispensed with 160 patent cases. And, obviously, that was an abusive litigation situation. Judge Gilstrap, I think, did the right thing. He identified abusive behavior. He assessed the individuals in front of him, the parties, assessed the merits of the case, and he awarded attorneys' fees. I think that that is the track that we are on. We are moving in the right direction.

Senator GARDNER. In 2015, we saw, and perhaps you discussed this earlier, the greatest number of patent disputes in history. Nearly two-thirds of patent litigation last year came from non-practicing entities more commonly referred to as trolls. According to research, over half of the victims of frivolous lawsuits made less than $10 million in annual revenue. What can or should we do to protect small businesses in Colorado and elsewhere from unnecessary costly lawsuits?

Mr. O'SHAUGHNESSY. Well, I think that we should let the precedent take hold. We should let judges do what judges do best, and that is assess the behavior of the people in front of them. Now, the numbers that you are citing, I think, are largely attributable to the changes of the AIA, which require patent assertion entities, or trolls, or whatever you choose to call them, to bring lawsuits only against a single party. What used to be a single lawsuit which might have involved 10 or 15 or 20 defendants, now they have to bring 10 or 15 or 20 different lawsuits. So, that has increased the number of lawsuits dramatically.

So, I think that there is a little bit of misperception when we cite mere numbers of lawsuits. What I think we really need to look at is what is going on with innovation and whether or not our patent system is actually furthering innovation and meaningful patents are getting to the courthouse and getting decided.

Senator GARDNER. Mr. Stoll, Mr. Veloso, on either of those questions, would you like to comment?

Mr. STOLL. Yes. I believe that the Patent and Trademark Office does a great job, but I think they need full access to their funds and more training and more time for the examiners to do a better job on the applications coming out the door. If the quality of the patent is improved and if there are well-bounded and clear claims, then there is a legitimate case when you are bringing it against someone else. So, I think that improving and providing for the Patent and Trademark Office, which is trying to do a great job, will reduce the number of frivolous cases.

And I agree with Mr. O'Shaughnessy that frivolous cases should be penalized and attorneys fees, and I think there are many other little pieces that can be added to the system that improve the life of the small inventor.

Senator GARDNER. Mr. Veloso, I have run out of time, so, Mr. Chairman, is it okay if he——

Chairman VITTER. Sure. Go ahead.

Mr. VELOSO. I agree. Frivolous lawsuits really take away from the mission of these small start-up companies with very fixed budgets and a strict goal.

Senator GARDNER. Thank you, Mr. Chairman.

Chairman VITTER. Thank you.

Senator Coons.

Senator COONS. Thank you, Chairman Vitter, for convening yet another vital and important hearing of this Small Business Committee, as you said in your introduction, the first in decades to—the one you convened last year was the first in a half-century to tackle this important issue of the impact of intellectual property and, in particular, patents on small business. I thought it was the best, and, sadly, also the only balanced hearing on the question of patents, patent reform, and small business that we had last year, and I am grateful that you continue your energy and engagement. We have a fantastic panel today, so forgive me for a moment if I comment on the range of things you have already touched on.

Mr. O'Shaughnessy, you commented on how the patent system is the great equalizer, but it only remains the great equalizer if it is strong, if it is possible for this constitutionally created property right to be asserted successfully by those who are legitimate inventors and entrepreneurs. And, as I think we all know, patents strike a delicate balance between incentivizing innovation and promoting collaboration. Several of you spoke about the transition to trade secrets away from patents because of some of the, I think, very disturbing trends in PTR IPR.

Some in Congress have come to the conclusion that a particular aspect of our current patent system, abusive demand letters, that does need curbing, demands a fundamental overhaul of the entire system, and I think, as you know, through the Strong Patents Act, which Chairman Vitter and I have cosponsored and which I am very grateful for the persistent support and advocacy of Senator Hirono, proposes a different path forward, one that is more balanced.

It ensures that we streamline pleading requirements, which is a progress that has already been made, that empowers the FTC to go after those who send deceptive demand letters and tackle some of the abuses of the post-grant system at the PTO. As was commented before by Mr. Stoll, when a hedge fund can erase millions of dollars in investor capital by simply filing a post-grant challenge solely for the purpose of profiting from shorting the stock, it is time for Congress to act.

My bill would also end fee diversion from the Patent and Trademark Office, something I have passionately advocated for for many years.

My home State of Delaware has a long history of paving the way for inventors to transform ideas into patents and then into practice, and from garage tinkerers to major multi-national companies, we have to have a system that is just the sort of great equalizer about which you have spoken.

So, I look forward to continuing to work with my colleagues on a bipartisan basis to enact meaningful and targeted reforms to our patent system that will retain its strength and greatness without destroying some of its most fundamental provisions.

So, let me just ask three questions, if I might. Mr. Stoll, in your testimony, you note the strikingly high percentage of claims that are now being invalidated in front of the PTO in post-grant procedures. Can you explain to the committee why this is particularly problematic to small businesses.

And then, second, I am going to ask Mr. O'Shaughnessy, if you might, to also comment on how the dangers of overly broad patent reform affect start-ups and small businesses at a higher rate and how these post-grant review processes at the PTAB, at the Patent Trial and Appeal Board, also really are posing a significant threat to small and start-up businesses?

Mr. Stoll.

Mr. STOLL. Yes. I do believe that there needs to be some sort of reform, whether that be legislative or initiated at the Patent and Trademark Office, because a disproportionate number of patents coming out of the Patent Office are being invalidated at the PTAB. So, I think that there are some significant problems for patent holders and it does seem to be tilted against them. And maybe we need to rightsize this ship a little bit.

The PTO has the capability of allowing for more liberal amendment of the patent when it is before them again to be able to avoid some problems that were unforseen at that time. I think that is something that the PTO can do right now and should be doing right now.

I think there are many other provisions that need to be looked at very carefully to make sure that the impact is such that we level the playing field again. It seems to—I mean, there have been judges—Judge Rader called it the killing fields of patents at the PTAB. I think it is getting better. I think they are looking at their procedure. I think they were very concerned with the statutory obligation to conclude the system within one year, with an unusual extension of six months in unusual cases. But I think they are now looking at the different pieces of it and trying to be fairer and I think things are moving in the right direction.

Senator COONS. I have limited time. If I could just ask Mr. O'Shaughnessy and Mr. Veloso to focus on the question of the potential danger to universities and tech transfer, to small businesses and start-ups, of over-broad patent reform as proposed by litigation that is currently in front—excuse me, legislation that is currently in front of the Senate and House.

Mr. O'SHAUGHNESSY. Well, I would certainly agree with Mr. Stoll. I think the Patent Office does a very good job. I think the IPR process is being implemented in a way that is counterproductive for small companies now. One of their principal assets is their intellectual property portfolio. Even though it is duly issued by the Patent Office, it has that stamp of approval, the Patent Office is presumed to have done its job, now a third party can come along, throw that patent back into an IPR proceeding. It goes back to the same standard of review that it got before it was even issued and the patent owner now has to fight that battle and then go back to court, if necessary, and it bleeds the patentee.

Senator COONS. Can I focus you on the risks to small businesses of over-broad patent reform legislation?

Mr. Veloso.

Mr. VELOSO. Sure. You know, for universities and even start-up companies, especially start-up companies, you simply do not have the resources, extensive litigation budgets, expertise, personnel to combat these effects of over-broad patent reform. Things like fee shifting, joinder, you know, that would be just areas of which, at least from the universities' perspective, we are not equipped to handle.

Senator COONS. Mr. Chairman, I see I am over time, but if you will just allow me one quick comment.

Chairman VITTER. Sure.

Senator COONS. This was an amazing panel. There are many Senators who are quite busy with other hearings, as you saw me run out and run back. Your testimony about how changes are occurring at the Supreme Court, in filing standards, in the practice at PTO, in the management of cases by lower courts, all suggest, you unanimously testified, that we should not rush forward with over-broad patent reform. I think that is a very important point. I appreciate your making that before this committee today.

Thank you, Mr. Chairman.

Chairman VITTER. Thank you.

And next is Senator Ayotte.

Senator AYOTTE. Thank you, Chairman.

I wanted to follow up on the questions that Senator Coons had asked. In New Hampshire, we are very proud to be home of a great inventor, Dean Kamen, who not only invented the Segway, but the infusion pump and many other products that he is working on that are incredible, life saving, and transformative. And, you know, he and I have had a lot of discussions about the pending legislation around here, and what I worry about, when you talk about the implications of over-broad patent reform, one of the things that distinguishes us from other countries is really our strong patent system. This is why this is the place for innovators and inventors like Dean Kamen.

And, so, not only the cost, as you think about the cost on a university, I mean, the university is actually a larger institution. Johns Hopkins is a larger institution that can defend against litigation. You have said, well, we cannot defend against it because we do not have all these resources if you cannot—if your patent is challenged and it is an over-broad ability to challenge it.

So, how about somebody like Dean, because, you know, Dean is obviously quite an individual now who started first robotics and—but when he started out, he was just like so many brilliant people in our country with a great idea that, obviously, was able to seek a patent for it and then many other patents after that. So, what happens to that brilliant American idea if we think about that and they are not a part of a big entity? Help us understand the implications of over-broad patent reform to that and to the innovators of the world and to the innovators in America.

Mr. VELOSO. Yes, definitely. You know, to the extent that a university faces these challenges and a small start-up would be effective, as well, definitely, the individual inventor, the Dean Kamens or even those, you know, tinkering in their garage right now, you know, simply would not have the resources, expertise, capability to

face that. To the extent that these challenges could discourage further innovation, that would be a very bad thing.

Senator AYOTTE. And also, as you think about it, does it not advantage the bigger entities? So, could it not force people like Dean to have to go to a bigger entity, who actually may not have the same interest for some competitive reason to develop new products or life saving products? So, in some ways, do we not end up with more of a sort of benefiting the big entities versus the little guys in all of this if we are over-broad in what we do? Does anyone want to comment on that?

Mr. O'SHAUGHNESSY. Yes, absolutely. I think, once again, we are talking of a property right. Property rights often endure over generations. If property rights are not predictable, reliable, and durable, then investors will not invest and the little guys have a very difficult time weaving their way through a minefield that is constantly changing. And, so, I think predictability is the key here, and when we change the system and then a couple of years later change the system again, we are making it very, very difficult for the small entrepreneur to figure out how to get ahead.

Mr. STOLL. I do not necessarily think that this is a big entity versus small entity type of thing. I really believe that the larger companies recognize that the independent inventors are more flexible and more willing to take risks and can develop really breakthrough technology. And I think that they want them to continue to do that so that they can either license or buy it or—so, I think that everyone is interested in making sure that we do not have overly broad patent protection, I mean, patent problems. And, I think, Dean himself is pretty large at this point with his many different——

Senator AYOTTE. Well, he has gotten large——

Mr. STOLL. Yes, he has.

Senator AYOTTE [continuing]. But had he not had the opportunity to start out with who he was, I mean, he is the American dream, right?

Mr. STOLL. Yes.

Senator AYOTTE. He is the guy who starts out in his garage and now he is big, for sure. But, you know, he feels very passionate about making sure that the next and current generation of Dean Kamens and those who are the dreamers and the inventors have their property rights protected so that they can have opportunity to thrive.

As I think about this, though, as we look at some of the things that are being floated around here, is there not a much more narrow way to get at these issues, you know, the bogus litigation issues that actually impact all, that concern all of us, you know, patent trolls, and it seems to me—do you all think that there is a much narrower way for us to get at that than some of the proposals that are out there right now?

Mr. O'SHAUGHNESSY. Well, yes. I think, as I said, the STRONG Patents Act, I think, is a very good start. If we are going to go anywhere with legislation right now, that is the place to go. It has got very narrow provisions that are focused at the actual problems that are being exploited by those who abuse the patent litigation system. And it has been, as far as I understand it, has been compiled

and drafted with input from the user community, and I think it is a good, prudent, narrow, tailored way to go. But, the broad overreaching approach at this time, where there is so much uncertainty in the patent world, is not a prudent way to proceed.

Senator AYOTTE. Well, I want to thank all of you for being here. I appreciate it, and I thank the Chairman for having this hearing.

Chairman VITTER. Thank you.

And next is Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman, and thank you for having this important hearing, and thank you to our witnesses.

I think somebody might have touched on this earlier, about resources, but I just want to clarify. We still take money out of the Patent Offices, right, for other aspects of the budget?

Mr. STOLL. It is looking that way. The money is appropriated back to the Patent and Trademark Office. All the funds do come from user fees.

Senator CANTWELL. But they are not all used by the Patent Office——

Mr. STOLL. I am very—well, there is a revolving fund at the moment, but I am very concerned that the PTO have access to all of its fees all of the time. And, you know, there are no assurances in the future——

Senator CANTWELL. Yes.

Mr. STOLL [continuing]. That they will be getting all of their fees.

Senator CANTWELL. Hear, hear. Hear, hear. We live in an information age. This is about the age of creativity. This is about how fast we can move. And if we cannot move because we do not have the legal side down, then we are going to constrain ourselves. So, it is time to make sure the Patent Office keeps its fees. Okay.

Second, the America Invests Act. I was not a supporter for a couple of different reasons. I am not a first to file person. I am—first of all, I want the money to stay in the Patent Office. I want people who are the inventors of patents to have good legal frameworks behind it. I do not want big corporations coming in and having a more predominant foot approach to stepping on the small inventors. What problems have we seen or challenges have we seen since the implementation of the America Invests Act?

Mr. O'SHAUGHNESSY. Well, not to be glib, but one of the things I observe about the America Invents Act is that in an attempt to harmonize with the rest of the world, which is the first to file system, whereas we were the first to invent system, we went to a system that nobody else in the world has ever used in history, and much of the uncertainty that derives of the AIA is the attempt to make that system work, both in terms of harmony with other systems and with the legacy of our old system.

And, so, now we are struggling with implementing the AIA, with new standards, new principles, new philosophies of intellectual property law that never existed anywhere else. It is going to take a long time. So, let us not perturb the system further.

Senator CANTWELL. Well, could we do something to alleviate that? I mean, I applaud the Chairman for having this hearing, because much of this discussion has taken place, say, for example, in the Judiciary Committee, which I think has been a little more captured by the larger business interests than the small business in-

ventor side of the equation. So, are there things that we could do to help in streamlining this particularly?

Mr. STOLL. I would agree with Mr. O'Shaughnessy. We are not currently a first to file system. It is basically a first to file or disclose system. So, I think what we need—and then there is a question, is, how close the disclosure has to be to the end patent claim that you have not even written at the time you are disclosing.

So, I think what we need to do is take a look at those provisions and see if we cannot find a mechanism to make the university folks happy with collaborating again and disclosing again, and I think that is something that they would greatly appreciate.

Senator CANTWELL. Yes, Mr. Veloso.

Mr. VELOSO. We definitely see that from the university perspective. It is at this juncture where the need to publish for the university comes in contact with this desire to file patents. To the extent that the two begin to become in conflict with one another, I think that is where this sort of reconciliation from first to file and first to invent needs to be addressed.

Senator CANTWELL. And how would you do that?

Mr. VELOSO. I do not know right at this time.

Senator CANTWELL. Mr. O'Shaughnessy, do you have any thoughts on that?

Mr. O'SHAUGHNESSY. Well, unfortunately, I think the die is cast.

Senator CANTWELL. I do not—I do not know that it is. I think this panel is illuminating, just in the question—as I said, the Chair had this hearing, which I think is very important. I think the side of the story that did not get told is the side of the small inventor, and I think a lot of my colleagues rushed to assume that when you are talking about technology, that if it is an Oracle or someone else that—and I mean the company—says, you know, or an IBM or something, that that is the understanding of technology on Capitol Hill. It is not. Technology is not owned by them, and, in fact, oftentimes they are the very people who want to hold down or take advantage of the small inventor because they think it is annoying to pay them a royalty.

Well, we had a very delicate balance and we have upset that balance, and we have done so at the precipice of this information age, where we want a thousand flowers to bloom. So, I just hope that we will not think of it as the die is cast, but, like, be vigilant, as the Chairman is, about this issue of small business impact on patents so that we can get it right, because we do not want to discourage innovation. We want to encourage it. We want people to have access to capital. We want their patents protected. We want this to move forward. And we want you to have the money to run the Patent Office.

Thank you, Mr. Chairman.

Chairman VITTER. Thank you.

We have some time, so I am going to have another round, at least for myself, with a question and comment, and then I will invite any others who would like to participate.

One of the most frightening statistics and facts I have seen in all this discussion is the significant decline in the value of patents, and that has got to mean something, and that has got to mean something bad that is related to what we are talking about. There

is some dispute about what that decline is. How significant is that decline, number one? Number two, what is going on?

Mr. STOLL. Well, at least one of the issues relates to the narrowing—the recent narrowing by the Supreme Court on patent subject matter eligibility, which would affect personalized methods, diagnostics, and software, the ability to patent and protect computer implemented programs. So, what we are seeing, many of these inventions are developed by small and independent inventors, but there is no certainty with respect to whether or not they are going to be able to protect those claims and they are having trouble attracting entrepreneurial investors to develop the product because those investors are not certain that they are going to—that those inventors are going to have valid patents. So, it is really causing a significant problem in these, particularly the emerging technology areas, where we, as the United States, are really doing phenomenal things.

So, I think that something—hopefully, the courts, the Supreme Court has a couple of opportunities coming up, one with *Ariosa* v. *Sequenom* and another with *Planet Blue*, to revisit some of these standards, and hopefully, they will recognize the impact on our inventors and do something that is more rationalized so that we are no longer the narrowest subject matter eligibility country in the world.

Chairman VITTER. Anyone else?

Mr. Veloso.

Mr. VELOSO. Yes. We have seen this devaluation of patents, particularly on the diagnostic side, just given the recent decisions that Mr. Stoll mentioned. You know, for universities, academic medical centers, being able to license diagnostic technologies to companies is a very key part of our technology transfer function. Now, we have seen a shift away from diagnostic licensing into other areas.

Chairman VITTER. Okay.

Mr. O'Shaughnessy.

Mr. O'SHAUGHNESSY. Yes. I think the—thank you, Mr. Chairman. The valuation problem is driven primarily by two things, in my view, and one is, as Mr. Stoll mentioned, the eligibility requirements. We have dramatically reduced our patent eligibility standards and the rest of the world is enlarging theirs. At the same time, durability and the sustainability, the reliability, and the enforceability of patents has gone down, and the ability to drag a patent out of the realm of issued and valid patents and bring it back into the Patent Office has called into question their durability and their enforceability. So, if we had broad legislation that made it much more difficult to enforce our patents, that would drive patent valuation down even further.

Chairman VITTER. Okay. Let me end with a, I guess, an editorial comment. I am really concerned about the long-term trends we are seeing, and the last thing I want to do is add to or accelerate that. I think we need to be reversing that.

And to me, it is part of an even broader trend in American society in favor of bigger and bigger and bigger—big government, big business, mega-banks, mega-entities, and against the smaller outsider innovator. To me, that is a very un-American trend. I think the Founders would be—and maybe are—rolling in their graves.

And one way they actually expressed that very specifically is what we are talking about, patents. That is in the Constitution. I mean, that is a pretty—when you think about it, that is a very real world term and set of issues that was put in a very elevated document, and it is because it is, as Mr. O'Shaughnessy pointed out, a fundamental property right and very central to their notion of innovation and opportunity, which is ultimately freedom, concepts about freedom.

So, I really hope all of us, including all of the Congress, does get this right and acts in a targeted way through measures like Senator Coons' measure, which I am a cosponsor of, to reverse this long-term trend, certainly not to continue or accelerate it.

With that, I would be happy—Senator Hirono, if you would like a second round.

Senator HIRONO. Yes, I would, very briefly.

Thank you very much for mentioning that. We are actually narrowing the subject matter eligibility for awarding of patents and at the same time contemplating legislation that would make it much harder to defend the patents that are issued. So, a lot of the eligibility, subject matter eligibility narrowing is happening in the courts and in the Patent Office itself, correct?

Mr. O'SHAUGHNESSY. That is right.

Senator HIRONO. Is there something that we can be looking at legislatively to express our concerns about this particular trend?

Mr. STOLL. I think by holding hearings, just like this, to question the issues. I am sure that the Justices notice that there is an interest in the Senate and in the House on these issues. So, I think that that helps draw attention to it.

I believe there are cases that are coming up through the court system right now that are getting ripe for the Supreme Court to look at this again and maybe have more of a bent towards the importance to our economy and job creation that their decisions in this particular area are affecting. And, maybe if they do not, at that point, we may need to be discussing actual legislation relating to 35 U.S.C. 101 to make it clear that it is the intent of the Congress that we not so narrow the subject matter eligibility issues.

But, I think you are seeing stuff starting to happen in the courts. The Patent and Trademark Office is doing several iterations of their guidelines on these decisions. They are in and of themselves, and actually stated in the decisions, to be narrowly construed. The problem is that some of the lower courts are applying them in manners that are causing a lot of very important inventions not to have patent protection.

Senator HIRONO. Does anyone else want to comment briefly?

Mr. O'SHAUGHNESSY. It is difficult for me in the context of this hearing to assess whether or not legislation could solve the problem. I do believe that the Patent Office, for example, is over-interpreting the Supreme Court precedent. Justice Thomas in the Myriad decision bent over backwards, it seems to me, to say, do not over-interpret this decision. This is defined and limited to human DNA and whether or not unperturbed human DNA should be patentable. Consequently, however, I think the Patent Office has gone way beyond that with their guidelines.

I am not sure that legislation is the way to approach it, but I agree with Mr. Stoll that hearings and communications with the PTO are a very effective and important way to proceed.

Mr. VELOSO. I agree, giving voice to the effects of that. You know, as I mentioned, particularly on the diagnostic side, we are seeing companies who are being affected because their core intellectual property has been devalued. We are seeing small—we are seeing less small start-ups in the diagnostic realm because of this uncertainty around the patent position. And, my fear would be that this would trickle down to the individual inventor, to the researcher, who would decide not to pursue an area because they just see this uncertainty ahead.

Senator HIRONO. One more question for Mr. O'Shaughnessy. You said that you have an LES standards initiative to bring together the various parties and interests. What is the time frame for your initiative——

Mr. O'SHAUGHNESSY. Well——

Senator HIRONO [continuing]. To come up with some suggestions? Sorry for interrupting.

Mr. O'SHAUGHNESSY. Thank you, Senator. The LES standards initiative really is still a bit in its early stages. We are recruiting members. We are being very diligent about trying to get all voices from all quarters of the IP community, as I said, including financiers, valuation experts, even entities that might be considered pure patent assertion entities. We feel that this has to be an open and inclusive procedure. But, we want to create a body of standards that are not just guidelines, are not just codes of conduct. These will be standards that organizations will agree to abide by, just as they do with the ISO standards that are commonly used in manufacturing today.

The time line, I cannot say that we have a firm time line. Our objective is to start moving and drafting meaningful standards certainly by the end of this year.

Senator HIRONO. Thank you. Thank you, Mr. Chairman.

Chairman VITTER. Okay. Senator Cantwell.

Senator CANTWELL. Just one question as it relates to the inter partes review process and biotech. Do you think we need to make changes there? We have had, like, 70 percent of these patent cases overturned, and is there something that you would suggest would be a better review of biotech patents?

Mr. O'SHAUGHNESSY. Yes. I certainly think that we need to change that standard to make it equivalent to what is used in the district courts. These are issued patents that we are talking about. They are entitled to a presumption of validity. We should assume the Patent Office has done its job. And once the patent issues, it is entitled to a statutory presumption of validity. We open up the door for somebody to drag it back into the Patent Office and reopen prosection. This is enormously unfair to every patent owner, not just the small entity, not just biotech. It is everybody. And, unfortunately, I think, because of their vulnerabilities, small businesses are especially susceptible to these proceedings. But, I think it casts a pall upon the entire system.

Senator CANTWELL. Why is this happening? I mean, obviously, because we have this inter partes review process and we need to change it, correct? Is that——

Mr. O'SHAUGHNESSY. That is right.

Senator CANTWELL. Thank you.

Mr. O'SHAUGHNESSY. It is an artifact of the AIA.

Senator CANTWELL. Thank you. Thank you, Mr. Chairman.

Chairman VITTER. Okay. Thank you.

Thanks to all of you very much. I think this conversation was really, really productive and important. Like Senator Coons and some others, I have been frustrated with the broader discussion, and we are both on the Judiciary Committee. I think the discussion over there has been very imbalanced, quite frankly, and I have been frustrated by that. I think we have had a very balanced discussion, including today, in Small Business, and we do need to get this right. This is really important. It is—again, I point to it being in the Constitution in terms of its significance and the significance even the Founders understood, and it is important for our economy and for our future. So, thank you all for being an important part of this discussion.

With that, the hearing is adjourned.

[Whereupon, at 11:20 a.m., the committee was adjourned.]

APPENDIX MATERIAL SUBMITTED

Senate Committee on Small Business and Entrepreneurship Hearing
February 25, 2016
Follow-Up Questions for Mr. Robert Stoll for the Record

Questions from Ranking Member Shaheen

Question No. 1

Around this time last year, the Senate Small Business and Entrepreneurship Committee held a hearing that also addressed patent protections. The diversion of fees from the U.S. Patent and Trademark Office (USPTO) is a topic that came up in the last hearing and regularly in policy discussions since then. The agency is unique in that it is largely self-funded through its normal operations, but money is being routed from it nonetheless.

I think it's safe to assume that the USPTO devotes these proceeds in large part to ensure that inventors are able to swiftly obtain patent protections for their work.

Do you believe that if the USPTO is able to retain the funds it generates that it would be better equipped to hire more examiners or otherwise devote resources to this process?

Response

35 USC 1 provides that the USPTO "shall exercise independent control of its budget allocations and expenditures" In 35 USC 42 the statute provides "All fees for services performed by or materials furnished by the Patent and Trademark Office will be payable to the Director" So the statute makes very clear that the USPTO has independent budget authority from the Department of Commerce. The USPTO does pay the Department of Commerce under "the working capital fund" for policy oversight and other services which currently amount to about 22 million per year." In addition to the provisions above, The Leahy-Smith America Invents Act, enacted in 2011, charges the USPTO to develop a mechanism that would specifically prevent "fee diversion." More specifically, it created a new appropriations account called the Patent and Trademark Fee Reserve Fund (PTFRF). This fee reserve fund would only be utilized when USPTO collected fees in a fiscal year that exceeded the amount provided for in that year's appropriations. Any fees collected by the USPTO in excess of the USPTO's annual appropriations are now being deposited into the PTFRF and these funds can only be accessed for USPTO operations (i.e. they can't be diverted to purposes for other agencies or to make debt payments from the General Fund.)

This new reserve fund mechanism was tested for the first time in FY 2014, when USPTO collected $148 million more than its annual appropriation. The excess fees were transferred to the PTFRF and then approved by Congress for transfer back to USPTO's operating fund, whereby they were able to hire more patent examiners and make upgrades its Information Technology (IT) systems.

More recently, concerns have been raised about the Department of Commerce initiative to create a Shared Services Organization (SSO) for all bureaus within Commerce. This SSO would provide human resources, acquisition, and IT services to all Commerce employees, based upon identified needs in several of the bureaus. USPTO has been upgrading its support services

over the last 15 years and has achieved levels of customer satisfaction and performance that exceeds most, if not all, of its bureau peers. As a result, USPTO will not benefit to the same degree as other bureaus, but will pay a representative share of the costs of standing up and operating the SSO. This fee diversion contemplated under SSO are antithetical to USPTO budgeting, since USPTO will be unable to use its fee generation to fund mission-critical initiatives to the same levels as planned, due to the increased costs for the Shared Services.

Question No. 2

During this Committee's patent hearing last year, I recall hearing from a small business witness who had over the years sought patents related to his energy-efficient lighting technology. His testimony described the cost and time it takes his business to finally obtain a patent. A recent Harvard Business School study indicated that each year of delay in processing a patent application, even if the patent is ultimately granted, reduces a startup's employment growth by twenty-one percent and reduces sales growth by twenty-eight percent. Not only does this affect the small business owner, but it could affect overall job creation.

Depending on the resources of the party applying for patent protections, these time and cost requirements can be burdensome for an innovator.

Could you comment on what you have witnessed or experienced that may hinder innovators during the process of obtaining a patent?

Response

The same Harvard Business Study presents causal evidence that patents help startups grow, create jobs, facilitate access to capital and generate follow-on innovations. The paper also found that approval of a startup's first patent application increases its employment growth over the next five years by 36 percentage points on average, and the effect on sales growth is even larger.

Recognizing the benefits that patents can have on startup growth, the USPTO, through new fast track programs, has enabled businesses of all sizes to have patent applications fully reviewed in less than one year, and at reduced cost.[1] These fast track applications cut the average review time by two-third for businesses participating in this "Track-1" accelerated review.[2] Moreover, in recognition of both the importance of the growth of startups and the limited funds available to many small businesses, both small and micro entities have the benefit of paying a greatly reduced fee structure in the processing of their patent applications. Through such processes, the USPTO is taking affirmative steps to expedite the patent applications of innovators at a reduced cost.

Nevertheless, it is important to understand that there is always a balance that must exist between processing patent applications as expeditiously as possible while ensuring that those patents that are issued are of the highest quality. Taking the appropriate amount of time to issue

[1] http://www.uspto.gov/patents/init_events/track_one_quick_start_guide_11-24-2013.pdf
[2] http://www.uspto.gov/custom-page/inventors-eye-advice-3

patents that have both correct claims and clear records will help to ensure that the USPTO continues to issue strong patents that will both withstand future challenges, and provide notice to all on what the patent covers. In this vein, in early 2015, the USPTO launched the Enhanced Patent Quality Initiative, which has resulted in eleven programs that focus on improving patent quality.

In a time where businesses are formed with the sole goal of buying patents (sometimes with a preference for broader and vaguer claims) for the singular purpose of asserting them against whole industries, it is incumbent on the USPTO to issue the very best quality patents possible.

Question No. 3

The last study by the National Women's Business Council showed that women have received only eighteen percent of the patents granted since 1990. To address this issue, I believe we need to start early by ensuring that STEM education is encouraged among female students.

Each witness today may have a unique perspective on this, given your backgrounds in the government, universities and the private sector.

Are you aware of any new data that may suggest progress in this area? Or do you get the sense that women entrepreneurs are less likely to file for or receive patents? What recommendations might you have to encourage women entrepreneurs to patent their innovations?

Response

We need to be doing everything we can to support women in STEM. Although women and members of minority groups now constitute approximately 70% of college students, they are underrepresented among students receiving undergraduate degrees in STEM subjects (approximately 45 percent).[3]

In the private sector, women hold less than 25% of U.S. STEM jobs[4] (STEM jobs defined as professional and technical support occupations in the fields of computer science and mathematics, engineering, and life and physical sciences). In the Silicon Valley, one of our nation's hubs of innovation, 38% of that region's biggest public companies have no female board members[5]. Also, more than 47% of Silicon Valley companies lack a top female executive, and among Standard & Poor's 100, it's only 16%[6].

---

[3] Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering and Mathematics, President's Council of Advisors on Science and Technology, 2012

[4] DOC ESA report

[5] Fortune cited Fenwick & West, "Gender Diversity in Silicon Valley," 2013 proxy season, updated to 2014.

[6] Fortune cited Fenwick & West, "Gender Diversity in Silicon Valley," 2013 proxy season, updated to 2014.

Finally, women have a 50% attrition rate in STEM careers during their first twelve years on the job, compared to 20% in professional women in non-STEM fields.[7]

In order to change these statistics, we need to be active and engaged at all levels in supporting and encouraging women in STEM. The United States Patent and Trademark Office has launched a series of initiatives in the space including: (1) an initiative called "All in STEM" to encourage more women to pursue STEM degrees and to work and advance in STEM careers; (2) a partnership with Invent Now, to run an annual summer program called Camp Invention that reaches more than 100,000 kids each and every year; and (3) Annual National Summer Teacher Institute to help teachers from all over the country incorporate concepts of making, inventing, and intellectual property into classroom education.

For the female innovators in particular, the USPTO has hosted an annual symposia since 2011 specifically designed on educating women about the patent process. These events additionally help women entrepreneurs by providing a unique opportunity for attendees to listen to a rich discussion from experts in the fields of intellectual property and small business growth and development.

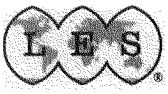
Other agencies within the United States Government are making similar efforts and are being aided by efforts in the private and nonprofit sectors, like Million Women Mentors, which just hosted an event here in the Senate Russell Building.

Respectfully Submitted,

Robert L. Stoll

Robert L. Stoll

[7] UT Austin, overview



Licensing Executives Society (U.S.A. and Canada), Inc.

A Member Society of the Licensing Executives Society International

Chairman of the Board & President
Jeffrey S. Whittle

Past President
Pamela R. Demain

Chairman-Elect of the Board
Brian O'Shaughnessy

Counsel
Thomas Filarski

Secretary
Arthur Rose

Treasurer
Kevin Arst

Public Policy/Regional Vice President, USA
William Elkington

Regional Vice President, Canada
Panagiota Koutsogiannis

Associate Vice President, International
Ned Barlas

Vice President, Communication & Member Engagement
Ida Shum

Vice President, Education
Robert Held

Vice President, Meeting Programming & Design
Stasia L. Ogden

Vice President, Local Chapters
Hilton Sue

Vice President, Strategic & Long Range Planning
Paul A. Roberts

Trustees
Don Drinkwater
John (Jack) Tupman
Gary Fedorochko
Susan Stoddard
Lesley Stolz, Ph.D.
Gauri Prakash-Canjels
Richard A. Baker
Rachel Kreppel

BRIAN O'SHAUGHNESSY
PHONE: 202-808-7365
EMAIL: boshaughnessy@ratnerprestia.com

March 28, 2016

The Honorable David Vitter
Chairman
Committee on Small Business & Entrepreneurship
428A Russell Senate Office Bldg
Washington, DC 20510

The Honorable Jeanne Shaheen
Ranking Member
Committee on Small Business & Entrepreneurship
428A Russell Senate Office Bldg
Washington, DC 20510

Dear Chairman Vitter and Ranking Member Shaheen:

Thank you for convening the Committee on Small Business and Entrepreneurship in a hearing entitled "An Examination of Changes to the U.S. Patent System & Impacts on America's Small Businesses," February 25, 2016. This is an extremely important issue for our country, our collective well-being, and the vitality of our economy. It is encouraging to see this Committee unified in support of small business, and in addressing the unintended consequences of recent and pending changes within our patent system. It is an honor and a privilege to participate in this worthy discussion.

This supplements my hearing testimony, and responds to the Questions for the Record in your letter of March 14, 2016.

I. Supplemental Remarks Regarding LES Standards Initiative

During the hearing, I was pleased to address questions about the initiative of the Licensing Executives Society (LES) to create voluntary industry standards for technology licensing

and commercial transactions involving intellectual property (IP). This provides additional information on the background, goals, and plans for LES Standards.

A. Background

The IP licensing community facilitates the efficient deployment of specialized skills and resources through cooperative commercial arrangements. Increasingly, commercial enterprises are disaggregated, relying on numerous alliances, joint ventures, and collaborative research and development agreements. For example, a small enterprise focused on research and development need not deviate from that focus by investing in and developing infrastructure and resources for manufacturing, sales, and distribution. Skilled innovators can thus remain true to their calling, and nonetheless be profitable and viable in a global marketplace.

Even recognizing the many benefits that IP licensing brings to our economy and our general well-being, the IP licensing community recognizes that the practice of licensing IP can and should be more efficient. The best means for achieving that efficiency is through industry self-regulation. LES is engaging diverse members of the licensing community in a concerted effort to devise standards that will make IP protection and related transactions more efficient, reliable, and transparent.

The standards that LES envisions will be analogous to standards for products and services devised by the International Organization for Standardization (ISO). LES has engaged the American National Standards Institute (ANSI) to devise open and transparent processes for the development of these standards. LES expects to be accredited by ANSI as a Standards Development Organization by the fall. As part of this accreditation process, LES leadership will undergo formal ANSI training this summer.

LES will work closely with administrative and regulatory agencies, such as the Federal Trade Commission, to ensure that these standards align with existing policies. LES will also elicit input from state attorneys general.

By following established and generally accepted practices for devising and implementing voluntary industry standards, and through broad and inclusive outreach, LES will ensure that the resulting standards will be applicable throughout the licensing ecosystem, and will represent a fair and equitable system of standards for all concerned.

B. Summary of the LES Standards Initiative:

1. The Goals of LES Standards

- Raise the standards of business conduct and ethics in IP-oriented transactions
- Improve the practice of IP management and, by doing so, mitigate its risks
- Reduce the cost and time required to complete IP-oriented transactions
- Protect and preserve the value of IP for innovative individuals and enterprises
- Encourage investment in, and the commercial development of, innovation; and thereby promote the progress of the useful arts, enhance the well-being of society, and stimulate economic development

2. Areas of IP Management for Standards Development

- Patent licensing (both as to out-licensing and in-licensing, and regardless of organizational structure, *e.g.*, universities, research-oriented enterprises, fully integrated research & manufacturing companies, patent aggregators, or other entities)
- IP brokerage
- Patent valuation (toward a more reliable and transparent system for assessing IP value, *e.g.*, reasonable royalty calculation)
- IP protection in the supply chain (*e.g.*, among cooperating enterprises at different stages in the production cycle)

3. Additional Committees Will Address These Areas

- The role of corporate boards in managing IP and reporting on IP-related issues
- Cultivating and managing IP creation

4. The LES Standards Initiative Timeline

- LES Standards committees to begin drafting standards – Q1, 2016 (in process)
- LES Standards engages with the American National Standards Institute (ANSI) – Q2, 2016 (in process)
- ANSI reviews LES Standards policy and practice – Q3, 2016
- ANSI certifies LES as an ANSI Standards Development Organization – Q4, 2016
- LES Standards enters the public phase for comment and voting as to a minimum of 4 separate LES standards – Q1, 2017

The LES Standards Initiative has been underway for almost two years. In that time, LES has enlisted dozens of industry leaders who are already establishing standard-setting protocols and procedures, and drafting standards.

As part of its open, transparent, and democratic process, LES recently held leadership elections for each of its various Committees.

In implementing the foregoing plan, LES will have standards in place in the first quarter of 2017, and will be well on its way toward having a comprehensive set of standards in a variety of IP transactional areas.

The standards resulting from this Initiative will provide efficiency-enhancing tools for reputable licensing entities and practitioners. These standards will be reliable guides for management and boards to ensure that IP-related assets are properly maintained and utilized. Collectively, these standards will afford judges and tribunals with reliable, objective criteria for assessing sound business practices, and for identifying inappropriate or unethical use of IP assets.

C. Conclusion

Industry self-regulation is the most efficient and least disruptive means for realizing the benefits of our patent system. It will bring greater certainty to IP-related transactions, and support collaboration to enhance the creation, development, and commercialization of new products and services. It will advance the Constitutional imperative of promoting the progress of the useful arts. By drawing upon the skills, insights, and resources of the diverse community of IP and business development experts, LES will ensure a fair and equitable system of standards that will benefit both society as a whole and the innovators who depend on that system.

Effective and reliable IP protection has been central to the vitality of the U.S. economy from its earliest days. When combined with targeted legislative efforts, such as the STRONG Patents Act (S. 632) and the Defend Trade Secrets Act (S. 1890), the LES Standards Initiative will enhance the benefits of our IP system, and deter abuse. This will avoid the uncertainty and unintended consequences of broad-based legislative reform.

II. Questions for the Record

A. From Ranking Member Shaheen

QUESTION 1:

Around this time last year, the Senate Small Business and Entrepreneurship Committee held a hearing that also addressed patent protections. The diversion of fees from the U.S. Patent and Trademark Office

(USPTO) is a topic that came up in the last hearing and regularly in policy discussions since then. The agency is unique in that it is largely self-funded through its normal operations, but money is being routed from it nonetheless.

I think it's safe to assume that the USPTO devotes these proceeds in large part to ensure that inventors are able to swiftly obtain patent protections for their work.

Do you believe that if the USPTO is able to retain the funds it generates that it would be better equipped to hire more examiners or otherwise devote resources to this process?

RESPONSE:

Diversion of USPTO user fees is a tax on innovation. User fees fund our patent system. The patent system turns ideas into assets. Those assets are used to secure financing and gain access to markets. Financing and market access fuel the rise of new industries, businesses, and jobs. Regrettably, however, those user fees are frequently diverted to fund other, unrelated government agencies and programs.

Attached is a chart from the Intellectual Property Owners Association (IPO) showing that in just the past five years (2010-2014), a total of $409.8 million in user fees has been diverted from the USPTO. Ironically, the year in which the AIA took effect, 2011, saw the greatest sum ever diverted from the USPTO ($209 million). The AIA included measures that were intended to diminish, if not eliminate, fee diversion. It did this by placing "excess" funds (*i.e.*, those collected over budget) in a discrete fund that could be used only by the USPTO. Nonetheless, two years later, $147.7 million in user fees was again diverted from the USPTO.

Despite the best of intentions, the AIA has failed to eliminate the pernicious effects of the existing appropriations process and fee diversion. Even though its "excess" funds are set aside, access and use of those funds remains under the control of Congressional appropriators. Thus, the USPTO lacks discretion in the use of those funds. This undoubtedly impairs the ability of the USPTO to invest strategically in the personnel and equipment needed to improve quality of examination and drive down pendency.

Further, under the current regime, the USPTO is subject to sequestration imposed by the Budget Control Act of 2011. In a 2013 letter to President Obama, the USPTO's Patent Public Advisory Committee made the following observation:

> The fee setting authority provided within the AIA accorded the Office the ability to raise fees by 15 percent and to address the mounting issues in Information Technology and the examining corps. Unfortunately, this was short-lived as the Sequester negated the intended impacts of these new user-generated fees. While we understand that these are the collateral damages associated with the Sequester, we respectfully ask that the Office be allowed to access the fees that it generates, or, at the very least, be provided access to those fees at some point in the very near future.[1]

In combination, the effects of sequestration and the restrictions on access to the "excess" fees fund impair USPTO efficiency and effectiveness. It stands to reason that the USPTO will find it increasingly challenging to maintain its high standards of examination, keep pace with the many changes in the system (including those imposed by the AIA itself), and reduce pendency.

The most effective approach to ameliorate those challenges would be to take the USPTO out of the appropriations process, and give it greater access to the funds that users pay into the system. Not only will this free up the USPTO to plan strategically for the long term, it will restore confidence in the user community that the funds being paid into the system are going to support the services that fuel innovation.

The approach found in the STRONG Patents Act (S. 632) to end fee diversion by statute, and to give the Director of the USPTO greater discretion and access to those funds, is a prudent and practical approach that will serve those ends.

QUESTION 2:

During this committee's patent hearing last year, I recall hearing from a small business witness who had over the years sought patents related to his energy-efficient lighting technology. His testimony described the cost and time it takes his business to finally obtain a patent. A recent Harvard Business School study indicated that each year of delay in processing a patent application, even if the patent is ultimately granted, reduces a startup's employment growth by twenty-one percent and reduces sales growth by twenty-eight percent. Not only does this affect the small business owner, but it could affect overall job creation.

---

[1] Letter from Louis J. Foreman, Chairman, USPTO Patent Public Advisory Committee to President Obama, November 4, 2013 (http://www.uspto.gov/about/advisory/ppac/PPAC_2013_AnnualReport.pdf)

Depending on the resources of the party applying for patent protections, these time and cost requirements can be burdensome for an innovator.

Could you comment on what you have witnessed or experienced that may hinder innovators during the process of obtaining a patent?

RESPONSE:

Our patent system is a public resource. Over two hundred years ago, America crafted a bargain offering inventors a limited exclusive right in exchange for disclosure of a meritorious invention. The objective was, and is today, to simultaneously encourage innovation and increase the public store of knowledge. Both public and private interest is served by robust reliance on that system. Thus, we must carefully restrict ourselves to changes to that system that are consistent with that bargain, and that encourage inventors to take advantage of its benefits.

Inventors and investors demand a system that affords predictable and durable intellectual property rights in a timely manner. If the system that we implement for granting patent rights does not meet those criteria, inventors will not make use of the system, the public store of knowledge will suffer, and investment in innovative and entrepreneurial domestic enterprises will diminish. Perhaps more importantly, if those rights are not found here, the procurement of intellectual property rights and associated investment and commercialization will move to foreign lands. The result will be lower domestic economic output, fewer jobs, and a decline in American innovation.

We are already seeing this unfold. In 2015, the European Patent Office (EPO) saw an increase in patent filings of 4.8 percent overall, and of 16.4 percent in applications from US companies.[2] The EPO acknowledged that "the strong growth in [EPO patent] applications from the United States is also due to the effects of a change in US patent law."[3] In contrast, over the same period, the USPTO saw a decline in patent filings.[4]

---

[2] European Patent Office, Annual Report 2015 (https://www.epo.org/about-us/annual-reports-statistics/annual-report/2015.html)

[3] European Patent Office, "Demand for European patents continues to grow", March 3, 2016 (http://www.epo.org/news-issues/news/2016/20160303.html)

[4] US Patent and Trademark Office, Performance and Accountability Report 2015, p. 184 (showing a decline in utility patent application filings from 579,873 in FY2014 to 578,321 in FY 2015; as well as in US patents issued, from 329,612 in FY2014 to 322,448 in FY2015).

There can be no doubt that the increase in EPO filings, and the simultaneous decrease in USPTO filings, is due to the referenced implementation of the AIA, and a corresponding erosion in trust in the U.S. patent system. It is also due to concerns arising out of institutional challenges (*e.g.*, USPTO resources and funding), as well as uncertainty in light of judicial changes to our patent law. Specific concerns relate to the durability of a granted US patent (*e.g.*, susceptibility to post-grant attack); the shrinking, and uncertain, scope of patent eligible subject matter; uncertainty as to exclusivity (injunctive relief[5]); and the market value of the property right in view of legislative efforts to restrict enforcement options.

These data, and at least one independent survey[6], show that innovators and IP experts alike believe that European patents are obtained more rapidly and reliably, and receive higher quality examination. Europe is also becoming a more appealing venue for patent enforcement, a trend that will gain momentum with the impending establishment of the European Unified Patent Court. If Europe is becoming a more appealing venue for patent protection, then we must conclude that European patents are perceived as more reliable and enforceable, and thus, having greater market value.

Collectively, these changes are taking a toll on American innovation. They are diminishing investment in, and thus the viability of, business formation in America. This will work to the profound detriment of the U.S. economy, and it puts at risk our traditional role as the most innovative people on the planet. We must be diligent and dedicated in our efforts to reverse this trend.

QUESTION 3:

The last study by the National Women's Business Council showed that women have received only eighteen percent of the patents granted since 1990. To address this issue, I believe we need to start early by ensuring that STEM education is encouraged among female students.

Each witness today may have a unique perspective on this, given your backgrounds in the government, universities and the private sector.

---

[5] *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388 (2006).

[6] In a 2015 survey of patent professionals by Intellectual Asset Management (IAM) magazine, the EPO ranked first for patent quality among the world's largest patent offices, followed by the Japan Patent Office, and then the USPTO in third place (http://documents.epo.org/projects/babylon/eponet.nsf/0/4783c6465d9a2b5fc1257e5900242b3f/$FILE/IAM72_benchmarking_q_p_en.pdf).

Are you aware of any new data that may suggest progress in this area? Or do you get the sense that woman entrepreneurs are less likely to file for or receive patents? What recommendations might you have to encourage woman entrepreneurs to patent their innovations?

RESPONSE:

With all due respect, this is outside my area of expertise. My opinions in this regard are those of the layman. However, I share your concern that women are underrepresented among entrepreneurs and inventors. I also agree this is related to their underrepresentation in STEM baccalaureate programs. I am firmly of the view that STEM education, and the innovation ecosystem, would benefit from greater diversity, especially gender diversity.

Although this is not my area of expertise, I have more than passing familiarity with the issue. I am a member of the Board of Trustees of Rochester Institute of Technology (RIT), our nation's number two STEM degree producing private university. The RIT Board is well attuned to the gender imbalance in STEM disciplines. RIT is devoted to reversing that trend. However, it has proven to be a persistent problem. While the university has made admirable progress, we are a long way from gender parity.

Our national efforts toward engaging more women in STEM might benefit from cultivating interest in STEM among young women at the middle school level, and perhaps even earlier. As to what might be an effective approach, I leave that to the experts in education and learning.

B. From Senator Enzi

QUESTION 1:

In your testimony, you discussed the ideas that securing a patent is an essential way to incentivize invention and discovery, and a crucial indicator of a startup's ability to attract venture capital and other investment. However, over the past few years, we've seen changes to the patent system that arguably makes it more difficult for entrepreneurs to get and keep patents. How do these changes impact small businesses? What should Congress do to help protect entrepreneurs and inventors?

RESPONSE:

I confirm my earlier testimony. Patents are the currency of the innovation system. As with conventional currency, we must ensure that patents issued by the U.S. government are reliable, durable assets that can be utilized for many, diverse purposes. This is imperative if we are to keep the wheels of our innovation-based economy turning smoothly.

Patents are critical to the growth and viability of any innovation-oriented start-up. The MIT Innovation Initiative recently reported that the likelihood of growth of start-up firms is thirty-five times greater for those that avail themselves of the patent system.[7] Similarly, a study from Harvard Business School and NYU's Stern School of Business, reports:

> We find that patent approvals help startups create jobs, grow their sales, innovate, and reward their investors. Exogenous delays in the patent examination process significantly reduce firm growth, job creation, and innovation, even when a firm's patent application is eventually approved. Our results suggest that patents act as a catalyst that sets startups on a growth path by facilitating their access to capital. Proposals for patent reform should consider these benefits of patents alongside their potential costs.[8]

Forming a start-up is easy. The real challenge comes in turning it into a viable, scalable enterprise for the long-term. There are innumerable challenges following invention. The enterprise must convert the invention into a product, devise means and materials for manufacturing that product, and move the

---

[7] Fazio, C., Guzman, J., Murray, F., & Stern, S., A New View of the Skew: A Quantitative Assessment of the Quality of American Entrepreneurship, MIT Innovation Initiative, 2016 (also at https://innovation.mit.edu/sites/default/files/images/A%20New%20View_Final%20Report_3.3.16.pdf).

[8] Farre-Mensa, J., Deepak Hedge, & Alexander Ljungqvist, *The Bright Side of Patents*, USPTO Office of the Chief Economist, Working Paper No. 2015-2 (Jan. 2016), Abstract. *See also*, *Id.*, at 2 ("We focus on startups both because they are a key source of innovation, economic growth, and job creation, and because the literature on the dark side of patents portrays small inventors as suffering the most from the shortcomings of the patent system: they likely face the greatest resource constraints when applying for patents, enforcing their patent rights, and defending themselves when sued by larger rivals."); at 3 ("patents facilitate startups' access to capital by mitigating information frictions between entrepreneurs and potential investors. Access to capital in turn sets startups on a growth path that transforms ideas into products and services that generate jobs, revenues, and follow-on innovation."); and at 5 ("we provide the first causal evidence that patents help startups grow, create jobs, and generate follow-on innovations and that they do so by facilitating access to capital.").

product through marketing and distribution to what is hoped to be a receptive customer base. In most cases, that involves considerable third-party investment. Investors look for durable assets likely to survive even if the enterprise itself fails. Patents provide those assets.

Patents benefit society and individuals alike in fostering new markets and new products. Patents enhance specialization. Inventors need not morph into fully integrated manufacturing concerns to realize the commercial value of their inventions. They can use patent portfolios, per se, as assets; and derive revenue by selling or licensing those assets. We must preserve the value and liquidity of those assets if we are to realize the full potential of the public and private benefits of our patent system. If, for example, modest litigation reforms are found worthy, those reforms should be applied universally, not by imposing peculiar burdens on America's inventors.

Despite the meritorious role patents play in innovation and economic development, recent changes have diminished the patent right. Patent-related transactions are in decline, patent valuations are down, and patents continue to be struck down at alarming rates by the USPTO Patent Trial and Appeal Board in *Inter Partes* Reviews.

Our patent system is in trouble. An entire class of legal instruments, once lauded as worthy and essential elements in a free-market economy built upon innovation, has become suspect. What's worse, these instruments are now susceptible to revocation – following grant – by the very agency that issued them, and by resort to the same standards by which the agency granted them in the first place. Imagine the effects on our economy if any other substantial legal instrument or property right – duly issued by the U.S. government – were so susceptible to challenge and revocation.

This scenario is especially harmful to the small business, for whom IP is often its principal asset. Congress must restore public trust and confidence in our patent system, and in patents as a meaningful property right. It might well start by ensuring that the seal the USPTO affixes to an issued patent in the first instance is meaningful, durable, and worthy of investment.

QUESTION 2:

If the balance of the patent system has tipped against patent owners, what positive changes can Congress make to the system to ensure that the

patent system protects the innovations of our individual and small inventors and entrepreneurs?

RESPONSE:

Congress can, and should, take at least four steps in restoring the health and vitality of our patent system:

First, Congress should ensure that the patent grant is meaningful and valuable in the first instance. That is, when the USPTO issues a patent, it should stand behind its work, and it should be presumed to have done it competently. The current *Inter Partes* Review, and other post-grant review processes, undermine public confidence in that work, and puts the claims of a patent at risk of challenge, and ultimately, of revocation, almost as though the patent had never issued in the first place; and, in the case of IPR, for the duration of the patent. The patent owner thus never comes out from underneath that cloud.

As described in my earlier testimony, the evidence shows that in the majority of cases, accused infringers are exploiting these post-grant proceedings to play out the clock with serial, duplicative proceedings in the USPTO, and then in court, and thereby delay a decision on infringement. It isn't hard to imagine how these proceedings can be exploited to exhaust the meager resources of the small business or entrepreneur.

This is still more problematic in view of the standard of review the USPTO applies in IPRs. During examination, the USPTO considers the terms of a claim according to "Broadest Reasonable Interpretation" (BRI). This is as it should be. In seeking valuable rights, applicants are obligated to spell out those rights with demanding specificity[9]; and the USPTO is obligated to fulfill its role in protecting the public interest by ensuring the applicant has met that standard. However, when the USPTO has examined, and ultimately issued, that patent, it should likewise be held to a demanding standard.

Our precedent has long since held that, once issued, the claims of a patent are to be interpreted by Article III courts according to the ordinary and customary meaning of claim terms as per one of ordinary skill in the art at the time the invention was made. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

---

[9] 35 U.S.C. § 112(b).

The USPTO's use of BRI in IPR proceedings means that claims that have been examined and issued are nonetheless interpreted by the USPTO almost as though examination had never taken place. Moreover, in an IPR, the patentee is not entitled to the presumption of validity to which an issued patent is otherwise entitled, and which would prevail before an Article III court.[10] The result is that the claims are interpreted broadly, without deference to prior examination, and without regard to the ordinary and customary meaning the terms would have to one of ordinary skill in the art at the time the invention was made.

Congress should clarify that an issued U.S. patent has value and merit, and that a challenger must prove it to be invalid according to the standard enunciated in *Phillips v. AWH Corp.,* rather than under the BRI standard.

Second, Congress should reaffirm the exclusive nature of the patent grant. In *eBay*[11], the Supreme Court held that patent cases must meet conventional requirements for injunctive relief. As a result, since *eBay*, injunctive relief in patent cases has become more difficult to obtain, and thus less likely to be requested and granted.[12] This outcome overlooks the fact that the patent right is, at its very essence, an exclusive right, *i.e.*, the right to exclude others from making, using, selling, offering for sale, or importing into the U.S., the claimed invention.[13] Congress should clarify that the patent right includes the right to exclude others, and should provide for injunctive relief under a specific standard consistent with that right.

Third, Congress should clarify, and perhaps legislatively overrule, the cases addressing patent eligible subject matter, *Alice, Mayo*, and *Myriad*. While the Supreme Court was measured in its holdings, and sought to restrict the deleterious effect on patent eligible subject matter, lower courts and the USPTO have construed the cases broadly, and in a manner inconsistent with longstanding precedent (and, some say, inconsistent with Supreme Court

---

[10] *Cf.* 35 U.S.C. §282.

[11] *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388 (2006).

[12] Gupta, Kirti and Kesan, Jay P., Studying the Impact of *eBay* on Injunctive Relief in Patent Cases (July 10, 2015). Available at SSRN: http://ssrn.com/abstract=2629399.

[13] U.S. Constitution, Article 1, Sect. 8, clause 8 ("Congress shall have 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;"); and 35 U.S.C. § 283 ("The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable."). Presumably, injunctions "to prevent the violation of any right secured by patent" includes preventing infringement under 35 U.S.C. §271.

precedent itself). Together, the lower courts and the USPTO have effectively written out of the language of both the Constitution and the statute an inventor's right to his or her "discoveries."[14] As a result, patent eligible subject matter in the U.S. is suddenly of dramatically reduced scope, and by such means that its remaining contours are highly uncertain.

The lack of certainty as to patent eligible subject matter is harming the U.S. innovation ecosystem, and is driving research and development offshore. While our scope of patent eligible subject matter has traditionally been broad, inclusive, and predictable, most other patent regimes have been constrained and limited. On witnessing the impressive record of U.S. innovation, and the associated enhancements in public welfare and economic development, many industrialized nations have shifted patent eligible subject matter toward our more expansive view. Now, however, we are retreating from that expansive view, and ceding ground to foreign jurisdictions. As noted above, this has caused an increase in patent filings overseas, and particularly by U.S. companies.

If U.S. companies continue to move their patent filings overseas, their research and development efforts and investments are sure to follow. Innovation is a skill, and, like any other, withers for want of use. As our innovation capital moves offshore, so too will the corresponding skill set. Our patent system has the potential to reverse that trend, and to restore America as the premiere destination for innovation. It is incumbent on us to realize that potential.

Fourth, and finally, Congress should tread extremely carefully in the realm of so-called patent litigation reform. Amidst the many changes imposed by the AIA, the associated administrative proceedings in the USPTO, recent judicial precedent (and administrative interpretation thereof), and changes to the rules of civil procedure, the very nature and extent of the patent property right is up in the air, and its value has diminished. With that, the value of America's core competency – innovation – is likewise diminished. Any further changes to our patent system should be directed to shoring up the patent property right, not further diminishing it. Thus, so-called reforms that would prejudice America's patent holders relative to other rights holders, should be considered with a most critical eye.

* * *

[14] *Id.*; and 35 U.S.C. § 101 ("Whoever invents <u>or discovers</u> any new and useful process, machine, manufacture, or composition of matter...." (emphasis added)).

I thank you for this opportunity to respond to the Committee's Questions For the Record, and to supplement my testimony. I encourage you and any of the Committee members to contact me with any questions about the LES Standards Initiative, or any other aspect of my testimony.

Sincerely,

Brian P. O'Shaughnessy
Chairman-Elect
Licensing Executives Society (USA & Canada)
&
Shareholder and Attorney-at-law
RatnerPrestia