

Statement of

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Chairman Tillis, Ranking Member Coons, and Members of the Subcommittee, thank you for the opportunity to testify today. My name is Jeff Birchak and I am General Counsel, Vice President of Intellectual Property, and Secretary at Fallbrook Technologies Inc. in Cedar Park, Texas. I am here today on behalf of Innovation Alliance, a coalition of research and development-based technology companies that believe that maintaining a strong patent system is critical to supporting innovative enterprises of all sizes.

We appreciate being asked to testify about patent eligibility under section 101 of the Patent Act and are committed to working collaboratively with you and other policymakers to enact legislation that will clarify what inventions are eligible for patent protections and secure the leadership of U.S. technologies in the global economy.

The U.S. patent system forms the foundation of U.S. innovation leadership. The process of inventing new innovations requires investment of time and human and financial resources, all with the risk of failure constantly looming. By granting inventors—whether individual inventors or companies—property rights in their inventions, allowing them to control who makes, uses, sells, or imports their patented ideas or products for a limited period of time, patent rights incentivize inventors to engage in risky, resource-intensive R&D by ensuring that future licensing fees will allow the inventor to recoup the investment they made in their R&D enterprise. This system also incentivizes further innovation and accelerates consumer access to innovative inventions. Intellectual property protections thereby unlock a vast innovation economy in the United States that, according to the USPTO, accounts for more than \$8 *trillion* in economic activity, or more than one-third of U.S. GDP.

Innovation Alliance companies innovate across industries, from audio compression (Dolby Laboratories, Inc.), to wireless communications (Qualcomm, Inc.), to currency counting and counterfeit detection equipment (Cummins Allison Corp.), to touch feedback or “haptic” technology (Immersion), to vehicle transmissions and drive train technology (Fallbrook Technologies). What Innovation Alliance companies have in common is their commitment to innovation and patent licensing. Strong patent rights allow our inventions to be freely bought, sold, or licensed, allowing our members to invest licensing revenue in innovative R&D, while ensuring that manufacturers better positioned to commercialize these inventions can implement our technology for public or industry use.

For nearly 150 years, patent law has offered patent protections to broad categories of subject matter under 35 U.S.C. § 101 of the Patent Act. Yet in recent years, patent eligibility determinations under section 101 have become hopelessly confused, with the courts and the United States Patent and Trademark Office struggling to make eligibility determinations in a manner that is both consistent and predictable. As result, it has become difficult for inventors and businesses to reliably and predictably determine what subject matter is patent eligible—thereby creating risks and disincentives to invest in research and development. What is more, the recent section 101 jurisprudence has undermined important innovations that deserve patent protection, and carved out important inventions from the scope of subject matter eligibility. Given these concerns, the Innovation Alliance commends Chairman Tillis, Ranking Member Coons, and the bipartisan group of Members of Congress on your efforts to reform section 101, and we appreciate the opportunity to work with you to reach a constructive solution.

With my testimony, I will briefly discuss the current section 101 framework for determining patentable subject matter and how it has led to uncertainty, unpredictability, and hindered innovation. I will also offer Innovation Alliance’s thoughts on the recently proposed bipartisan draft bill, which we believe is a very favorable step towards sound reform of section 101.

I. Section 101: Patent Subject Matter Eligibility and the *Alice/Mayo* Framework

For many years, U.S. law has provided patent protection to inventions in a wide array of fields, encouraging exploration and discovery in all corners of science, engineering and medicine, and other disciplines. This is reflected in the text of section 101 of the Patent Act, whose primary purpose is to define what subject matter is eligible for patent protection. Section 101 sets forth broad categories of the subject matter that is eligible for patent protection, and includes “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof”

Until recently, the law of section 101 was relatively simple and did not set a high bar for what subject matter is patent eligible. While courts had recognized a few implicit exceptions to what subject matter is eligible—laws of nature, natural phenomena, and abstract ideas—these were applied in a relatively narrow fashion.

But over the past decade, the law has changed substantially. In a recent quartet of Supreme Court cases¹—most recently *Alice Corp. v. CLS Bank*, 573 U.S. 208 (2014)—the Supreme Court has greatly expanded the reach of the judicially created exceptions to patent eligible subject matter, and in so doing, has thrown into chaos the question of what subject matter is and is not patent eligible.

In these recent cases, the Supreme Court has continued to maintain that section 101 contains an implicit exception for “laws of nature, natural phenomena, and abstract ideas.” But it also has set forth a two-part test for determining when a patent claim is said to cover these exceptions, and thus not subject matter eligible. This framework, often called the *Alice/Mayo* test, involves a two-step inquiry in evaluating eligibility:

- First, the Court asks whether the patent claim “is directed to” an exception to subject matter eligibility—*i.e.*, a law of nature, natural phenomenon, or abstract idea.
- If so, the Court then asks whether the patent claim has an “inventive concept” that ensures that the patent claim amounts to “significantly more” than the exception itself.²

¹ *Bilski v. Kappos*, 561 U.S. 593 (2010); *Mayo Collaborative Servs. v. Prometheus Labs*, 132 S. Ct. 1289 (2012); *Association for Molecular Pathology v. Myriad Genetics*, 569 U.S. 576 (2013); *Alice Corp. v. CLS Bank*, 573 U.S. 208 (2014).

² *Alice*, 573 U.S. at 217–18.

This test, however, has proven unworkable. The first step of this test—whether a patent claim is “directed to” a judicial exception—is highly problematic because, as the Supreme Court itself has recognized, *all* patent claims “at some level . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”³ Given that *all* patent claims at *some level* rely upon the judicial exceptions, the determination of which claims are “directed to” a judicial exception—and which claims are not—is a very difficult, subjective, and frankly often arbitrary, determination.

The subjectivity and unpredictability of this test has only been compounded by the fact that the judicial exceptions themselves are ambiguous. For example, the USPTO has explained that there has been great confusion over which concepts do—and do not—constitute an “abstract idea.” As the USPTO explained in guidance on section 101 issued earlier this year:

The Federal Circuit has now issued numerous decisions identifying subject matter as abstract or non-abstract in the context of specific cases, and that number is continuously growing. ***In addition, similar subject matter has been described both as abstract and not abstract in different cases.*** The growing body of precedent has become increasingly more difficult for examiners to apply in a predictable manner, and concerns have been raised that different examiners within and between technology centers may reach inconsistent results. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 52 (Jan. 7, 2019) (emphasis added).

A couple aspects of the Supreme Court’s two-part *Alice/Mayo* test have proven particularly problematic—not only because they contribute to the uncertainty of what subject matter is and is not patent eligible, but also because they deprive patent protection to important innovations. Those practices, which I briefly explain below, are (1) claim dissection and (2) conflation of subject matter eligibility with inventiveness.

Claim dissection. In determining whether a patent claim is “directed to” a judicial exception under the *Alice/Mayo* test, courts following the Supreme Court’s decision in *Alice* have engaged in a practice that is sometimes referred to as “claim dissection”—dissecting the claim into disparate elements and then ignoring the elements that should be sufficient to bring the claimed invention within the scope of patent eligible subject matter. Through this practice, courts can and have recharacterized the claimed “invention” in a manner that departs from the claims as written, enabling them to conclude that patents do not cover eligible subject matter—even though as written they clearly do. Through such practice, even a claim that falls squarely within one of the four statutory categories of patent eligible subject matter can be reduced to one of the three judicially created exceptions and denied patent protection.

This practice was employed, for example, in *Chargepoint, Inc. v. Semaconnect, Inc.*, 920 F.3d 759 (Fed. Cir. 2019). There, the asserted patents were directed to networked electric vehicle charging stations connected to a local power grid. The Federal Circuit acknowledged that the claims were “associated with a physical machine that is quite tangible”—meaning that the claims were directed to a “machine,” one of the four statutory categories of patentable subject

³ *Alice*, 573 U.S. at 217 (citations and internal quotation marks omitted).

matter. But despite the fact that the claims recited numerous physical electrical components, including a control device (on/off switch), transceiver to communicate with a remote server, and a controller to activate the on/off switch based on communications from the server, the Federal Circuit held that the claims were directed to an abstract idea, and found that the claims were not subject matter eligible.

This practice of claim dissection has long been recognized to be a major problem. Indeed, several *decades* ago—long before the recent section 101 cases—the Supreme Court recognized that it is “inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis” of subject matter eligibility. *Diamond v. Diehr*, 450 U.S. 175, 188–191 (1981).

But following the Supreme Court’s recent section 101 decisions, including *Alice*, courts are now effectively *required* to engage in claim dissection—discounting “routine” or “conventional” claim elements in determining whether a claim covers patent eligible subject matter. *Alice*, 573 U.S. at 225. Not only is such a practice unfair—depriving the inventor of the benefit of how he or she claimed the invention—it contributes to the unpredictability that inventors face in assessing whether their invention is subject matter eligible. This is because, with the current jurisprudence, inventors cannot count on patent claims being assessed *as written*. Even if a claim as written falls squarely within one of the four statutory categories of patent eligible subject matter, courts can ignore limitations, reduce the invention to one of the three judicially created exceptions, and deny subject matter eligibility.

Confusing subject matter eligibility with inventiveness. Another major problem with the current section 101 jurisprudence is that the Supreme Court has conflated *subject matter eligibility* with *inventiveness*. These are very distinct concepts that the law should treat separately. Thus, the question of *inventiveness* should not be dealt with in the context of a subject matter eligibility determination under section 101.

The patent code includes requirements that an invention be novel (section 102) and non-obvious (section 103). As a result of these requirements, inventions are not entitled to patent protection unless they provide meaningful innovation—i.e. are inventive.

Section 101, on the other hand, addresses a very different issue—the simple issue of whether the *subject matter* of the invention is *eligible* to receive a patent.

Unfortunately, the Supreme Court has conflated these very different issues by asking, in the second step of the *Alice/Mayo* test, whether a claimed invention has an “inventive concept.” Not only does this conflation create confusion in the case law, it puts inventors at an unfair disadvantage, and has incongruously resulted in true innovations being deemed *non-inventive*.

Historically, inventiveness has been addressed primarily under section 103 of the patent code, which addresses whether a claimed invention was obvious. Section 103 is well-equipped to address this question, and over the years, a very well-established body of case law has developed that provides a framework for determining whether inventions are obvious. Under *Graham v. John Deere*, 383 U.S. 1 (1966), factors to consider in evaluating whether an invention

was obvious include (i) the scope and content of the prior art; (ii) the differences between the prior art and the claims; (iii) the level of ordinary skill in the art; and (iv) any asserted objective indicia of non-obviousness. *Graham*, 383 U.S. at 17–18. Objective considerations of non-obviousness include whether the invention satisfied a long felt but unsolved need, failure of others, and commercial success, among others. *Id.*

The body of law that has developed under section 103 has meant that determinations of inventiveness (non-obviousness) are typically based on a robust record. This jurisprudence has allowed inventors the opportunity to develop a full record that explains why their invention was innovative—typically with the benefit of testimony from technical experts—and allowed judges and juries to make informed decisions.

Similarly, section 102, which addresses whether an invention is novel, also has a well-developed body of case law that allows for relatively consistent and predictable determinations.

By contrast, section 101 is *not* well-equipped to address whether patent claims are “inventive.” Unlike sections 102 and 103, there is no well-developed test for assessing within the context of section 101 whether a claimed invention is innovative. Determinations of whether a patent claim is “inventive” in a section 101 inquiry are therefore often based on an unbounded determination, *without* the benefit of substantial discovery or expert testimony, leaving generalist judges to make under-informed decisions based on a hunch as to whether an invention is “inventive.” Indeed, in several occasions courts have invalidated patents under section 101 *without any discovery*, on a motion to dismiss.⁴

Moreover, the “inventive concept” analysis that is used under section 101 is fundamentally flawed, allowing *groundbreaking innovations* to be held invalid for failing to meet the “inventive concept” test. One widely recognized example is *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir. 2015). There, the patent holder’s claims were directed to Sequenom’s innovative method for detecting fetal genetic conditions in early pregnancy using cell-free fetal DNA discovered in maternal plasma and serum, which researchers had previously discarded as medical waste. This method avoided the risks of widely used techniques that took samples from the fetus or placenta that is potentially harmful to both the mother and the fetus. Although these claims were unquestionably innovative, the Federal Circuit invalidated the claims. Despite viewing Sequenom’s invention as “truly meritorious,” Judge Linn explained in a concurrence that he was constrained to agree that the patent claims at issue were ineligible and thus invalid because of the “Supreme Court’s blanket dismissal of conventional post-solution steps.”

⁴ See, e.g., *Chargepoint, Inc. v. Semaconnect, Inc.*, 920 F.3d 759 (Fed. Cir. 2019); *Finnavations LLC v. Payoneer, Inc.*, No. 1:18-cv-00444, 2018 WL 6168618 (D. Del. Nov. 26, 2018); *Tangelo IP, LLC v. Tupperware Brands Corporation*, No. 1:18-cv-00692, 2018 WL 6168083 (D. Del. Nov. 26, 2018); *Epic IP LLC v. Backblaze, Inc.*, 351 F. Supp. 3d 733 (D. Del. Nov. 26, 2018); *Secure Cam, LLC v. Tend Insights, Inc.*, 351 F. Supp. 3d 1249 (N.D. Cal. Nov. 14, 2018).

II. The Consequence of the Supreme Court’s Current Section 101 Jurisprudence: Increasing Unpredictability and Undermining Innovation

The Supreme Court’s recent section 101 jurisprudence has had corrosive effects on the patent system, leaving the scope of patent eligible subject matter unsettled and unpredictable. Judges, for example, have repeatedly expressed frustration at the difficulty of applying the Supreme Court’s *Alice/Mayo* test, with one Federal Circuit judge calling patent eligibility law “incoherent,” and explaining that “[t]he law . . . renders it nearly impossible to know with any certainty whether the invention is or is not patent eligible.” *Interval Licensing v. AOL*, 896 F.3d 1335, 1348 (Fed. Cir. 2018) (Plager, J.) (dissenting). Another Federal Circuit judge observed that the law of section 101 “needs clarification by a higher authority, perhaps by Congress, to work its way out of what so many in the innovation field consider are § 101 problems.” *Berkheimer v. HP, Inc.*, 890 F.3d 1369, 1375 (Fed. Cir. 2018) (Lourie, J.). And former Federal Circuit Chief Judge Paul Michel has observed that, “in scores of appeals, [the Federal Circuit] has struggled to make sense of the opaque Supreme Court decisions,” and has “introduced its own confusing notions and language.”⁵

The USPTO has also struggled to apply the *Alice/Mayo* framework. As the USPTO recently explained, “[t]he growing body of precedent has become increasingly more difficult for examiners to apply in a predictable manner, and concerns have been raised that different examiners within and between technology centers may reach inconsistent results.” *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 52 (Jan. 7, 2019). As a consequence of the Supreme Court’s section 101 jurisprudence, moreover, the USPTO has had to repeatedly revise its subject matter eligibility guidance to its examiners.

This confusion in the courts and at the USPTO has taken a heavy toll on the patent system. Reliability and predictability are essential to an effective, strong patent system. When a patent system fosters confidence in the reliability of patents, inventors are encouraged to invest in new technologies and bring their innovations to market. By contrast, lack of predictability and uncertainty over patent rights makes it risky to develop and invest in new technology, thereby deterring innovation.

In the short term, innovators who have invested years of hard work and enormous sums of money have, in a number of cases, been denied the benefit of patent protection—even when their inventions are recognized as undisputedly innovative. In one example, last October, the U.S. District Court for the District of Massachusetts overturned a patent granted to CardioNet, the inventor of a new heart monitoring device that detected changes in the variability of heartbeat timing to detect heart disease, despite acknowledging that it “may well improve the field of cardiac telemetry.” The court found that monitoring the irregularity of a heartbeat is an abstract idea, and that the monitor operated by using a general computer; therefore, the device was not

⁵ Judge Paul Michele, *Is 2019 the Year Clarity Returns to Section 101? Judge Paul Michel Is Hopeful*, IPWATCHDOG INSTITUTE, Jan. 24, 2019, <https://www.ipwatchdog.com/2019/01/24/2019-year-clarity-returns-section-101-judge-paul-michel-hopeful/id=105566/>.

eligible for a patent. *See CardioNet LLC v. InfoBionic, Inc.*, 348 F. Supp. 3d 87, 97–98 (D. Mass. 2018).

Moreover, even when the *Alice/Mayo* test is ultimately not applied in a manner that invalidates a patent, the lack of clarity in section 101 still adversely affects patent holders by increasing unpredictability—unpredictability that can make it harder to settle a case, and that increases litigation expense if the issue of patent subject matter eligibility is adjudicated.

Longer term, if left unfixed, the impact of current section 101 will stifle innovation as investors and companies become less willing to take the large risk to invest in important technologies given the unpredictability as to whether they are able to obtain patent protection for their inventions. Strong, predictable patent rights incentivize inventors to assume the risky investment of time and resources necessary to innovate. Patent owners are entitled to charge licensing fees in exchange for permission to use their patented invention, or to exclude others from using their invention altogether during the life of the patent. Patents thus permit innovators to recoup the investment they made in their R&D enterprise, perpetuating a cycle that rewards inventors for risk-taking and accelerates consumer access to innovative technologies. But as uncertainty about whether subject matter is patent eligible increases—and the likelihood of return on investment decreases—the incentives to innovate will wane.

Moreover, denying patent protections to U.S. researchers and inventors threatens U.S. leadership in global technology innovation and our national security. China, Europe, Korea, among others, continue to grant patents for inventions the U.S. has deemed ineligible, ensuring that innovative companies and inventors that operate and patent in those jurisdictions have a competitive edge in global innovation. For example, FotoNation, a subsidiary of Innovation Alliance member Xperi, experienced difficulty obtaining a patent for its technology that tracks faces and facial features when the USPTO twice rejected its patent application before finally allowing a patent on the invention. By contrast, the European Patent Office granted a European patent on the same invention and did not raise any subject matter eligibility issues. This technology has many potential safety applications, including being used in cameras mounted in car rear view mirrors to detect whether the driver is looking at the road, falling asleep, or looking at his phone. The U.S. has made it harder to protect and invest in these technologies, while the rest of the world is making it easier.

Foreign dominance of any critical technology presents significant national security concerns, as competitors, many with ties to hostile governments, control wireless networks, computer hardware, medical devices, and other technologies used by individuals, businesses, and governments in the United States. The World Intellectual Property Organization (WIPO) recently reported that China is now rivaling the U.S. in the patenting of Artificial Intelligence technologies, potentially providing China with a competitive advantage in the further development and control of AI technology.⁶

⁶ See World Intellectual Property Org., *Technology Trends 2019: Artificial Intelligence* (2019), at 15–16, https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf.

In a recent study, scholars at George Mason University examined nearly 18,000 patent applications filed in the U.S., Europe, and China, that were rejected in the United States on section 101 grounds. The study found that of the almost 18,000 applications rejected and abandoned in the U.S., nearly 1,700 were granted in Europe, China, or both. See Kevin Madigan & Adam Mossoff, *Turning Gold into Lead: How Patent Eligibility Doctrine Is Undermining U.S. Leadership in Innovation*, 24 Geo. Mason L. Rev. 939 (2017).

These findings are alarming. If U.S. companies and universities cannot obtain patent protections at home for groundbreaking technologies, they will be driven overseas to Europe, Korea, China, among others, to create, obtain patent protection for, and commercialize their new technologies.

III. Current Proposed Bipartisan Draft Bill

Given the problems with the current law on subject matter eligibility, we strongly support section 101 reform, and applaud Senators Coons, Tillis and other Members of the Subcommittee for taking the initiative to tackle this important problem. We further believe that the proposed bipartisan draft bill that has been proposed represents a major positive step toward sensible reform.

A. *Proposed Section 101*

The proposal to reform section 101 is simple, straightforward, and will address a number of the problems with the current section 101 jurisprudence that I have discussed. Helpful aspects of the proposed legislation include:

- ***Eliminating judicial exceptions.*** The proposed amendment eliminates all implicit or judicially created exceptions to subject matter eligibility—including abstract ideas, laws of nature, or natural phenomena—noting that no exceptions shall be used to determine patent eligibility under section 101. We believe that this is a helpful change to the law because, as noted above, the judicial exceptions have caused tremendous confusion, resulting in anomalous and unpredictable results.

Furthermore, we see no need for specific exceptions to subject matter eligibility, as things like pure laws of nature, pure natural phenomena, or pure abstract ideas will not come within the scope of eligibility in the first instance, as none of these “exceptions” is a useful process, machine, manufacture, or composition.

We also believe that the proposed definition of “useful” in section 100 of the proposed legislation should prevent things like pure theorems and scientific observations from being patented, because they would not have “practical and specific utility,” or provide such utility through “human intervention.”

- ***Eliminating the conflation of subject matter eligibility with novelty/inventiveness.*** The proposed amendment also provides that eligibility of a claimed invention under section 101 shall be determined without regard to the manner in which the claimed invention was made; whether individual limitations of a claim are well known,

conventional or routine; the state of the art at the time of the invention; or any other considerations relating to sections 102, 103, or 112 of this title.

We believe that this is another vital change, because it leaves the determination of inventiveness in the province of sections 102 and 103—where such determinations properly belong. Those provisions are well-equipped to address considerations of inventiveness; they allow patent holders to develop a full record as to why their invention is innovative, enable courts to make more fully informed decisions, and avoid outcomes in which true innovations are deemed to be *not* inventive. By contrast, as noted above, section 101 is not well-equipped to address questions of inventiveness, and application of the “inventive concept” test has produced under-informed and divergent results.

- ***Prohibiting claim dissection.*** The proposed amendment also helpfully prohibits the troubling practice of “claim dissection”—the practice discussed above in which courts make subject matter eligibility determinations upon consideration of only certain claim elements, while ignoring others. The proposed amendment does so by providing that “[e]ligibility under this section shall be determined only while considering the claimed invention as a whole, without discounting or disregarding any claim limitation.”
- ***Creating a presumption in favor of subject matter eligibility.*** Yet another favorable aspect of the proposed amendment is that the “provisions of section 101 shall be construed in favor of eligibility.” This is an expression of an important principle: that subject matter eligibility should be a low bar to obtain a patent, and doubts should be resolved in favor of subject matter eligibility. Broad exclusions of subject matter from patent eligibility are undesirable because they undermine incentives for inventors to invest the capital required to innovate across a full range of technologies. Broad exclusions of subject matter from patent eligibility are also unnecessary, because the patent code already includes requirements for, *inter alia*, novelty, non-obviousness, and utility, meaning that inventions are not entitled to patent protection unless they provide meaningful, useful, non-obvious innovation.

B. Proposed Section 112

While we greatly applaud the section 101 proposal, we did want to add one note of caution concerning a proposed change to a *different* statutory provision—35 U.S.C. 112(f)—which has been proposed along with reform to section 101. This amendment to section 112(f) would provide the following:

Section 112

(f) Functional Claim Elements—

An element in a claim expressed as a specified function without the recital of structure, material, or acts in support thereof shall be construed to cover

the corresponding structure, material, or acts described in the specification and equivalents thereof.

We understand that concerns regarding a potential preemptive effect of broad functional claim language motivates this proposed change. But, as always, we must ensure that changes to statutes are narrowly tailored to achieve the desired functions and avoid any significant unintended consequences. In this case, as this section of the proposed amendment is written, we are concerned that the proposed changes would cause serious and adverse unintended consequences.

In its current form, section 112(f) has been narrowly construed, and applies only to “means plus function claims.” In these types of claims, a patent applicant claims a means for achieving a claimed function—but without reciting *in the claim* the structure for achieving that function. In such instances, in assessing what structure is used to achieve the function, the claim is construed as being limited to *only* the structure described in the specification, and equivalents to that described structure.

Whether section 112(f) is deemed to apply to a patent has tremendous ramifications for whether the patent is deemed infringed; when section 112(f) applies, the claim limitation specifying a function is effectively limited to only the corresponding structure recited *in the specification itself*. This means that an accused infringer only needs to make a minor change from the structure described in the specification to not infringe. Thus, when section 112(f) applies, infringement is rarely found.

Currently, section 112(f) rarely applies to patent claims. With a few limited exceptions, section 112(f) is *not* deemed to apply to a patent claim unless the patent applicant chooses to draft the claim element using the phrase “means or step for performing a specified function.” Practitioners all know very well that when they invoke section 112(f), they do so with the understanding that the resulting claim will be limited to their disclosure and will not cover other well-known equivalents for a function. They take that risk only when it is appropriate, knowing the language creates a substantial narrowing of the resulting claims.

The current proposal, however, would ostensibly broaden the application of section of 112(f) in an expansive manner, such that the recitation of *any function* in a claim “without the recital of a structure, material, or act in support thereof” will limit the claim to the specific structural embodiments laid out in the specification that practice the claimed function. This change to section 112(f) would presumably sweep in *all* method claims which, by their nature, describe a claimed invention in a series of functional steps—processing, computing, transmitting, reciting, etc.

We are concerned that broadening the application of section 112(f) in this fashion would have adverse and unintended consequences. For example, the broad applicability of section 112(f) under the proposed amendment would disrupt the long-held understanding that patent holders need not enumerate *each way* of carrying out *each step* of a method in the patent specification. Because inventions are a combination of old and new elements, the Patent Act sensibly does not require innovators to disclose every potential embodiment of known elements.

Patentees are instead allowed to rely on the knowledge and skill of a person of ordinary skill in the art and do not need to explain known elements of the invention in great detail.

Moreover, claim terms are understood to encompass the full scope of their plain meaning and are not limited to the examples in the specification. One reason for this important policy is to reward innovators with the full breadth of the scope of the claimed invention and prevent potential infringers from making small, insubstantial changes to avoid infringement.

By limiting the scope of any claim with functional language to only those specific embodiments described in the specification, the proposed changes to section 112(f) would upend these longstanding practices. It would mean that drafters would need to enumerate every possible way of carrying out every step of a claimed method, or else be limited to a very narrow claim scope. It would also require patent holders to not only devote tremendous attention to describe what is new about their invention—but also to recite in an encyclopedic fashion all aspects of known elements that their claims encompass to try to minimize the risk of non-infringement. Additionally, the change to section 112(f) would allow potential infringers to avoid infringement by making small, insubstantial changes to the embodiments described in the specification. We therefore fear that, just as the current section 101 jurisprudence has had negative effects on innovation, the proposed change to section 112(f) may similarly frustrate innovation.

We believe that, in its existing form, section 112 is adequate to address concerns about preemption, without further reform. Section 112 requires inventors to describe their invention and provide enough information so as “to enable any person skilled in the art . . . to make and use the same.” 35 U.S.C. § 112. Because written description and enablement must be commensurate in scope with the claims, broad claims require a fuller, broader, and more robust disclosure than narrow claims—which prevents applicants from monopolizing things like scientific principles through broad open-ended claiming that are not supported by an enabling description in the specification. We therefore believe that reform should be limited to the changes proposed to sections 100 and 101, and absent more substantial deliberation about the precise problem to be solved and how best to solve it, that it should not include section 112.

If the Subcommittee were to proceed with an amendment to section 112, we believe that more time and deliberation should be given to the proposal, to ensure that any change is limited in scope and avoids adverse and unintended consequences—in the same way that great time and attention has been devoted to thinking about how to reform section 101 in a helpful way. We also urge that the proponents of such a change provide specific examples, so that corrective language can be narrowly tailored to avoid unintended consequences for the rest of patent law.

That concern noted, we did want to reiterate our appreciation for your reform efforts on section 101, and state our belief that it successfully addresses several of the problems with the current patent subject matter eligibility jurisprudence.

Thank you again for inviting me to testify today. I look forward to answering your questions.