

**A TWO-PRONGED APPROACH TO ADDRESSING § 101’S JUDICIALLY IMPOSED
“IMPLICIT EXCEPTIONS” TO ELIGIBILITY FOR PATENTING:
A PATH FORWARD FOR JUDICIALLY RETIRING THESE EXCEPTIONS AND A
LEGISLATIVE PROPOSAL AS AN ALTERNATIVE MEANS TO THE SAME END**

The opportunity may arise in the near term to offer the U.S. Supreme Court a rationale for reconsidering the manner in which it analyzes “patent eligibility” for claimed inventions in issued U.S. patents. Specifically, the Court may grant *certiorari* in order to address whether its “implicit exceptions” to subject matter that would otherwise qualify for patenting under 35 U.S.C. § 101 should be continued and, if they are to be continued, the manner and extent to which these extra-statutory constraints on patenting should apply.

If the Court were to hear such a case, it should be urged to conclude that its existing analytical framework for applying the “implicit exceptions” has proven unworkable—and is in any event unneeded—and should be retired. The ability to credibly advocate for the “retirement” option depends upon marshalling evidence that the “implicit exceptions” jurisprudence produces anomalous results (*e.g.*, denying patent eligibility to inventions that are readily patentable in other industrialized countries, including countries where U.S. treaty obligations suggest that special judge-made rules limiting the availability of patents could conflict with such obligations) and affords an inherently unworkable and unpredictable analytical framework for assessing patentability.

Another requirement for making a successful “retirement” argument lies in the ability to advance a suitable alternative jurisprudential framework, respectful of the exceptions’ policy drivers, *i.e.*, what else in the patent laws would address the patent policy considerations that have compelled the Court to constitute the “implicit exceptions”? Most specifically, a cogent explanation of a set of patent-limiting alternative mechanisms is needed—legal principles that the Court would perceive suffices to supersede the “implicit exceptions” by serving the same policy ends.

What follows are two papers. The first of the two papers sets out the case for judicial retirement of the “implicit exceptions” doctrine. It provides an overview of one possible alternative framework that is presently available to the Court, *i.e.*, available without the need for any congressional intervention. This alternative would allow the Court to wholly retire the “implicit exceptions” because it would fully vindicate the policy justification for these exceptions through interpretation of existing statutory provisions and non-statutory judge-made limits on patent rights.

The second paper takes the judicial alternative of the first paper and turns it into a set of possible statutory amendments that would achieve through congressional action the same ends. It does so given that the Court might be reluctant to retire its precedents given its view of the constraints imposed by *stare decisis*, *i.e.*, the Court has applied *stare decisis* to maintain its own holdings even when it concedes they are not justified by the policies on which they are based. Compare *Kimble v. Marvel Entertainment, LLC*, No. 13-370, U.S.S.C (June 22, 2015). If concurrent efforts are commenced to redress the Court’s “implicit exception” jurisprudence in both judicial and legislative forums, the two papers below provide a means for making consistent arguments for doing so based on complementary proposals. Moreover, by respecting—even embracing—the underlying policy concerns underlying the “implicit exceptions” as long articulated by the Court, they enhance the prospect that the Court would find itself compelled to accept one or the other.

RETIRING JUDICIALLY IMPOSED “IMPLICIT EXCEPTIONS” TO PATENT ELIGIBILITY BASED UPON A FULL IMPLEMENTATION OF EXISTING STATUTORY LIMITS ON PATENTING AND REVITALIZATION OF CURRENTLY UNDERUTILIZED JUDICIAL PATENTING CONSTRAINTS

Introduction

Recent Supreme Court decisions have held inventions to be “implicitly” ineligible for patenting, even though they are patent-eligible in accordance with 35 U.S.C. § 101. The Court has relied on longstanding precedents of the Court for imposing these exceptions. *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 134 S. Ct. 2347 (2014); *Bilski v. Kappos*, 130 S. Ct. 3218 (2010). However, the most recent decisions articulating the “implicit exceptions” doctrine rely on an analytical framework that has proven to be extraordinarily problematic to apply in practice. Among its unfortunate effects, it has led to invalidating U.S. patents for inventions that can be readily patented in other industrialized countries. See the claims of *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F. 3d 1371 (Fed. Cir. 2015) held to be ineligible for patenting.

As the Supreme Court law has developed over the past half-decade, it has refined the analytical tools for implementing these “implicit exceptions.”¹ The Court’s framework, to an ever increasing degree, has taken on a life of its own—the Court’s “significantly more (in an inventive sense) than a patent upon the concept itself” analysis has attributes of a distinct, *sui generis* requirement for patentability. As such, it raises the question of whether international treaty obligations to which the United States is a party are being fully respected. International agreements, such as TRIPS, were intended to guarantee that patent rights would be available and enjoyable subject to a limited set of conditions and requirements for patentability. Putting new and distinct patentability requirements in place—especially those that invalidate patent claims clearly valid in other industrialized countries that are signatories to TRIPS—raises a non-trivial issue of whether these international obligations are not being fulfilled under the present state of U.S. patent law.

The imposition of the “implicit exception” doctrine appears to be justified by the Court based upon what it perceives as deficiencies in the requirements for patentability that are set out explicitly in the statute in 35 U.S.C. § 101, § 102, § 103, and § 112. The Court has apparently determined that these express statutory patentability requirements must be augmented through non-statutory limits on patenting in order to address policy concerns arising from patent claims that are partially or wholly expressed in conceptual terms. Specifically, the “implicit exception” doctrine purports to invalidate “not significantly more (in some inventive manner) than the concept itself” claims that might otherwise afford patent protection over (*i.e.*, dominate or preempt) a law/product of nature, a natural/physical phenomenon, or an abstract idea. *Ass’n for Molecular Pathology v. Myriad*, 133 S. Ct. 2107, 2116 (2013).

¹ The “implicit exceptions” are implemented through a methodology set out in *Alice* at 134 Sup. Ct. 2355, “First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. ... If so, we then ask, ‘[w]hat else is there in the claims before us?’ ... To answer that question, we consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application. ... We have described step two of this analysis as a search for an “inventive concept” — *i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’”

The Court has contended that patents affording protection over such concepts could restrict access to the basic tools of science and technology. To the extent that patents with such conceptual claims were to do so, the Court states that they could frustrate the constitutional purpose of the patent system by impeding rather than promoting progress in the useful arts. *Mayo Collaborative v. Prometheus Labs.*, 132 S. Ct. 1289, 1293 (2012).

The policy concerns of the Court cannot simply be dismissed as illegitimate. They need to be respected and addressed. What follows are proposals for alternative judicial means for addressing such concerns that are designed to be at least equally effective, in the aggregate, in taming “conceptual” patents, but more predicable in their application and more consistent with international norms.

Judicial Restraint Demands § 101’s “Implicit Exceptions” Be Applied, If At All, As A “Safety Valve,” Not As A “Threshold” Consideration, And Be Used Only When The Statutory Patentability Requirements Have Been Fully Met

The Court has characterized the statutory patent-eligibility inquiry under 35 U.S.C. § 101—requiring that an invention must be claimed in terms of a process, machine, manufacture, or composition of matter—as “only a threshold test,” noting that other statutory conditions and requirements define whether a claimed invention will ultimately be patentable. *Bilski*, 130 S. Ct. at 3226. (“Section 101 imposes a threshold condition.” 130 S. Ct. at 3236.)

At the outset, the Court’s analysis of the statute is a recognition that eligibility for patenting is not the only condition for patentability and, thus, not the only constraint on patent rights. Other provisions of the patent statute set out conditions and requirements for securing a valid patent—such that no one such provision needs to work alone to address policy considerations that demand limitations be placed on the availability of patent rights.

Self-evidently, any judicially imposed, non-statutory limitations on patenting that operate to augment the statutory scheme—because they arise from policy considerations over the extent to which subject matter can be validly patented—can be justified only to the extent they operate to bar the patenting of subject matter that would otherwise meet each of the patentability requirements under the patent statute. Declaring that subject matter already barred from patenting under the statute is also judicially ineligible for patenting cannot possibly serve any policy objective.

Thus, even if the explicit eligibility requirement under § 101 is to be applied as a “threshold test” for patentability, it does not follow from this jurisprudence that the judicially imposed “implicit requirements”—also associated by the Court with § 101—should form part of that “threshold” assessment. In this regard, judicial restraint should preclude their imposition as a “threshold” consideration. Specifically, their use can be justified, if at all, as a “safety valve”—used to hold unpatentable a claimed invention that would otherwise have been patentable under the statutory requirements.

At a minimum, therefore, no policy rationale exists for applying the “implicit exception” doctrine except to a patent claim that would be found otherwise valid under the explicit patentability requirements set out in the statute, *i.e.*, when it might serve the “safety valve” role. This alone should preclude the routine inclusion of the judicially imposed “implicit exceptions” as part of the threshold determination of “patent eligibility.”²

The “Implicit Exceptions” Can Be And Should Be Retired From Patent Jurisprudence If The Statutory Requirements For Patentability And Other Non-Statutory Doctrines That Limit Patenting Fully Address The Policies On Which The “Implicit Exceptions” Are Grounded.

If the “implicit exceptions” are properly applied as a “safety valve,” rather than a “threshold” consideration, the possibility exists that the “implicit exceptions” might never be invoked to invalidate a claimed invention. The “safety valve” is not needed if there is no lacuna existing in the statutory patentability requirements that would require the Courts to invoke overarching policy considerations to invalidate a patent that Congress has provided should be invalid under the statutory conditions and requirements for patentability.

Specifically, the “implicit exceptions” would serve no policy purpose to the extent they merely act to provide duplicate grounds for eliminating patents that would in any event be unpatentable given a proper judicial of existing statutory patentability requirements or be otherwise unenforceable under other non-statutory, patent-limiting doctrines. Manifestly, the sole policy justification for continuing to apply implicit exceptions depends on whether they achieve objectives not achieved either by the proper judicial interpretation of the statutory requirements for patenting or by invocation of other applicable doctrines limiting the protection available under the patent laws.

If the “implicit exceptions” are applied as a “safety valve,” not as a “threshold test,” and resort in fact to the “safety valve” is never actually needed to invalidate a patent based on conceptual claiming, the result would be the *de facto* retirement of the doctrine as a problematic aspect of patent jurisprudence.

However, if the courts were to take a prospective look at the statutory requirements for patentability—and the other judge-made doctrines that can limit the availability of enforceable patent rights—with an eye to interpreting these statutes and doctrines in a manner making full use of their potential to address issues with conceptual patent claims, it is possible that such a prospective review could establish that these other patent-limiting tools more than suffice to moot the

² The underlying difficulty with applying the “implicit exceptions” doctrine to a claimed invention without regard to its patentability under the statutory requirements for patentability is that it forces the doctrine to consider patent eligibility for subject matter that could never be validly patented. In such a situation, the temptation is to apply the doctrine to invalidate a “bad claim,” just in case the claim might not be invalidated on other grounds. In that context, it tends to invigorate the doctrine beyond what is needed to achieve its policy purposes whenever the doctrine is stretched to apply to a claimed invention that would otherwise be statutorily unpatentable on non-§ 101 grounds. Moreover, when used as a “threshold test,” the doctrine tends to feed upon itself—once stretched, it becomes easier to stretch again. In contrast, when the doctrine is applied only to claims that are conceded to be otherwise patentable, it can be more readily right-sized through the normal process of development as a common law doctrine. No possibility exists that the doctrine might be overworked—it is applied only as needed.

justification for continuing the “implicit exceptions.” In such a circumstance, the Court would be positioned to afford the “implicit exceptions” doctrine a *de jure* retirement. Judicial restraint would suggest the Court might be obliged to do so.

In particular, as discussed below, a case can be made today that the full implementation of the existing statutory patentability requirements, if coupled with a revitalization certain judge-made patenting constraints, would obviate any justification for continuing to apply the implicit exceptions. The case for retirement of the existing exceptions through such a process of judicial reassessment is made below.

Section 101, by Requiring that Claims be Expressed in Terms of a *Process, Machine, Manufacture, or Composition of Matter* Should be Interpreted to Inherently Require That Claims be Directed to *Embodiments or Applications* of Any Concept to Which the Invention Relates

A core requirement for patentability, set out in 35 U.S.C. § 101, limits the manner in which an invention must be claimed in order to secure a valid patent. To be valid under § 101, patent claims must be expressed in terms of a process, machine, manufacture, or composition of matter—or an improvement on one of the foregoing categories. This explicit, statutory requirement, by limiting the subject matter categories to which a valid patent claim may be directed, should be interpreted to inherently require that claims *be directed to embodiments or applications of any concept to which an invention relates*.

Specifically, processes, machines, manufacturers, and compositions of matter are mutually exclusive categories with respect to laws of nature, natural/physical phenomena, and abstract ideas. If ever a statutory provision appeared on its face to be drafted to set forth a dichotomy between a concept and the embodiments or applications for putting a concept in to practice, it is § 101.

Thus, the § 101 “statutory categories” requirement should operate to preclude the possibility that a valid patent claim could cover such a concept as such, whether the concept represents a law of nature, natural/physical phenomenon, or an idea—even if not “abstract.” This outcome requires nothing more than a judicial interpretation of the § 101 “statutory categories” requirement inherently requires that a patent claim as a whole must be directed to embodiments or applications of any related concept.

Interpreting § 101 as drawing such a bright line between concepts and their embodiments and applications is a start on the journey to addressing a collateral concern of the court, namely that patenting drafting techniques may be available as a means of circumventing a prohibition on claims that might dominate such concepts, rather than being limited to the disclosed embodiments or applications of any underlying concept. As discussed in detail below, other statutory tools can—and should—be interpreted to afford “practical assurance” that the threshold § 101 “statutory categories” condition for patenting interpreted as a requirement that the claim as a whole must be directed to an embodiment or application of any underlying concept is not circumvented by a creative “drafting effort.” See *Myriad* at 1297.

Section 112(f), Enacted In Response To The *Halliburton* Decision, Should Be Interpreted In A Manner Consistent With *Halliburton* To Preclude The Possibility That Patent Drafting Techniques Might Circumvent The § 101 Embodiment/Application Requirement

Foremost among the statutory requirements that were designed to reign-in patent drafting techniques capable of yielding conceptual claims is 35 U.S.C. § 112(f). This subsection of § 112 could readily be interpreted by the courts to eliminate the possibility for circumventing the principle that patent claims should be limited to embodiments or applications of any concept to which the invention relates. As part of the “retirement” agenda for the “implicit exceptions” the courts should proceed to do so—because both the origin of this statutory provision and its literal wording would appear to demand no less.

First, as a brief background, this subsection applies only to “combination claims,” *i.e.*, claims composed of multiple discrete elements making up the combination. When § 112(f) is applied to one of a combination claim’s discrete elements, the claim element is limited such that it can have no conceptual component—the claim cannot extend conceptually to a function to be performed or a result to be achieved. By operation of § 112(f), the claim element is limited by statute to the corresponding structures, materials, or acts described in the patent specification and their equivalents.

In enacting § 112(f) as part of the 1952 Patent Act, Congress sought to provide a statutory provision consistent with the holding in *Halliburton Oil Well Cementing Co. v. Walker*, 329 US 1 (1946) that would limit a claim containing a conceptual element to the patent’s specifically disclosed structures, material, or acts since—absent such a limitation—*Haliburton* would result in the invalidation of the claim.

In *Haliburton*, a key claim element was drafted in terms of a function to be performed, rather than the structures or materials disclosed for performing the function. In *Haliburton*, the claim element associated with this functional language did not reference any established category of structures or materials for performing the function, but was instead targeted to a “point of novelty” for the claimed invention. The Court held the claim with such a discrete element invalid based upon the lack of a tie to specific structures, materials, or acts.

The *Haliburton* decision, thus, can only be read as forcing a binary choice for claim elements of this type—either the claims must be limited to disclosed structures or materials or the claims will be held invalid. When Congress enacted § 112(f) to codify the *Haliburton* holding to preserve this binary outcome, it introduced what is best described as a patent-saving, but patent-limiting provision—the claim containing the conceptual words that *Haliburton* would invalid would be limited to structures, materials, or acts such that the *Haliburton* holding would no longer be applicable.

Federal Circuit precedents relating to the implementation of § 112(f) fail to implement this subsection in a manner consistent with the *Haliburton* decision. Instead, the court has employed dueling “presumptions” to determine whether a claim element is subject to the § 112(f) limitation. Under these precedents, the § 112(f) limitation presumptively applies or presumptively does not

depending on whether or not the words “means for” or “step for” appear in a claim element. *Williamson v. Citrix Online, LLC*, 792 F. 3d 1339 (Fed. Cir. 2015). In effect, these precedents exalt the form in which a claim is drafted (*e.g.*, with or without the words “means for” or “step for”) rather than the substance (*e.g.*, whether or not limited to disclosed structures, materials, or acts).³ Thus, Federal Circuit precedents foster precisely the type of draftsmanship opportunities that the Supreme Court has found problematic in the context of addressing conceptual claiming practices.

Properly applying *Haliburton* to § 112(f) would require nothing more than interpreting the existing statute to require that each combination claim element must be specifically limited to specifically disclosed structures, materials, or acts unless the claim element’s reference to a function to be performed or result to be achieved was a reference to an established category of structures, materials, or acts for performing the function or achieving the result. Such an interpretation of § 112(f) would meet the stricture in *Halliburton* that functional (conceptual) terminology not be employed at a “point of novelty” within a combination claim. Moreover, § 112(f) would fully meet its remedial purpose of preserving validity of claims not so restricted on their face.

Section 112(a)’s “Written Description” Requirement, As Mandated Under *O’Reilly v. Morse* And Interpreted By The *Lilly* Cases, Suffices To Prevent All Claims from Validly Covering A Concept Rather Than Its Embodiments Or Applications

Section 112(a) contains yet another statutory requirement operating to bar patentability for conceptual claims. This is the “written description” requirement under 35 U.S.C. § 112(a).

The application of the § 112(a) “written description” requirement as a bar to conceptual claims arises because that it would be impossible for such claims to be based upon a *sufficient description* goes back to the invalidated conceptual claim⁴ in *O’Reilly v. Morse*, 56 U.S. 62 (1853):

Indeed, if the [conceptual] claim of the patentee can be maintained, there was no necessity for any specification, further than to say that he had discovered that, by using the motive power of electro-magnetism, he could print intelligible characters at any distance. We presume it will be admitted on all hands, that no patent could have issued on such a specification. Yet this claim can derive no aid from the specification filed. It is outside of it, and the patentee claims beyond it. And if it stands, *it must stand simply on the ground*

³ 35 U.S.C. § 112(f) provides: “An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” Whether or not the claim recites the “structure, material, or acts” to limit the otherwise conceptual aspects of the claim should be a straightforward matter or claim construction (*Phillips v. AWH Corp.*, 415 F. 3d 1303 (Fed. Cir. 2005)) for which “presumptions” based on the presence or absence of words such as “means ... for” or “step for” should be accorded no significance.

⁴ The claim at issue before the Court read, “I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; *the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances*, being a new application of that power of which I claim to be the first inventor or discoverer.” [Emphasis added.] 56 U.S. 112.

that the broad terms above-mentioned were a sufficient description, and entitled him to a patent in terms equally broad. In our judgment the act of Congress cannot be so construed.” 56 U.S. at 119-120. [Emphasis added.]

Under § 112(a), as presently construed by the Courts, claims (whether or not expressed in terms of a “combination”) are required to *identify* the claimed subject matter other than through the function it is to perform or the result it is to achieve. This interpretation of the § 112(a) requirement is most clearly articulated in the so-called *Lilly* cases, *Regents of University of Cal. v. Eli Lilly & Co.*, 119 F. 3d 1559 (Fed. Cir. 1997) and *Ariad Pharmaceuticals, Inc. v. Eli Lilly and Co.*, 598 F. 3d 1336 (*en banc*) (Fed. Cir. 2010). Most typically, the identification requires the recitation in the patent specification of the embodiments or applications to which the claim is directed, thereby requiring the identification of the constituent structures, materials, or acts.

Thus, when § 112(a) is properly interpreted, it operates to invalidate patent claims whenever the patent’s specification does not adequately identify the subject matter claimed other than in terms of function or result. Moreover, as noted above, this requirement applies whether or not the patent claim is directed to a combination invention. In the case of a combination invention, the requirement is—self-evidently—separately applicable to each individual claim element. As such, it reinforces and extends the prohibition against conceptual claiming practices under a *Haliburton*-consistent interpretation of § 112(f).⁵

The Federal Circuit cases that are explicit in applying the § 112(a) requirement in a manner consistent with the *Lilly* cases date back only to 1993⁶ and the definitive nature of this jurisprudence traces back on only to the second of the *Lilly* cases that was decided *en banc* in 2010. Prior to this line of cases, the § 112(a) requirement for a “written description” was commonly administered only with respect to the so-called “new matter prohibition” component—claims (except those initially presented in a patent filing) needed an antecedent description of the claimed invention.⁷

Given the relative novelty of the Federal Circuit’s present *Morse*-consistent interpretation of § 112(a)’s “written description” requirement, the longstanding divisions within the Federal Circuit as to the correctness of this interpretation, and the relatively recent resolution of this issue *en banc*, the implementation of this jurisprudence in United States Patent and Trademark Office examination practices and in district court invalidity pleading is continuing to develop. As this development matures, § 112(a)’s synergistic effect on precluding conceptual claim when taken together with a *Haliburton*-consistent judicial interpretation of § 112(f), could operate as a profoundly effective check on conceptual claiming—and patent drafting techniques that might circumvent limits on conceptual claiming.

⁵ *LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F. 3d 1336 (Fed. Cir. 2005), petition for rehearing *en banc* denied, *LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 433 F. 3d 1373 (Fed. Cir. 2006).

⁶ *Fiers v. Revel*, 984 F. 2d 1164 (Fed. Cir. 1993).

⁷ “It is said that the written description requirement is merely a means of ‘policing new matter violations.’ However, there is a separate new matter provision in the statute (35 U.S.C. § 132), and that provision is subsidiary to the basic requirement set forth in Section 112 to disclose one’s invention. That statutory written description requirement is basic to the patent system and it is in no way limited to “policing new matter violations” or resolving priority disputes.” *LizardTech*, 433 F.3d 1373,1375.

The Aggregate Effect of the Application of the § 101/§ 112(a)/§ 112(f) Requirements with the “Inventiveness” Requirement under § 103 Assures That a Valid Patent Claim Cannot Dominate or Preempt a Concept

The combined effect of § 101, § 112(a), and § 112(f), if properly interpreted by the courts, would assure that valid patent claims would be limited to specifically disclosed applications and embodiments of any concepts to which valid patent claims might relate—and then only those enabled for a specific and practical use.⁸ In doing so, these statutory requirements would specifically preclude the possibility that valid patent claims could extend to a function to be performed or result to be achieved, rather than specified structures, materials, or acts for implementing the function or achieving the result. However, this trilogy of statutory provisions does not operate in isolation.

The foregoing provisions operate together with a further statutory requirement addressing the inventiveness of the embodiments/applications to which valid patent claims must be limited. Specifically, 35 U.S.C. § 103 assures that the specific embodiments or applications to which a patent claim must be limited, cannot be patentable unless they have an inventive character, *i.e.*, the claimed invention as a whole must not be obvious to persons of ordinary skill in the art.

Most specifically, unless each embodiment or application covered by a patent claim is inventive, § 103 renders the entire claim invalid. This statutory requirement, together with the manner of claiming limitations in § 101, § 112(a), and § 112(f) assure that valid patent claims will be confined to *practically useful inventive* embodiments or applications of any related law/product of nature, natural/physical phenomenon, or abstract—and, thus limitations representing something significantly enough more or different from the law, phenomena, or idea itself in an inventive sense. As such, a statutorily valid claim would have no possibility of dominating (or preempting) the law, phenomena, or idea.

Additional Patent-Limiting Judicial Doctrines Should Be Revitalized To Address Other Concerns With Patents That Relate To Concepts, Including Certain “Business Method” Patents

Two other judicial doctrines—ones that historically have limited the availability of “business method patents”⁹ containing conceptual claims—are not at present being utilized optimally by the courts. These are the “mental steps” and “printed matter” doctrines. Judicial revitalization of these doctrines would be needed for them to play a meaningful role going forward in addressing policy issues arising from conceptual patent claims.

⁸ While § 101 requires an invention must have a specific and practical use (*Brenner v. Manson*, 383 US 519 (1966) as interpreted in *In re Fisher*, 421 F. 3d 1365 (Fed. Cir. 2005)), § 112(a) further requires that such specific and practical must be fully enabled. “The ultimate issue is whether the Board correctly applied the § 112[(a)] enablement mandate and its implicit requirement of practical utility, or perhaps more accurately the underlying requirement of § 101, to the facts of this case.” *In re Brana*, 51 F.3d 1560, 1569 (Fed. Cir. 1995).

⁹ There is no bright line that separates a “business method” patent from other types of utility patents, but the availability of such patents is often linked to the suggestion by the Federal Circuit that patent eligibility might be based on the “result” produced by the claimed invention, “the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a ‘useful, concrete and tangible result.’” *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F. 3d 1368, 1374 (1998).

The “Mental Steps” Doctrine Should Be Applied Through § 112(f) By Eliminating Activities Performed Mentally From Being Considered An “Act”

“Under the ‘mental steps’ doctrine, processes involving mental operations were considered unpatentable.” *Diamond v. Diehr*, 450 U.S. 175, 198 (1981). However, the Federal Circuit no longer applies this doctrine as originally conceived. 450 U.S. at 198-199.

A judicial revitalization of the doctrine could be achieved by interpreting § 112(f) to bar a “mental step” from qualifying as an “act” for the § 112(f) purposes. Under such a rule, a patent for a process could be valid only to the extent the process covered the non-mental process steps disclosed in the patent.

The “Printed Matter” Doctrine Should Be Applied By Disregarding The Content Or Presentation Of Information Limiting A Claim In Determining Novelty Of The Claimed Invention

Under the “printed matter” doctrine, the novelty for a claimed invention cannot be based upon the content of “printed matter” recited as a claim limitation, unless such information content is integral to the functioning of the claimed invention. The Federal Circuit effectively nullified this doctrine in deciding *In re Gulack*, 703 F. 2d 1381 (1983) by indicating that a subjective mental impression created by the printed matter could be enough to satisfy the functioning requirement.

This doctrine could be restored in part by a judicial reaffirmation that the novelty determination for a claimed invention must disregard the content of—but not the existence of—information or the presentation of information as a claim limitation. An exception to this rule would apply if the limitation as to the content of information or its presentation were integral to the *physical* functioning of the claimed invention.¹⁰

The “Inherent Anticipation” Doctrine Should Be Consistently Applied To Bar Patents On Any Law/Product Of Nature Or Natural/Physical Phenomenon As Lacking Novelty

No law/product of nature or natural/physical phenomenon can be validly patented under the novelty requirement set out in 35 U.S.C. § 102, provided that the “inherent anticipation” doctrine is correctly and consistently applied. This doctrine arises from the ancient rubric, “That which infringes if later, anticipates if earlier.” *Peters v. Active Mfg.*, 129 U.S. 530, 537 (1889). This rubric has been restated by the Federal Circuit as “[t]hat which would literally infringe if later

¹⁰ As an example, if a claim were drafted to protect a measuring cup, the claim limitation specifying the spaced markings and fractional designations printed on the cup identifying the cup’s fractional measures would be considered in the determination of whether the claim was novel. The markings on the cup would be integral to the physical functioning of the measuring cup—without the arrangement of markings, the cup cannot be used to measure. In contrast, if a claim were drafted to protect a Chinese fortune cookie in which novel messages inside the fortune cookie were a promotional or discount code for an online retailer, the content of the message would be disregarded in determining if the fortune cookie met the statutory test for novelty under § 102. Self-evidently, it would not. The physical functioning of a fortune cookie is unaffected by the content of the message in the cookie. Thus, the novel messaging content for a fortune cookie would not suffice to impart novelty to the claim.

in time anticipates if earlier than the date of invention.” *Lewmar Marine, Inc. v. Bariant, Inc.*, 827 F.2d 744, 747 (Fed. Cir. 1987).¹¹

The doctrine applies to a law/product of nature or natural/physical phenomenon whether or not previously known to exist in nature. Thus, it affords a complete bar to patenting such laws, phenomena, or products, even if the law, phenomena, or product is newly discovered.

Under § 101’s condition for patentability that a claim must be expressed in terms of a process, machine, manufacture, or composition of matter and thereby be directed to embodiments or applications of any concept to which the invention relates, the combination of the § 101-§ 102 statutory requirements dictates that valid patent claims must set for something more or something different from either a natural product or a natural law/phenomena itself. Taken together with § 103, this “significantly more”/”significantly different” must as a whole have an “inventive” character for the patent claim to be valid under the statute.¹²

The Courts Should Limit Valid Patent Rights So That Valid Patents Can Never Be Infringed Based Upon Experimentation On A Patented Invention To Understand Or Improve It Or Based Upon Use Of A Law/Product Of Nature, Natural/Physical Phenomenon, Or Abstract Idea.

Limits on patenting that address policy concerns over conceptual patents that might dominate or preempt access to concepts (*i.e.*, a law of nature, natural/physical phenomenon, or idea, whether or not abstract) or product of nature, can be indirect (*i.e.*, through conditions or requirements for patentability that invalidate patent claims that could have such effects) or through direct (*i.e.*, through limitations on the acts that can constitute infringement of a patent). Direct limitations can have advantages over the indirect ones because the latter depend upon an accused infringer’s ability to marshal clear and convincing evidence of the invalidity of a patent claim, while a successful defense to a charge of patent infringement requires a mere preponderance of the evidence and, in any event, the patentee has the burden of proof to establish that the patent has been infringed.

For these reasons, it is appropriate to consider the continued justification for any “implicit exceptions” to patent eligibility in light of any applicable doctrine limiting the situations in which a patent claim could be infringed. Two such doctrines are treated below. One is a long-established doctrine that is underutilized and the other is a doctrine that the courts should recognize as the

¹¹ The Federal Circuit holding predates the enactment of the Leahy-Smith America Invents Act. Under the AIA, novelty is not determined by the date of invention, but by the effective filing date of the claimed invention.

¹² As an example, a human gene, even if newly discovered, cannot be validly patented under § 102. Whether a gene can be patented, in its isolated and purified form, notwithstanding that the isolated gene has the same “nucleotide sequence” (chemical structure) as that of all or a portion of the naturally occurring human gene depends upon whether the isolated/purified form of the compound meets the test of “inventiveness” under § 103. The routine isolation or purification of a compound previously known to exist in nature (or otherwise) will typically lack any inventiveness, while the discovery of never-before-known chemical substance that can be successfully prepared in a novel isolated/purified form can constitute a non-obvious invention under § 103. In this regard, if the oil in olives were previously not known to exist, the discovery of olive oil (even though the existence of the oil was previously unknown) would not permit a valid patent to be secured on olive oil itself since the oil inherently exists in nature. However, isolated and purified olive oil could be validly patented given based upon the non-obvious differences between uses for the isolated and purified product compared to theretofore known uses for the oil in its natural, olive-bound state.

ultimate “safety valve” to prevent enforcement of a patent that might dominate or preempt a concept.

The “Research Use” Defense to Patent Infringement Should Be Expanded To Reflect The Full Reach Of Its Policy Justification

The courts have developed and applied the non-statutory “research use” exception to bar enforcement of patents if the alleged infringing acts are directed to understanding or improving the patented invention. *Whittemore v. Cutter*, 29 Fed. Cas. 1120, 1121 (C.C.D.Mass.1813). Currently, this doctrine is not being fully implemented by the courts in a manner that reflects the policy justification for the doctrine.

For example, the Federal Circuit currently imposes limitations on this exemption clearly inconsistent with its purpose of assuring the public the ability to improve upon patented inventions. See *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F. 3d 860, 872 (Fed. Cir. 2003), J. Newman, dissenting.

In contrast, the National Academies has recommended that this doctrine should operate to bar the enforcement of patents, even if valid where they would extend to efforts to discern or to discover the validity of a patent and scope of afforded protection; the features, properties, or inherent characteristics or advantages of the patented invention; methods of making or using the patented invention; and alternatives, improvements, or substitutes. “Reaping the Benefits of Genomic and Proteomic Research: Intellectual Property Rights, Innovation, and Public Health,” <http://www.nap.edu/catalog/11487.html>. The National Academies report reflects—in a carefully balanced manner—the extent to which the judicial doctrine should be applied if it is to assure access to the basic tools of science and technology and assure that patent rights can never be used to stymy, rather than promote, progress in the useful arts.

For The Purpose Of Determining If A Patented Invention Has Been Infringed, A Claimed Invention Should Be Deemed To Exclude Any Law/Product Of Nature, Natural/Physical Phenomenon Or Abstract Idea

As a final matter, should the above constraints on the reach of the patent system be considered to be collectively insufficient to justify retiring the “implicit exceptions,” the Court should consider the merits of a more direct judicial approach to limiting patent rights where valid claims might otherwise be seen as having the potential to protect a law/product of nature, natural/physical phenomenon, or abstract idea. The “research use” exception provides a model for such a direct approach for doing so.

In this regard, the Court might hold that any claimed subject matter, if it could be construed to cover an idea, law, phenomenon, or other concept, other than the claimed embodiments or applications of such concept, would not be deemed protected by the patent, *i.e.*, would not be deemed to be within the scope of the patented invention for the purpose of determining if the patent had been infringed. A similar rule would apply to any naturally occurring form of any claimed subject matter, as it exists in nature in its unaltered state.

Taken together with the interpretation of the statutory provisions of § 101, § 102, § 103, and § 112 limiting the reach of valid patent claims, these further judicial limits on the enforcement of patent rights would leave no possible justification for the Court to continue to apply “implicit exceptions” to patent eligibility based upon the rationale for doing so expressed in any of its holdings on this matter over the past 150 years. With nothing left for these doctrines to accomplish, the Court should act to overrule these judicially imposed requirements in favor of the *Haliburton*- and *Morse*-consistent interpretations of the statutory patentability requirements.

Conclusions

The analysis above assumes recognition by the Court of some or all of the following patent-limiting features of the existing patent law:

(a) § 101 is properly interpreted to require that claims as a whole must be directed to embodiments or applications of any concept to which the invention relates;

(b) § 112(f) is interpreted (as dictated by the *Halliburton*) such that all claim elements for combination inventions must be limited to disclosed structures, materials or acts (or established categories of such);

(c) § 112(a)’s “written description” requirement continues to be interpreted as dictated by *O’Reilly v. Morse* and the *Lilly* decisions to require that claimed inventions (whether expressed as combinations or not) must identify the subject matter claimed other than in conceptual terms (*i.e.*, other than by the function to be performed or the result to be achieved by the claimed invention or by an element in a combination claim);

(d) the § 112(a) enablement requirement and the § 103 non-obviousness requirement continue to apply in a manner such that valid patent claims are limited to practically useful and inventive embodiments or applications of any underlying concept to which the claimed invention relates;

(d) the “mental steps” and “printed matter” doctrines is revitalized to play their historic roles limiting patents (especially business method patents) claiming conceptual subject matter;

(e) the “inherent anticipation” doctrine barring novelty under § 102 for any law/product of nature or natural/physical phenomenon is correctly and consistently applied;

(f) the “research use” exception is applied in a manner that fully vindicates its policy purpose that acts undertaken to understand or improve a patented invention cannot infringe a valid patent; and

(g) for the purpose of determining whether the patent has been infringed, claimed subject matter cannot be construed to cover an idea, law, phenomenon, or other concept (other than the claimed embodiments or applications of such concept) or a naturally occurring form of any claimed subject matter, as it exists in nature in its unaltered state.

Manifestly, these statutory and judicial limits on patenting would moot any policy justification for imposing the Court’s implicit requirements limiting patent eligibility. The enforcement of valid patents could not preclude access to the basic tools of science and technology and could not preempt access any laws, phenomena, or ideas associated with the invention claimed.

A NEW STATUTORY APPROACH TO SUPERSEDING “IMPLICIT EXCEPTIONS” TO PATENT ELIGIBILITY WITH AMENDED STATUTORY PROVISIONS CREATING A WHOLLY CODIFIED LAW ON PATENTABILITY

Introduction—Choosing Among A Diversity Of Options For A Statutory Remedy

Diverse statutory approaches have been proposed for addressing the Supreme Court precedents limiting eligibility for patenting. These approaches have varied from minimal changes to existing statutory provisions to comprehensive redrafting efforts that impact multiple of sections of title 35. The proposal below attempts to follow the path of other seminal legislative changes to the patent laws. It looks to more comprehensively and holistically rewriting the statutory law as it should have been crafted, without unwarranted deference to prior statutory drafting choices.

The prototype for this approach is the 1952 Patent Act. It reorganized—and substantially rewrote—the statutory provisions of the patent law that had preceded it. It can be argued that holistic recodification of the entirety of the patent law provided necessary cover in order to insert a single significant reform into the new statute—35 U.S.C. § 103 that was intended to supersede the Supreme Court’s standard of invention with a new statutory provision relating to non-obviousness. See *Hotchkiss v. Greenwood*, 52 U.S. 248 (1850).

Over the decades after 1952, § 103 was substantial expanded through a series of complex amendments. Major reforms begat major statutory additions—an 86-word statute grew to in excess of 560 words. Then, as part of the American Invents Act, Congress took the drafting knife to § 103 by stripping away these decades of amendments in order to return § 103 nearly to its 1952 text, with modifications to account for first-inventor-to-file principles. Again, major reform produced a major rewrite of a core provision of the patent laws.

The same approach was used by Congress in amending § 102 under the AIA. This most central patentability provision of the 1952 statute was simply erased from the law in its entirety under the AIA and replaced with an entirely rewritten provision.

Thus, for both the 1952 Patent Act and the AIA, significant reforms were implemented through significant statutory changes. The aggressiveness of the statutory changes were commensurate with the aggressiveness of the statutory surgery that was perceived to be needed for securing success in achieving the intended reforms.

Addressing the Supreme Court’s “implicit exceptions” to patent eligibility is in some respects more challenging and more complex than any of the foregoing patent law revision efforts. The task is challenging in part because of the broad policy underpinning for the exceptions. The policy groundings for the exceptions raise issues cry out for multiple statutory changes to fully answer.

Self-evidently, to the extent judge-made law is to be overruled, statutory changes are needed to set forth new rules that clearly and necessarily supersede existing law. The statutory changes needed must first clearly abrogate the existing law and then supersede the existing law with the new provisions of law that that are to form a substitute.

If Congress is asked to consider how best to address the issue of patents containing conceptual claims—to redress the dissatisfaction in many quarters with the Supreme Court’s approach of engrafting “implicit exceptions” to patent eligibility unto 35 U.S.C. § 101, the patent community needs to be prepared with proposals for amending the patent law that are complete, cogent and comprehensive vis-à-vis the magnitude of the task. The more complete the response, the greater the prospect of convincing the Court it can act with confidence to retire its existing “implicit exceptions” jurisprudence.

The materials below offer a path forward to the objective of being prepared for a potential legislative opportunity to eliminate—and replace—the “implicit exceptions” that today limit the availability of patents.

A New § 101 Drafted From The Ground-Up As A Statutory Provision To Be Devoid Of “Implicit Exceptions”

The initial focus of virtually every effort to address “implicit exceptions” invariably centers on the form an amended § 101 should take. The focus on § 101 is unavoidable given that it is cited by the Court as the source of the implication that such exceptions exists. The optimal strategy for a § 101 rewrite is not to merely “tweak” the statutory provision from which the “implicit exceptions” arise, but instead to take the bold surgical “strike-and-replace” approach used in AIA § 102 in changing U.S. patent law from the first-to-invent principle to the first-inventor-to-file principle.

Given that the goal of any legislative effort is to assure that § 101 will not remain the source of a set of “implicit exceptions” to inventions that can be regarded as patent eligible—and that new provisions will be added to title 35 abrogate and supersede them—the first and best option for amending § 101 omit from this section its existing provisions limiting subject matter eligibility for patenting and place them elsewhere in the patent code. Existing § 101 should be repealed and replaced with a new provision based on the remaining aspects of this section of title 35.

Since § 101 is the first provision in title 35 addressing “patentability of inventions,” a recast § 101 could readily take the role of an *introductory* provision to the law on patentability. It could serve its introductory role by laying out with specificity the various conditions and requirements for patentability that follow in the statute.

Moreover, it could serve a second, crucial purpose that would similarly argue for a substantial rewrite of this section. With the full repeal of the pre-AIA version of § 102, no unambiguous “inventor’s right to patent” provision remains in title 35.¹³ A need to add an unequivocal provision in this respect exists—and § 101 is positioned ideally for this purpose.

¹³ Under pre-AIA § 102(f), the patent statute provided that “A person shall be entitled to a patent unless ... he did not himself invent the subject matter sought to be patented.” While the AIA, through a drafting mistake, left the introductory clause for this section unchanged in AIA § 102(a), it jettisoned all of the “loss of right to patent” provisions of pre-AIA § 102, leaving the remainder of the AIA version without suitable antecedents for terms subsequently appearing in this subsection. The directive to issue a patent to a “person” thus lost a critical aspect of its context that the “person” must itself be the inventor. A new § 101 could moot any potentially negative implications of this drafting error in rewriting § 102 under the AIA.

Finally, some provision of title 35 is needed to clarify that the judge-made “implicit exceptions” to patent eligibility have been abrogated. The ideal approach for doing so would be to plainly state in § 101 that all conditions and requirements for patentability are to be statutory. Again, the most logical place in the patent statute for a provision of this type is § 101. The rewritten § 101 would, thus, become a multi-purpose, easy to read and understand, introductory provision to the law of patentability.

In many respects, this approach to abrogating the “implicit exceptions” would craft § 101 in the same manner that § 101 might well have been originally drafted by the authors of the 1952 Patent Act had the above “patent eligibility” considerations been at play in deciding how best to compose the jumping-off point for the patentability chapter of the new patent code. The provision that the drafters of the 1952 Patent might—with the benefit of 60 years of hindsight—have injected into title 35 is the following:

“§ 101. Right of inventor to patent inventions.

“If an invention is novel under section 102, nonobvious under section 103, described and enabled in the manner set out under section 112(a), and claimed in the manner set out under sections 112(b) through 112(g), the inventor thereof shall be entitled to a patent on the claimed invention, unless a specific provision of this title provides otherwise.”

The provision above clearly and unambiguously provides that there will be no remaining judge-made law conditions or requirements on patentability—the patentability law is to be applied entirely from statutory conditions and requirements.

The common law will continue to operate by interpreting the conditions and requirements in the statute, but no longer create new, non-statutory ones. Thus, citation to a specific provision of title 35 will be needed in order to conclude that a claimed invention to be unpatentable—patentability is to be grounded on explicit provisions only, not “implicit” ones.

Similarly, the inventor’s right to patent—absent a statutory ground to deny the inventor a patent—would be absolute, provided the statutory conditions and requirements for patentability, as the courts might interpret them, have been satisfied.

The express patent eligibility provisions set out in this new § 101 would be limited to references to other provisions of the statute setting out the substance of the conditions and requirements for patentability. Within § 101 itself, there would no longer be affirmative requirements (*i.e.*, “new and useful” and “process, machine, manufacture, or composition of matter”) from which implicit exceptions could be implied.

As explained fully below the concepts of newness, usefulness, and drafting claims falling within one of the enumerated statutory categories would be addressed through other statutory provisions.

The Conforming Change To 35 U.S.C. § 112

With this new § 101 starting point, a conforming amendment to § 112(a) becomes desirable to avoid any implication that the law on patentability is to change otherwise than the elimination of implicit exceptions.

Since § 101 would no longer contain a separate, explicit statement that an invention must be “useful” to be patentable, a § 112(a) amended becomes desirable to clarify that no change is intended in § 112(a)’s utility requirement that parallels the § 101 utility requirement. Heretofore, § 112(a) embodied an implicit requirement for a “practical utility” that had been set out explicitly in § 101.¹⁴

Thus, a § 112(a) amendment would confirm the longstanding judicial interpretation of the existing § 101/§ 112(a) utility requirement, *i.e.*, reaffirm that this requirement, common to both statutory sections, will be unchanged. The amendment confirms that the existing § 112(a) requirement that each claimed invention must be disclosed and enabled for a specific and practical use (*Brenner v. Manson*, 383 US 519 (1966) as interpreted in *In re Fisher*, 421 F. 3d 1365 (Fed. Cir. 2005)) is unaffected by the removal of the term “useful” from § 101. No implication otherwise is to be drawn from the replacement of existing § 101 with a new § 101 that no longer will contain the phrase “new and useful.”

This amended version of § 112(a) would read as follows:

“(a) IN GENERAL.—The specification shall contain a written description of ~~the~~ each claimed invention, and of the manner and process of making and using it for a specific and practical use, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, ~~and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.~~”

The amended § 112(a) above contains two further changes to conform this statutory subsection to other law changes made by the AIA. The AIA-defined term “claimed invention” would be used since it is more apt and precise. See 35 U.S.C. § 100(j), “The term ‘claimed invention’ means the subject matter defined by a claim in a patent or an application for a patent.” Finally, the artifactual reference to the now-defunct “best mode” requirement would be removed.

¹⁴ “The ultimate issue is whether the Board correctly applied the § 112[(a)] enablement mandate and its implicit requirement of practical utility, or perhaps more accurately the underlying requirement of § 101, to the facts of this case.” *In re Brana*, 51 F.3d 1560, 1569 (Fed. Cir. 1995).

Limiting Acts That Can Infringe Valid Patents – Freeing Conceptual Subject Matter From Patent Infringement

These two changes to the patent statute in § 101 and § 112 would be accompanied by two new provisions addressing the infringement of a patent. These changes would appear at the end of 35 U.S.C. § 271, *i.e.*, the statutory provision addressing patent infringement issues.

These changes would limit the availability of patent rights (and, therefore, remedies) in targeted areas. Specifically, they would bar patent enforcement of the type that has been fodder for the Supreme Court’s policy justification for imposing “implicit exceptions” to patent eligibility. The changes limiting patent rights—rather than constraining patent eligibility— will have the effect of assuring the patent system cannot operate in a manner inconsistent with its constitutional purpose to promote progress in the useful arts.

The first of these two changes would codify a “research use” exception broad enough to assure that patents could not block access to the basic tool of science and technology, thereby assuring that access to such tools would assure that patents could not operate to frustrate their constitutional purpose to promote, rather than impede, progress in the useful arts. The proposed statutory provision for doing so follows (almost verbatim) the National Academies’ recommendation in this respect (see “Reaping the Benefits of Genomic and Proteomic Research: Intellectual Property Rights, Innovation, and Public Health,” <http://www.nap.edu/catalog/11487.html>). It would add a new subsection (j) to 35 U.S.C. § 271:

“(j) EXPERIMENTAL USES OF CLAIMED INVENTIONS.—Notwithstanding subsections (a) and (g), it shall not be an act of infringement to make or use a claimed invention for experimental purposes to discern or discover

- (1) the validity or scope of protection of a patent for the claimed invention;
- (2) any feature, property, characteristic, advantage, or disadvantage of the claimed invention;
- (3) any method of making or using the claimed invention;
- (4) any alternative to, improvement to, or substitute for the claimed invention.”

The second of the two limitations on the patent infringement provisions of § 271 would add a new subsection (k). This new § 271(k) would limit the infringement of patented inventions in a manner such that no law/product of nature, natural/physical phenomenon, or abstract idea could be the subject of a patent infringement allegations. This amendment, thus, addresses head-on the policy concern of the Supreme Court that patents drafted to cover such subject matter could be enforced in a manner that might preclude access to these basic tools of science and technology:

“(k) NON-INFRINGEMENT SUBJECT MATTER.—For the purposes of this section, a patented invention shall be deemed to exclude any claimed subject matter that could be construed to cover—

“(1) an idea, law, phenomenon, or other concept, other than the claimed embodiments or applications of such concept; and
“(2) a naturally occurring form of any claimed subject matter, as it exists in nature in its unaltered state.”

The above amendments address in part Supreme Court policy concerns with respect to patents affording protection for a law/product of nature, natural/physical phenomenon, or abstract idea. Based on these amendments, patents cannot extend to cover such subject matter as such. Patents that might “dominate” such concepts cannot dominate activities designed to further understand and advance the art by accessing patented inventions to improve them—all such research is made free from the patent laws.

These provisions, thus, form a sound predicate for a set of further statutory changes that would more decisively and more comprehensively address the policy justifications cited by the Supreme Court for imposing “implicit exceptions” to subject matter that might be regarded as patent eligible.

Limiting The Manner In Which Inventions Can Be Claimed And Claimed Inventions Can Be Construed

The “statutory categories” limitation in existing § 101 requiring that patent claims must be expressed in terms of a process, machine, manufacture, or composition of matter needs a new statutory home in light of the § 101 amendment described above. This new home would be provided in a new 35 U.S.C. § 112(g). The statutory categories themselves—largely unchanged since the 1793 Patent Act—would be relocated in the statute, but otherwise unchanged.

Coupled with the existing “categories” requirement would be a new and explicit statutory requirement that a claim as a whole must be directed to embodiments or applications of any concept (*i.e.*, law, phenomenon, or idea) to which the claimed invention related.

In addition, existing 35 U.S.C. § 112(f) would be replaced with a substitute subsection that would eliminate Federal Circuit precedents (*e.g.*, *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015)) that fail to apply existing § 112(f) in a manner fully implementing the holding in *Halliburton Oil Well Cementing Co. v. Walker*, 329 US 1 (1946)). The recodification of a more *Halliburton*-faithful § 112(f) would additionally include a codification of the so-called “mental steps” doctrine.

Under this substitute for the existing § 112(f), this subsection would require that combination inventions with discrete elements set out in conceptual terms (that is, as a function to be performed or a result to be achieved rather than the structures, materials, or acts for doing so) would be limited to patent’s disclosed structures, materials, or acts or their equivalents—unless the functional (conceptual) language references an established category of such structures, materials, or acts for performing the function or achieving the result.

Lastly, for § 112(f) purposes, an activity carried out mentally would not constitute an “act.” Thus, any claim element inclusive of a step capable of being performed mentally would be subject

to the structures-materials-acts limitation in § 112(f) and construed to cover only the non-mental steps disclosed in the patent specification.

These new § 112(f)/§ 112(g) provisions would read as follows:

“(f) SPECIFIC CLAIMING REQUIREMENTS—

“(1) COMBINATION INVENTIONS GENERALLY.—Except as provided in paragraph (2), if an element in a claim for a combination is expressed in terms of a specified function or specified result instead of the structures, materials, or acts for performing the function or achieving the result, such claim shall be construed to cover only the corresponding structures, materials, and acts described in the specification and equivalents thereof.

“(2) ESTABLISHED CATEGORIES.—Notwithstanding paragraph (1), if an element in a combination is expressed in terms of a specified function or specified result that would be understood by a person of ordinary skill in the art to reference an established category of structures, materials or acts for performing the function or achieving the result, such element shall be construed to cover the established category, inclusive of any additions thereto.

“(3) MENTAL STEPS LIMITATION.—For the purposes of this subsection, activity carried out exclusively through human thought shall not be deemed to be an act.

“(g) MANNER OF CLAIMING REQUIRED; CATEGORIES.—A claim must expressed in terms of a process, machine, manufacture, or composition of matter, or an improvement thereof, such that the claim as a whole is directed to one or more embodiments or applications of any idea, law, phenomenon or other concept upon which the claimed invention operates or otherwise relates.”

The above amendments would offer the Court a statutory alternative to restricting patent eligibility on the ground a claimed invention was crafted in terms that were too conceptual or abstract, such that they might provide domination over a law/product of nature, natural/physical phenomenon, or abstract idea through mere drafting techniques. Under § 112(f)/§ 112(g), all valid claims would be tied to embodiments or applications of any underlying concepts and be claimed in a manner limiting protection to the structures, materials, and non-mental acts defining such embodiments or applications.

Codifying The “Printed Matter” Doctrine

The last statutory change in the package would provide a codification of the “printed matter” doctrine that would place limits on the ability to patent an invention in which “printed matter” (or other information) or the presentation thereof is the basis for the novelty of the claimed subject matter under § 102. The amendment would appear at the end of § 102 (assuming that H.R. 9 amendment to § 102 is enacted, it would become a new § 102(f)) in the following form:

(f) INFORMATION CONTENT.—In determining whether a claimed invention is novel under this section, the claim to the invention shall be construed by disregarding any limitations in the claim specifying the content of printed matter or other information or the presentation thereof except to the extent such content or presentation is integral to the functioning of the claimed invention as a whole.”

Together with the “mental steps” doctrine, the codification of a “printed matter” doctrine (among other purposes) serves to limit the availability of patent rights for inventions—but not eliminate the availability of patenting altogether—for inventions that relate to so-called “business methods.” As such, it completes the answer to the question of whether the proposed amendments suffice to fully address the concerns prompting the Court to inject “implied exceptions” on the subject matter for which patent rights are to be available.

Rules Of Construction – Assuring Patentability Determinations Under The Statutory Amendments Are Undertaken In A Manner Consistent With The Intent To Supersede “Implicit Exceptions” On Patent Eligibility

A comprehensive set of rules of construction would be part of the complete legislative proposal. They would provide the following:

“RULES OF CONSTRUCTION.—

“(1) IN GENERAL.—Any exclusions or other exceptions from subject matter that could be considered eligible for protection under title 35, United States Code, as heretofore recognized in the courts as being implicit in title 35, having been made superfluous on account of the amendments made by this Act, are abrogated and superseded by such amendments.

“(2) EMBODIMENTS AND APPLICATIONS.—In determining that a claim as a whole is directed to one or more embodiments or applications of any idea, law, phenomenon or other concept upon which the claimed invention operates or otherwise relates, as required under section 112(g) of title 35, United States Code, as enacted under this Act, such determination must not be negated—

“(A) by the nature of any embodiment or application to which the claim as a whole is directed;

“(B) on account of the known, conventional, or routine nature of any element or other limitation of the claim; or

“(C) because the claimed invention operates on the basis of or otherwise relates to such a law, phenomenon, idea, or other concept.

“(3) APPLICATION OF OTHER CONDITIONS AND REQUIREMENTS.—In any determination of the patentability or validity of a

claimed invention under the conditions and requirements for patentability under sections 101, 102, 103 and 112 of title 35, United States, the following shall apply:

“(A) the determination must not take account of the manner in which the claimed invention was made to the extent doing so would negative patentability; and

“(B) other than in a determination of obviousness under section 103 for a claimed invention lacking novelty under section 102, the compliance or noncompliance with any one of such conditions or requirements must not be given consideration in determining the compliance or noncompliance with any of the remaining conditions or requirements.”

“(4) NON-NATURAL PRODUCTS.—Patentability for a claimed invention otherwise patentable under this title shall not be negated solely because the claimed invention relates to a natural law, product, or phenomenon or to subject matter sourced from or otherwise existing in nature, including an isolated or purified product that did not exist in nature in such isolated or purified form.”

These rules of construction are intended to assure that no aspect of the statutory changes could be misconstrued or misapplied, *i.e.*, applied in a manner inconsistent with the intent of the changes.

The first of the four rules is intended to dovetail with the changes to § 101 mandating that the law on patentability is to contain only *statutory* conditions or requirements for patentability—and the elimination of § 101 as a basis for asserting “implicit exceptions” cannot result in the resurrection of those provisions in another statutory provision.

Similarly the second of the four rules cabins the newly explicit “embodiment or application” requirement on the manner of claiming in new § 112(g). It—together with the third rule—would bar, for example, imposing an inventiveness or practicality test on the embodiment/application that was separate from the § 103/§ 112(a) requirements for practicality and inventiveness.

Finally, the fourth rule would carefully delineate the manner in which non-natural products would qualify for patentability, notwithstanding the relationship to a law/product of nature or natural/physical phenomenon. It would afford clear-cut protection for isolated and purified products being inappropriately barred from patenting based on the existence of related forms in nature.

Conclusions

The foregoing legislative package of both codified and non-codified changes to the patent law is intended to clearly articulate a substitute set of patentability rules—addressing the full panoply of policy considerations—that have formed the basis for the Supreme Court’s imposition of the “implicit exceptions” to patent eligibility to be superseded by these legislative provisions.

They would leave no policy basis for any residual concerns over the possible “conceptual” reach of a valid patent claim.

Valid patents could not be enforced to bar access to the basic tools of science and technology in a manner that might frustrate the constitutional purpose of the patent system to promote—not impede—progress in the useful arts. Valid patent protection could not dominate any law, phenomenon or idea—including any law of nature, natural/physical phenomenon or abstract idea—because they would be limited by statutory requirements to non-obvious (35 U.S.C. § 103) embodiments or applications (35 U.S.C. § 102(g)) of any such associated concepts.

Products of nature could not be patented and, even if patented, could not be the subject of infringement allegations. Lastly, the new § 112(f) manner of claiming limitations, by restricting all combination patent claims, in an element-by-element manner, to the corresponding structures, materials, or acts disclosed in the patent specification, would inherently bar the types of conceptual claiming that the Supreme Court has used to justify imposing “implicit exceptions” to patent eligibility.

Collectively, therefore, the foregoing legislative package would assure that no continuing policy justification would exist upon which the Court might base the continued application of the “implicit exceptions” and no basis would remain for the Court to disregard the provisions of the legislation that mandate such exceptions be superseded by the amendments to the statute.

GENERAL PROVISIONS FOR LEGISLATION ON PATENT ELIGIBILITY

LEGISLATIVE PROVISIONS LIMITING PATENTS:	COMMENTARY:
<p><i>Replacement for Existing 35 U.S.C. § 101:</i></p> <p>“§ 101. Right of inventor to patent inventions. “If an invention is novel under section 102, nonobvious under section 103, described and enabled in the manner set out under section 112(a), and claimed in the manner set out under sections 112(b) through 112(g), the inventor thereof shall be entitled to a patent on the claimed invention, unless a specific provision of this title provides otherwise.”</p>	<p>Section 101 of Title 35 under the 1952 Patent Act limited the subject matter eligible for patenting to processes, machines, manufactures, compositions of matter and improvements thereto. It further required that claimed inventions be “new and useful” to be patented. New § 101, rather than setting forth these substantive requirements for patentability, is limited to affording the inventor the right to patent its inventions provided that the §§ 102, 103 and 112 <i>statutory</i> patentability requirements are met. <i>Non-statutory patentability requirements are barred.</i></p>
<p><i>Amendment to 35 U.S.C. § 112(a):</i></p> <p>“(a) IN GENERAL.—The specification shall contain a written description of the each claimed invention, and of the manner and process of making and using it <u>for a specific and practical use</u>, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same; and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.”</p>	<p>Section 112(a) is amended to make explicit the currently implicit requirement under this subsection that a claimed invention must be enabled for a specific and practical use. This amendment avoids any implication arising from the removal of the § 101 requirement that an invention must be “useful” to be patentable that the existing § 112 requirement has changed. Thus, inventions must be directed to <i>practically useful</i> embodiments or applications in order to be patentable. (The reference to the now-defunct “best mode” requirement is also removed.)</p>
<p><i>35 U.S.C. § 271 – Codified Experimental Use Exception:</i></p> <p>“(j) EXPERIMENTAL USES OF CLAIMED INVENTIONS.—Notwithstanding subsections (a) and (g), it shall not be an act of infringement to make or use a claimed invention for experimental purposes to discern or discover</p> <ol style="list-style-type: none"> (1) the validity or scope of protection of a patent for the claimed invention; (2) any feature, property, characteristic, advantage, or disadvantage of the claimed invention; (3) any method of making or using the claimed invention; (4) any alternative to, improvement to, or substitute for the claimed invention.” 	<p>New 35 U.S.C. § 271(j) codifies a research or experimental use exception to patent infringement that is intended to obviate any possibility that enforcement of a patent might preempt access to the basic tools of science and technology needed to promote progress in the useful arts. In simple terms, a patent could not be used to prevent further understanding of or improving a patented invention. This amendment clarifies through statutory language the full reach of the existing “experimental use” defense to patent infringement that heretofore has been implicit in the patent statute and has been implemented through judge-made limitations on patent enforceability. This amendment implements a National Academies’ recommendation.</p>
<p><i>35 U.S.C. § 271 - Subject Matter Not Infringing</i></p> <p>“(k) NON-INFRINGEMENT SUBJECT MATTER.—For the purposes of this section, a patented invention shall be deemed to exclude any claimed subject matter that could be construed to cover—</p> <ol style="list-style-type: none"> “(1) an idea, law, phenomenon, or other concept, other than the claimed embodiments or applications of such concept; and “(2) a naturally occurring form of any claimed subject matter, as it exists in nature in its unaltered state.” 	<p>A second amendment to § 271 affords additional explicit assurance in the patent statute that no patented invention can dominate the use of a law/product of nature, natural/physical phenomenon, or abstract idea. New 35 U.S.C. § 271(k) provides that any patented invention that could be construed to cover such conceptual subject matter (or a natural product) would instead be construed to cover only claimed embodiments or applications of the concept (or claimed non-naturally occurring forms of naturally occurring subject matter in its unaltered state).</p>

“MANNER OF CLAIMING” AMENDMENTS FOR LEGISLATION

MANNER OF CLAIMING LEGISLATIVE PROVISIONS	COMMENTARY:
<p><i>Manner of Claiming Limitations—General Requirements:</i></p> <p style="padding-left: 40px;">(f) SPECIFIC CLAIMING REQUIREMENTS—</p> <p style="padding-left: 80px;">(1) COMBINATION INVENTIONS GENERALLY.—Except as provided in paragraph (2), if an element in a claim for a combination is expressed in terms of a specified function or specified result instead of the structures, materials, or acts for performing the function or achieving the result, such claim shall be construed to cover only the corresponding structures, materials, and acts described in the specification and equivalents thereof.</p> <p style="padding-left: 80px;">(2) ESTABLISHED CATEGORIES.—Notwithstanding paragraph (1), if an element in a combination is expressed in terms of a specified function or specified result that would be understood by a person of ordinary skill in the art to reference an established category of structures, materials or acts for performing the function or achieving the result, such element shall be construed to cover the established category, inclusive of any additions thereto.</p> <p style="padding-left: 80px;">(3) MENTAL STEPS LIMITATION.—For the purposes of this subsection, activity carried out exclusively through human thought shall not be deemed to be an act.</p>	<p>Section 112 is additionally amended by substituting a new § 112(f) for the subsection enacted as part of the 1952 Patent Act in response to <i>Halliburton Oil Well Cementing Co. v. Walker</i>, 329 US 1 (1946).</p> <p>In determining whether existing § 112(f) limits a claim element in a combination claim to disclosed structures, materials, or acts applies, “presumptions” or “strong presumptions” have been invoked (<i>e.g.</i>, see <i>Williamson v. Citrix Online, LLC</i>, 792 F. 3d 1339 (Fed. Cir. 2015) (<i>en banc</i>)), depending on whether—or not—the terms “means for” or “step for” appear in the claim. This jurisprudence is overruled under new 35 U.S.C. § 112(f)(1) by eliminating the “as a means or step for” terminology from § 112(f). New § 112(f)(1) requires that a combination claim element be construed to determine whether or not it is itself limited to structures, materials, or acts. Otherwise, the limitation in § 112(f)(1) applies to so limit the claim, subject to the provision in new § 112(f)(2) relating to established categories.</p> <p>Lastly, under § 112(f)(3), activities carried out mentally cannot qualify as an “act” for the purposes of § 112(f)(1), thereby clarifying the manner of application of the “mental steps” doctrine by precluding a patent from covering a step carried out mentally, <i>i.e.</i>, through human thought.</p>
<p><i>Manner of Claiming Limitations—Statutory Categories:</i></p> <p style="padding-left: 40px;">“(g) MANNER OF CLAIMING REQUIRED; CATEGORIES.—A claim must expressed in terms of a process, machine, manufacture, or composition of matter, or an improvement thereof, such that the claim as a whole is directed to one or more embodiments or applications of any idea, law, phenomenon or other concept upon which the claimed invention operates or otherwise relates.”</p>	<p>New § 112(g) recodifies, without substantive change, the “statutory categories” provision in § 101 of the 1952 Patent Act. These statutory categories exist in a form largely unchanged since the 1793 Patent Act. They require that inventions must be claimed in terms of one of the four recognized statutory categories or as an improvement to such. Additionally, new § 112(g) makes explicit that these categories are intended to limit claimed inventions to embodiments or applications of any related concepts underlying the invention.</p>
<p><i>35 U.S.C. § 102(f)—Information Content/Printed Matter:</i></p> <p style="padding-left: 40px;">(f) INFORMATION CONTENT.—In determining whether a claimed invention is novel under this section, the claim to the invention shall be construed by disregarding any limitations in the claim specifying the content of printed matter or other information or the presentation thereof except to the extent such content or presentation is integral to the functioning of the claimed invention as a whole.”</p>	<p>New § 102(f) codifies longstanding judicial prohibitions against patents based upon “printed matter” (information) or the arrangement thereof by barring such patents on novelty grounds in any situation where the content of the printed matter (information) itself or its arrangement forms the basis for patentability of a claimed invention. An exception applies to information or the arrangement thereof that is integral to the function of the claimed invention as a whole.</p>

“RULES OF CONSTRUCTION” FOR LEGISLATIVE PACKAGE

REMEDIAL LEGISLATIVE PROVISIONS:	COMMENTARY:
<p><i>Non-Codified Rules of Construction:</i></p> <p>“RULES OF CONSTRUCTION.—</p> <p>“(1) IN GENERAL.—Any exclusions or other exceptions from subject matter that could be considered eligible for protection under title 35, United States Code, as heretofore recognized in the courts as being implicit in title 35, having been made superfluous on account of the amendments made by this Act, are abrogated and superseded by such amendments.</p> <p>“(2) EMBODIMENTS AND APPLICATIONS.—In determining that a claim as a whole is directed to one or more embodiments or applications of any idea, law, phenomenon or other concept upon which the claimed invention operates or otherwise relates, as required under section 112(g) of title 35, United States Code, as enacted under this Act, such determination must not be negated—</p> <p>“(A) by the nature of any embodiment or application to which the claim as a whole is directed;</p> <p>“(B) on account of the known, conventional, or routine nature of any element or other limitation of the claim; or</p> <p>“(C) because the claimed invention operates on the basis of or otherwise relates to such a law, phenomenon, idea, or other concept.</p> <p>“(3) APPLICATION OF OTHER CONDITIONS AND REQUIREMENTS.—In any determination of the patentability or validity of a claimed invention under the conditions and requirements for patentability under sections 101, 102, 103 and 112 of title 35, United States, the following shall apply:</p> <p>“(A) the determination must not take account of the manner in which the claimed invention was made to the extent doing so would negative patentability; and</p> <p>“(B) other than in a determination of obviousness under section 103 for a claimed invention lacking novelty under section 102, the compliance or noncompliance with any one of such conditions or requirements must not be given consideration in determining the compliance or noncompliance with any of the remaining conditions or requirements.”</p> <p>“(4) NON-NATURAL PRODUCTS.—Patentability for a claimed invention otherwise patentable under this title shall not be negated solely because the claimed invention relates to a natural law, product, or phenomenon or to subject matter sourced from or otherwise existing in nature, including an isolated or purified product that did not exist in nature in such isolated or purified form.”</p>	<p>“Rules of construction” would be enacted into law as part of the overall reform effort, but would not be codified as part of title 35, United States Code. The rules of construction are intended to assure the proper application of the new statutory framework, including the elimination of any and all judge-made requirements for patentability under § 101 and the newly explicit “embodiment or application” requirement under new § 112(g).</p> <p>They would accomplish four separate objectives.</p> <p>First, they would explicitly legislatively overrule the “implicit exceptions” to subject matter eligibility for patenting that have long been part of Supreme Court precedents and would replace them with new statutory provisions that address the same policy concerns over patents that otherwise would provide protection for the concepts underlying an invention rather than the embodiments or applications of such concepts actually disclosed in the patent.</p> <p>Second, the construction rules would constrain the interpretation of a newly codified requirement (35 U.S.C. § 112(g)) that claims as a whole must be directed to embodiments or applications of related concepts by preventing the inventive/conventional nature of the claimed invention or individual elements thereof from negating such a determination.</p> <p>Third, a set of two further limitations would be imposed on all determinations of validity or patentability. The manner in which the invention was made could not be cited to negative patentability. In addition, conditions and requirements for patentability would need to be assessed independently of one another; except for determinations of non-obviousness for inventions lacking in novelty, the requirements would be independently applied.</p> <p>Fourth, a final rule of construction provides that otherwise patentable invention cannot forfeit patentability because they relate to naturally occurring subject matter, such as a law/product of nature or natural/physical phenomenon. Specifically cited are isolated or purified products that cannot be denied patentability solely on account of having been sourced from nature or because the unaltered form exists in nature.</p>