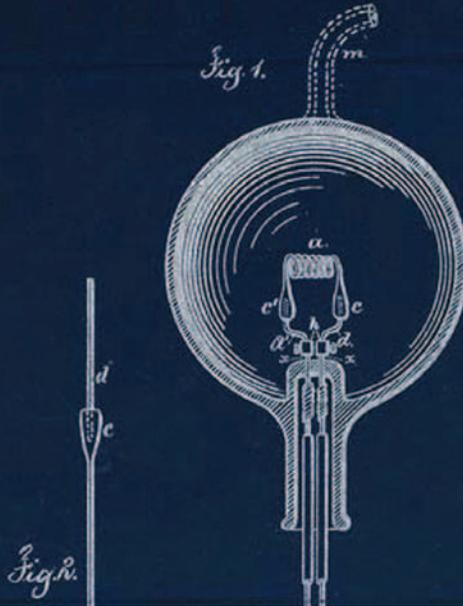


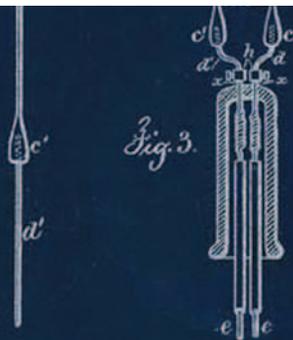
T. A. EDISON.
Electric-Lamp.

No. 223,898.

Patented Jan. 27, 1880.



TACKLING THE CHALLENGE OF PATENT REFORM



Witnesses

Charles H. Smith,
Geo. D. Pinckney

Inventor
Thomas A. Edison

per Lemuel W. Ferrell

att'y

Scientific research and technological development have long been mainstays of American economic and military strength. Today more than ever, the global economic crisis and the prospect of a long and deep U.S. recession call for a reinvigoration of America's scientific, engineering, and manufacturing enterprises.

Recommendations for the Obama administration and Congress

BY RICK WEISS

Large-scale investment in science and technology could simultaneously help jump-start the flagging economy and generate solutions to the pressing problems of climate change, sustainable energy, and national security. But the prospects for private-sector investment in this much-needed innovation economy will be limited if one often overlooked element of America's economic engine is not well tuned to modern realities: the U.S. patent system.

The nation's provisions for assigning and protecting intellectual property rights, and the U.S. patent system in particular, are at the very core of the American model of scientific, technical, and economic advancement. Patents assure an inventor a period

of time, generally 20 years, to exclude others from using the invention, in return for a full explication of that invention by the patent holder. The assurance that competitors can be blocked from freely copying inventions during this period of exclusivity is a powerful stimulus to capital investment, which is a key enabler of the inventive process.

At the same time, the policy of requiring that inventors provide a full and public description of their invention as part of the patent process ensures there will be a well-described platform upon which others can quickly build. This provision supports the progressive principle that open access to information is a common good. As a practical matter, it also fuels

The patent system has periodically been the subject of legislative, administrative, and judicial modernization, and many experts in law, industry, and economics agree that the system is past due for another tune-up.

a faster pace of innovation than would occur through other means of market exclusivity, such as trade secrets, which in turn boosts broad-based economic growth and prosperity.

The patent system has been the subject of legislative, administrative, and judicial modernization, and many experts in law, industry, and economics agree that the system is past due for another tune-up. Congress spent much of 2007 and 2008 debating legislation that would have amounted to the most significant changes of U.S. patent law in decades. The Senate was unable to reach consensus and the Patent Reform Act of 2008 was not enacted, but a fresh push is expected in 2009. Still, it remains uncertain whether legislators will be able to bridge the few remaining deep divisions among stakeholders.

In an attempt to explore patent reform options that could bolster innovation and economic recovery and have a reasonable chance of garnering the support of a range of patent players, the Center for American Progress and its sister organization Science Progress in October 2008 convened a roundtable of expert stakeholders from a wide array of business, legal, and academic disciplines, including

many with competing intellectual property interests. This report provides a summary of our perspective and recommendations, taking into account ideas and opinions discussed at the roundtable and prefaced by a brief history of the U.S. patent system to help put the newly proposed changes in context.

ROOTS OF THE CURRENT PATENT SYSTEM

The general principle of intellectual property predates by centuries the founding of the United States and was codified in Article 1, section 8 of the U.S. Constitution: “Congress shall have the power...to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” Importantly, and pertinent to America’s current economic predicament, the U.S. patent system was inspired not so much by a desire to protect individual rights but to spur economic growth and inspire technological advancement. The best way to catalyze investment in ingenuity, the founders believed, was to enhance the prospect of a return on that investment while simultaneously fostering the public release of information to seed future innovations.

Thomas Jefferson penned the first patent act, which gave the patent holder an exclusive right to make, use, and sell his or her invention in the United States or import the invention from abroad. The act, signed by President George Washington on April 10, 1790, declared as eligible for a patent “any useful art, manufacture, engine, machine, or device, or any improvement thereon not before known or used.” This definition has been reinterpreted over more than 200 years to include, among the many inventions that Jefferson could not have anticipated, genes and genetically altered plants and animals; the invisible etchings of integrated circuits; and algorithms for predicting the kinds of financial risk a credit card holder might take.

Not surprisingly, the process for reviewing and granting patents has changed over the years. In the

18th century, applicants were asked to provide a description and drawing of their invention and, when practical, a model, along with their \$4 filing fee. A federal Patent Board, which included Jefferson, Henry Knox (then secretary of war), and Edmund Randolph (then attorney general), reviewed applications and issued rulings, yea or nay, on the basis of whether the invention was “sufficiently useful and important.”

At most, patents were allowed for 14 years. There was no right of appeal. And there were no lines to wait on. The first patent was issued to Samuel Hopkins of Philadelphia for his improved method for making “Pot ash and Pearl ash,” useful for the production of soap. By the end of the year, a grand total of three patents had been issued, the latter two for novel improvements in candle-making and flour-milling.

THE SITUATION TODAY

Today the United States Patent and Trademark Office has 6,000 employees to handle the more than 460,000 patent applications that are filed each year. There is a backlog of about a million unexamined patent applications and it takes, on average, two years to get a first action from the PTO and three years to get a patent issued (or rejected). In some fast-changing fields, including computer architecture, IT security, and software- and communications-related technologies, average wait times are even longer.

While the widespread characterization of the PTO as “broken” is an overstatement, there is no disagreement that improvements are needed. Most obvious among the current failings, examiners are overwhelmed by the sheer volume of applications and the lack of time and resources to perform their jobs at the level of excellence demanded of them. As a result, too many patents are issued that, but for the scarcity of time and resources, would almost surely have either been honed to greater quality through the examination process or not issued at all. There is broad consensus today that the U.S. system for pro-

tecting intellectual property is burdened with too many patents of questionable quality and validity.

Underlying these and other problems, the Patent and Trademark Office is underfunded and undermanaged. Although Congress converted the office to a “fee-based organization” in 1991, which means it is self-supported through fees paid by applicants, Congress has also repeatedly raided that fund, diverting more than \$750 million into the general treasury over the past decade. Although this practice has been quelled over the last three years, prior diversions so eroded the PTO’s infrastructure and resources that rebuilding is now urgently required.

Meanwhile the patent challenge, appeals, and enforcement processes are cumbersome and have bogged down the PTO and the courts—a problem exacerbated by the emergence of so-called non-practicing entities, or NPEs, sometimes called patent “trolls.” Unlike operating companies that produce products and services, and universities that generate most of their revenue from tuition and grants and generate intellectual property through their academic investigations, patent-holding entities typically do not produce any products or offer any service beyond patent licensing and enforcement. Their primary revenue sources are royalties

WHY THE “X” IN PATENT NUMBERS?

For the first 46 years after passage of the Patent Act of 1790, patents were filed by name and date instead of by number. In December 1936 a fire reduced to ashes the almost 10,000 patents issued so far. Of those, 2,845 were reconstructed from private records; the rest had to be cancelled. All of the recovered ones were, for the first time, issued a number—preceded by the letter X to indicate their heritage as part of this original set of filings. Subsequent patents received only numbers. Today those first 2,845 patents are known as the “X patents” and aficionados know that the first U.S. patent is numbered not “1” but “X1.”

The Constitution directs Congress to make the patent system work effectively in the public interest. But it has been more than 50 years since Congress took a hard look at patent law and made needed changes.

obtained from asserting patents against successful product and service companies.

These challenges and others faced by PTO have been analyzed repeatedly in an array of independent reports in recent years, all of which have ended with calls for substantive degrees of patent reform. Among the organizations compiling such reports have been the Federal Trade Commission in a 2003 report, the Commerce Department's Office of Inspector General in 2004, the National Academy of Sciences (2004), the Government Accountability Office (2007), the PTO itself (most recently in its 2007–2012 Strategic Plan), and the U.S. Patent Policy Advisory Committee (2008). Although a number of reform initiatives have been implemented over the years, they have progressed too slowly—in some instances because of resistance by groups of applicants that have learned to use the system's shortcomings to their own advantage.

Informed by previous reports, recent incomplete efforts at reform, and the patent stakeholders' roundtable discussion sponsored by the Center for American Progress and Science Progress in October, we conclude that the patent system can be immediately

improved through a range of practical administrative changes within the Patent and Trademark Office. Those changes, outlined below, can and should be implemented early in the new administration, though some may require supportive legislative action.

Even if supportive legislative action is not required to implement near-term reforms within the PTO, other legislative reform is critical, as outlined in this report. The Constitution directs Congress to make the patent system work effectively in the public interest. But it has been more than 50 years since Congress took a hard look at patent law and made needed changes. In that time the pace of invention and the complexity of science have both increased enormously. The PTO and the courts have tried to fill the resulting legislative gaps through jurisprudence, sometimes with strained results. This imperfect approach has created a system with too much emphasis on the mere granting and enforcing of patents, many of them of poor quality, and inadequate attention to the promotion of useful inventions and investment.

Beyond the PTO and Congress, patent applicants also bear duties and responsibilities to keep the system working well. In recent years, however, applicants have aggressively sought, and in too many cases obtained, patents containing overly broad claims—that is, claims to subject matter broader than is justified by the actual invention. In a third group of recommendations, this essay suggests how applicants could, with proper incentives, cooperatively adjust their behaviors to facilitate the kinds of improvements we seek through administrative and legislative changes.

Finally, we take note of some areas of controversy in which it is possible—even likely—that the Court of Appeals for the Federal Circuit or the Supreme Court may institute clarifying reforms through court decisions, as they have already done in the recent *eBay* decision (made by the Supreme Court in 2006 regarding the near automatic grant of injunctions),¹ the *MedImmune* decision (made by the Supreme Court in 2007 regarding the ability

of a licensee to challenge patent validity while still making royalty payments),² *Sandisk* (made by the Court of Appeals for the Federal Circuit in 2007) regarding standards required to file a declaratory judgment),³ *KSR* (made by the Supreme Court in 2007 regarding the obviousness standard),⁴ *Quanta Computer* (made by the Supreme Court in 2008 regarding patent exhaustion),⁵ *Bilski* (made by the Federal Circuit in 2008, regarding business method patents)⁶ and other important decisions.

Historically, the courts have struggled with patent law. Judges and juries are asked to decide difficult cases involving complex applications of science, technology, and law. Recognizing these realities, Congress established a specialized court to hear all patent appeals, the Court of Appeals for the Federal Circuit, which in its 20 years has contributed substantially to creating consistency in patent law. While the judicial approach to resolving patent issues is inherently reactive, episodic, and slow, there is reason to hope that to the extent the PTO and Congress fall short of the goal of comprehensive patent reform, the courts will fill some of the key gaps (see judicial section below).

RECOMMENDATIONS

Whether by administrative changes, legislated reforms, applicants' stricter adherence to high standards, or judicial review, the overarching goals must be to increase patent quality and reduce uncertainty about the limits of intellectual property protection. The following recommendations are presented with these goals in mind and with confidence that with a just and robust patent system in place the United States will strengthen its position as a global center of innovation and, in so doing, benefit economically.

U.S. PATENT AND TRADEMARK OFFICE

The PTO needs to embark on a series of changes that will make it more fiscally secure, more organi-

zationally efficient, and more operationally poised to accomplish its goals and those of the inventors it serves. To accomplish these changes it will be necessary, through one mechanism or another, for the PTO to operate much more like a smart and progressive business.

The PTO's primary responsibility is to determine whether patent and trademark applications meet the legal requirements for issuance, and to issue patents and trademarks as a means to help stimulate innovation and economic growth. In an effort to facilitate those important functions, Congress converted the PTO to a fee-based operation in 1991 (under the Omnibus Budget Reconciliation Act of 1990), though because of congressional diversions, those fees were not fully available to fund PTO operations. Eight years later Congress made the PTO into a so-called performance-based organization, which granted the PTO certain limited managerial flexibilities in return for adopting specific measurable goals and customer service standards.

Today, however, the PTO is still hobbled by bureaucratic barriers and inadequate control over its resources, undermining its ability to perform effectively. There are four overarching changes that the PTO must immediately embrace, none of which are likely to be implemented unless the office—through either administrative or legislative changes discussed below—is granted an added measure of economic and administrative autonomy and flexibility.

Solidify the budget, and control revenue and expenses

No organization can be effective if it lacks the ability to balance its income and expenses. The PTO has the responsibility of supporting itself entirely by fees, but without having effective control over those fees or its expenses. The office must gain this authority (subject, of course, to government oversight) and use it to further its mission, keeping in mind that any changes it makes to its fee struc-

ture should not have an undue negative impact on individuals and small- or medium-sized businesses, which provide the majority of new patentable inventions in the United States.

Among the ideas to consider are the creation of a fee-based fast-track system; demanding that a greater share of patent-processing fees be paid earlier in the examination process, since that is the time that some of the most labor-intensive aspects of the PTO's work is done; and increasing those fees that the PTO is authorized to set. The office must have full control over its budget and retention of funds carried over from prior years. And there must be a total and permanent halt to diversion of PTO funds to other government purposes.

Hire and retain the best patent staff

The hiring of additional staff will not by itself resolve the problems of increasing patent pendency (the amount of time it takes for a decision to be rendered on a patent application) and decreasing patent quality (one result of a rushed examination process), but progress cannot be expected in these areas without first bolstering the examining staff. Examiners today are simply asked to do too much with too few resources and too little time. Two-thirds of departing examiners cite unrealistically high production goals as a primary reason for leaving. Those goals (the number of applications to handle per week) have not changed since 1976, despite the ever-increasing complexity of inventions and patent applications. Some 70 percent of examiners told the GAO they had worked unpaid overtime in the past year to meet goals.

The pay of PTO professional staff, relative to compensation available in the private sector, is not competitive. When the undersecretary of commerce and director of the PTO is paid the equivalent of a mid-level manager in the private sector, and all other positions within the PTO are scaled accordingly, it should not be surprising that the best talent will first seek employment in the private sector or migrate there when possible. Indeed, the average examiner is

Today the PTO is still hobbled by bureaucratic barriers and inadequate control over its resources, undermining its ability to perform effectively.

employed by the PTO for approximately three years, which is just the amount of time required to become a proficient examiner. It is essential that the abysmal examiner attrition rate be lowered.

Adding to job dissatisfaction is the fact that too little time is allowed for examination, particularly given the deficient information infrastructure available. Moreover, rules make access to outside experts and even applicants difficult, leaving examiners largely isolated as they work. Substantially improving the work environment, pay, and information resources, and establishing a clear and attractive career path for examiners could have a dramatic impact on attracting the very best talent.

At the same time, the metrics of examiner success need to be updated. For instance, the quality of the examination process is conventionally assessed by reviewing a sampling of issued patents to see how many should not have been issued. But rejected applications should also be reviewed, to see how many should in fact have issued. Additional objective measures should be developed that are verifiable by independent, third parties.

Improve communication with applicants and stakeholders

No corporation is effective without dynamic and frequent communication with its clients and customers. In similar fashion, it is essential that the PTO main-

tain clear channels of communication with all the stakeholders it serves so it can respond quickly and effectively to the ever-changing global marketplace.

PTO outreach and consultations have been in very short supply during the Bush administration, bringing PTO-stakeholder relations to what are widely considered to be an historic low. So strained are relations that last year, for the first time, the PTO was sued by a stakeholder over a rules package the office released without initial consultation. In the Obama administration, the office should seek early and extensive public input on rules packages; offer better access to PTO economic and other data, including first action and appeals statistics; and provide guidance based on relevant judicial decisions. The PTO's Public Policy Advisory Committee should open its meetings to the public and webcast them to the maximum extent practicable. Meeting minutes and transcripts should be posted, and advisory committee membership should be broadened.

Some of these goals may require judicial or legislative changes to the so-called inequitable conduct defense (see below), to facilitate greater communication and exchange between the applicant, the patent examiner, and third-party experts. But there is no reason why the director of the office, through the power of the bully pulpit, cannot initiate significant changes from day one.

Improve information available to the PTO staff

Electronic information systems at the PTO are woefully inadequate. While those systems can perform the core task of searching for patent prior art, they fall far short in their ability to search global products that may practice inventions, as well as non-patent prior art (through, for example, industry trade publications, R&D publications, and academic research journals). The technology exists to remedy this situation, but it is lacking at the PTO, as are staffers with the technical expertise to implement it.

At the same time, the office should better avail itself of third-party experts. Experiments that have enabled interested third parties to comment and provide input to examiners, such as pilot projects using "peer-to-patent" reviews, have been promising, but have not been scaled up. As with other proposed changes, it will be important to ensure that any new duties, costs, or other burdens relating to a shared examination process do not disadvantage independent inventors and small enterprises.

The GOC question

Some argue that the four changes outlined above can be accomplished only by congressional conversion of the PTO into a so-called government-owned corporation, or GOC, and perhaps this is the case. The conversion of the PTO from its current status as a federal performance-based organization to a GOC would give the office greater flexibility than agencies have in terms of hiring, firing, salary ranges, and full-time employee staffing-level caps, effectively allowing the PTO to manage itself more competitively and attract and retain highly skilled employees. As a government-owned corporation, the PTO could compete more effectively with the private sector to attract and retain the talent required to improve quality and efficiency. And it would have firewall protection against fee diversions to the U.S. treasury.

Nonetheless, we believe that the PTO can accomplish its objectives within the framework of responsive government and that keeping the PTO wholly within the government could have real advantages. It would reflect the reality that, no matter how much administrative independence the office may earn, it is the federal government that promulgates the nation's patent policies. Moreover, to maintain the PTO's current status within the executive branch would appropriately place the office near the center of the Obama administration's efforts to use progressive and enlightened federal policies to take on the economic and financial crises facing our country.

Finally, it should also be noted that there is no inherent reason that a government office cannot be granted many of the administrative and material resources the PTO needs in order to be successful—nor are those resources necessarily assured through the simple conversion to a GOC. Thus it should be a high priority of the new administration to give the PTO the tools it needs to achieve its goals without separating it from the government family. If organizational and administrative constraints prove to be too high a hurdle to overcome with reasonable rapidity, however, then a GOC should be considered.

Whether or not the PTO becomes a GOC, none of the important changes outlined here are likely to be achieved unless the Obama administration appoints a highly skilled director with professional managerial experience in a large, mission-driven organization, empowered with a clear mandate to apply best business practices to every aspect of the PTO. In selecting a new director, skills in executive management and business operations should be paramount, with less attention directed to whether the individual is an attorney. In fact, many corporations now select non-attorneys to lead their intellectual property organizations, recognizing that what is lacking are business skills to manage those organizations, rather than legal skills, which are already abundant.

ADDITIONAL IMPROVEMENTS WITHIN PTO

As part of a renewed commitment to the quality and consistency of patent application review, the office should, in addition to achieving the above goals, craft and release new examination guidelines clarifying the PTO's insistence on high standards of disclosure and the need for strict compliance with written description and enablement provisions. While hardly a panacea for the recent, widely perceived decline in examining standards and concomitant drop in patent quality, a strong restatement of high expectations through the issuance of PTO guidelines would be an important start.

In addition, given the significant threat posed by patent trolls to the integrity and stability of the patent system (discussed in more detail in the accompanying article by Dan McCurdy on page 78), and notwithstanding the possibility of legislative actions and court decisions to deal with this threat, the PTO should initiate a study assessing various approaches to understanding and resolving the patent troll issue. Among the policies that have been proffered and are deserving of study are the awarding of legal fees to successful defendants (a “losers pay” rule); more strict adherence to Rule 11 requirements (which set the bar height for the filing of patent infringement suits) by the courts; and a requirement that all patent assignments and licenses be registered with the PTO, including ongoing declaration of assignments and licenses to and by the patent-holder's upward and downward affiliates.

Yet another way the PTO could simplify operations and help prosecutors would be to revamp its current interpretation of restriction requirements and unity-of-invention standards. Under current standards, inventions that require the integrated use of many independent pieces of, say, genetic material or gene products—such as those used on analytic “gene chips”—have been ruled by PTO to be multiple inventions, slowing issuance and adding significantly to cost. Those standards are taking a toll particularly on the emerging bioinformatics field and should be reassessed.

Reducing the time to get a patent decision

A number of initiatives could help reduce the problem of prolonged pendency times, including, as briefly alluded to above, an increase in regional and international work sharing and better synchronization among various patent offices worldwide. Huge amounts of duplicative work are carried out in patent offices around the world. Various forms of work sharing among patent offices are allowed under the terms of the Patent Cooperation Treaty

and the Patent Prosecution Highway, but for the most part they remain untapped.

Similarly, programs that enable interested third parties to comment and provide input to examiners, such as pilot projects using peer-to-patent, have been promising, but have not been scaled up. As these and other changes in the examination process are implemented, it will be important to ensure that any new duties, costs, or other burdens do not disadvantage independent inventors and small enterprises.

A second possible means of reducing pendency would be to remove some of the current incentives for continuations. The ability of a patent holder to continue to tailor claims of a related patent provided the claimed invention in that continuation application is deemed within the scope of the original patent—and to claim the original filing date of the parent patent even though the continuation patent may be altered many years following the initial patent filing—has created mischief and reduced the predictability surrounding patented inventions. The PTO should initiate a study of whether continuations as practiced today are in keeping with the public policy principles underpinning the patent system and make recommendations, if necessary, to amend the law.

A third approach to reducing pendency is to identify and implement incentives to defer examination. Japan has a robust system of voluntary patent deferrals, which has helped to reduce pendency there (as counted from the date of examination request)—and has resulted in shifting some of the burden of primary examination to the United States. Deferral is not currently an option in the United States but should be, both to allow the PTO to focus on applicants' most important applications and to bypass applications that all parties agree are by this time stale. New legislation may be required to implement such a change.

Finally, the PTO should conduct or share responsibility for a study that would examine the feasibility of launching a multinational patent examination office to conduct patent examinations on behalf of member states (discussed in more detail

in the accompanying article by Bruce Lehman on page 87). The findings of such a world-class patent examination entity would be shared across all member states, but with each member state maintaining its own patent office for issuance, appeal, and other non-examination activities. Given the realities of multinational negotiations, this new office is an ambitious plan, but one that deserves energy and emphasis from the Obama administration.

Separately from the issue of patent pendency, the PTO must devise a plan for streamlining existing post-grant and ex parte proceedings, which result when third parties ask the office to re-examine the validity of an issued patent. In particular, *inter partes* re-examination, which allows third parties to play an expanded role in the re-examination process, is seldom used and therefore ineffective, and thus has not contributed to providing more IP certainty, as originally intended.

CONGRESS

The Patent and Trademark Office has been reincarnated repeatedly in various forms over the centuries (it first became a distinct bureau in 1802, under the State Department; was transferred to Interior in 1849; and in 1925 moved to Commerce, its current home). If the administrative changes outlined above—along with some of the legislative changes noted below—cannot be mustered to achieve the major goals outlined in this report, it may be that a new reincarnation will be needed, in this case to a government-owned corporation. For both the philosophical and practical reasons outlined above—and given the reality that more political capital would likely be spent arguing over the implication of the PTO as a GOC than would be required to implement many of the changes called for in this report—we recommend the GOC as a mechanism of last resort, rather than the preferred path forward.

Notwithstanding how the GOC question is handled, Congress should pass legislation that

would at last change the U.S. patent system to a “first-inventor-to-file” system—that is, a system that rewards the first person to file a claim for an invention rather than a person who, after a claim has been filed by another, provides evidence for having created that invention earlier. The United States is the last major economy in the world that grants patents on the basis of “first to invent,” rather than “first to file.” Without question, the American tradition has proven resilient and there remains a lack of consensus among U.S. stakeholders about aligning the United States with international practice. Some individual inventors and small companies have voiced concerns that a “first-inventor-to-file” system could place them at a disadvantage relative to larger companies, which they perceive may be better able to file patent applications rapidly. Some also fear that, since patents can take years to issue, a policy of making applications public 18 months after filing might help unscrupulous competitors who are willing to flirt with infringement. But there are strong arguments to be made for such a change. Among them, moving to a first-inventor-to file system would improve predictability and reduce controversy surrounding patents issued around the world. Also, many of the recommendations in this report are predicted to reduce pendency, making 18-month publication less of an issue.

To facilitate greater communication between examiners and applicants, Congress should also pass legislation updating the law governing inequitable conduct—the legal term describing a patent applicant’s failure to disclose faithfully to the PTO all information required during the patent application process. The doctrine serves an important public policy purpose, namely to help ensure that applicants tell the PTO the truth about their inventions and claims. But it is often abused. Parties accused of infringing a patent almost always assert—albeit rarely with success—the inequitable conduct defense, which claims that the patent holder was less than appropriately forthcoming about knowledge he or she had about relevant prior art.

The issue of inequitable conduct is ripe for reform because it may be an obstacle to other changes that could improve patent quality. Specifically, one way to lessen the overwhelming burdens already borne by the PTO is to shift more responsibility to applicants to supply information to the patent examiner, such as through more diligent searches of prior art. Such a shift could both speed the examination process and improve patent quality. But it is important that any policy encouraging that diligence not make an applicant more susceptible to charges of inequitable conduct that, if successful, would render the patent unenforceable.

To this end, if PTO rules are enhanced to require applicants to more diligently search for invalidating prior art, then it should be made clear that mere failure to cite a specific relevant prior art reference would not, by itself, constitute inequitable conduct. Rather, intentional failure to disclose art that was known by the applicant to be material and that resulted in an asserted claim being found invalid would constitute inequitable conduct.

Moreover, to curtail abuse and reduce the enormous burden on the courts and discovery costs associated with defending against a claim of inequitable conduct, the inequitable conduct defense should be limited to cases in which at least one claim of the patent has been found invalid. And to gain the benefits of broadened prior-art searches and submissions central to the peer-to-patent initiative, Congress should enact reform legislation that explicitly allows the public to submit prior art to the PTO with commentary.

As described in the PTO section above, Congress should also consider crafting legislation that would create a new post-grant opposition system and reform *inter partes* re-examination, as well as legislation revamping the laws on apportionment of damages (though this is also likely to be a subject of review by the courts, as noted below). Instituting a post-grant review proceeding was recommended by both the FTC and National Academies reports.

Further, Congress should consider legislation to curtail “venue shopping,” the practice of plaintiffs launching lawsuits in jurisdictions with histories of rulings favorable to them even if the jurisdiction has little or no connection to the parties or the events involved in the litigation. Venue shopping has already been the focus of an important Fifth Circuit case and, like the issue of proportional damages, is likely to attract further court review in the near term, as discussed below. Congress should also consider legislation that would provide alternatives to a broad right to interlocutory appeal of trial court decisions.

APPLICANTS

Many business leaders decry the recent perceived decline in patent quality. But a significant part of the problem plainly rests on the shoulders of over-reaching applicants themselves and their outside prosecution counsel, who are measured primarily by metrics of patent quantity rather quality.

First, applicants need to be more proactive, collaborative, and thorough with regard to disclosure. Although pre-exam meetings are not always efficient or worthwhile (or always welcomed by examiners), the prosecution process would generally benefit from more open communication in the early stages. As mentioned earlier, changes to the inequitable conduct doctrine would likely be required to facilitate such changes in approach.

A second way applicants can step up to the plate is to ensure that their claims are closely aligned to specifications in their applications. Many experts have noted a disturbing trend in recent years toward exaggerated claims that rest on little or no basis in fact, or evidence of the claimed invention or its practical usefulness. These claims slow the approval process and add to pendency problems. They can also encourage cases of adventurous enforcement, in which a claimed infringement is of a product or service that has virtually no resemblance to the product or service that was envisioned in the issued

patent. Product-producing companies can hardly hazard a guess—let alone know—what blocking patent may lay in their path given sufficient creativity in claim interpretation. Time-consuming and expensive legal challenges are the only sure products of overly broad and low-quality patents.

Third, applicants should consider working with the PTO and with Congress to design and implement a process of deferred examinations, taking into account the need for a mechanism to mitigate the additional uncertainty that would necessarily result from additional unexamined patent applications. In conjunction with implementation of a first-to-file system, discussed above, applicants could preserve the priority of their patent application while deferring examination of inventions that are unlikely to have near-term commercial importance.

The impact of the current application backlog could be significantly reduced if applicants were able and willing to rank the importance of their pending applications and agree to defer some in order to get the most valuable and more urgently required pending patents issued. Incentives may be needed, including some already in widespread use in Japan where deferrals are commonplace.

THE COURTS

Among the most vexing issues in patent law is that of selection of venue, or where lawsuits can be filed. Currently, plaintiffs have wide discretion in selecting the court in which they file a patent case. Patent owners seeking to enforce their patents generally prefer venues that have a promising record with respect to finding in favor of patent holders; producing significant damages; and hearing and deciding cases with relative haste. For these reasons a few jurisdictions—including the Eastern District of Virginia, the Western District of Wisconsin, and the most-favored venue, the Eastern District of Texas—have become popular in recent years. Critics have countered that venue should have a tangible rela-

tionship to the parties in the suit. This was a sticking point in the recent attempt at legislative reform.

Recently, in an *en banc* decision of the Fifth Circuit (*in re Volkswagen AG*, No. 07-40058, October 10, 2008), the court held that Eastern District of Texas Judge John Ward had erred in his decision to reject a motion to transfer a product liability case from the Eastern District of Texas to Dallas, where an automobile accident at the core of the case had occurred. Specifically, the court rejected the judge's argument that the residents of the Eastern District had an interest in the product liability case because the product (a Volkswagen Golf) was available there as well. "Indeed they [the residents of the Eastern District] do not," the Court ruled, "as they are not in any relevant way connected to the events that gave rise to the suit ...In contrast, the residents of the Dallas Division have extensive connections with the events that gave rise to the suit." Though the venue-shopping elements of the recent congressional patent reform effort failed, *in re Volkswagen* likely indicates a new willingness on the part of the courts to further tackle this contentious issue.

Another hotly debated issue in patent law that may move toward resolution in the courts involves royalty damages awards. At issue is how to fairly value the essential elements of the invention and assess reasonable damages for infringement. Central to the debate is whether damages awards are too often based on the total value of the product that wrongly incorporated a patented invention, rather than being based on the value attributable to the infringing element that contributes to the product's total value.

Consider, for example, a case in which a semiconductor component that controls a laptop's ability to connect to a wireless network is found to infringe a patent. Should damages (for example, an assigned royalty rate) be based on the value of the semiconductor component alone? Or (as has been the case in some high-tech cases) should damages be based on the total value of the laptop?

That question was a major point of contention among different stakeholders in the 2008 congress-

sional patent reform efforts. Today the issue remains stalemated, and unless or until industry finds a compromise position it is unlikely to gain sufficient congressional support for passage. That said, there are signs of a potential willingness by the Federal Circuit or the Supreme Court to take up this issue if presented the opportunity, and it appears likely that proponents of reform may attempt to provide such an opportunity. The Supreme Court has signaled that it is dissatisfied with the way patents are now valued for purposes of assessing damages. In its recent *Quanta* opinion, a contributory infringement case, the Court said valuation should be based on the "essential elements" of the invention and not the claimed product that incorporates the invention. This admonition of the Supreme Court provides good guidance for resolving the legislative and court impasse.

A third arena that is inviting legal attention encompasses issues of inequitable conduct, willful infringement, and enforcement. High among the questions here is whether a patent holder found to have intentionally withheld material information resulting in the issuance of patents should be punished by having all claims of the patents ruled unenforceable, or only the claim granted by virtue of the conduct ruled unenforceable, or some other approach that leaves valid claims of the patent intact or enforceable. Although much of this legal terrain is still virgin, the courts have begun to address the issue, for example in the recent (Aug. 2008) case, *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*

Finally, the courts also have recently shown a willingness to deal with longstanding issues relating to standards of obviousness, novelty, and ordinary skill in the art. Specifically, there is widespread agreement that in recent years the PTO has been granting too many patents for products or processes of questionable novelty or that were obvious. This can be addressed in part administratively, as mentioned above. But the courts can also help set the standards through rulings on challenges, as recently demonstrated by the *KSR* decision, referenced above.

CONCLUSIONS

The time is ripe for positive change in the U.S. patent system. The Obama administration clearly understands the important role that investment in science and technology must play in America's economic recovery. A wide array of patent-system stakeholders agrees not only on the need for change but also on many of the most immediate fixes that need to be made. And after a year of struggle over the remaining differences among stakeholders and constituents, Congress is deeply informed and motivated to improve the system.

The first opportunity to make a difference will come very soon, with the all-important selection of a new PTO director—one committed to instituting much-needed administrative reforms, including greater transparency and communication with applicants and others, and examination-process reforms to increase patent quality and reduce pendency.

Sobered by the economic challenges now facing the nation and the world, and cognizant of the tolls that deficient quality patents impose on enforcement costs, investment, and innovation, patent applicants can and should do their share by recommitting themselves to the highest and fairest standards as they craft their claims and defend their intellectual property. It is to be hoped as well that the courts will tread fairly but assertively into the legal frontier that remains unaddressed by the PTO and Congress.

All the pieces of the puzzle are aligned for a renewed flowering of American investment in ingenuity. A modernized patent system promises to improve patent quality, reduce uncertainty about the boundaries of intellectual property, and spur the kind of confidence in the future that in the years to come will be at the heart of American scientific, technological, and economic advancement.

NOTES

- 1 Prior to eBay, the standard applied by the Federal Circuit resulted in permanent injunctions virtually always being granted after a patent holder won at trial, and the status of the patent holder (e.g., whether it was a product-producing company or NPE) did not matter. In its eBay decision, the Supreme Court rejected the automatic entry of injunction and instead ruled that the traditional four-factor test must be applied to determine if an injunction is warranted: (i) Is there irreparable injury (ii) are there inadequate remedies at law; (iii) is there a balance of hardships; and (iv) is the injunction in the public interest. In the case of certain NPEs (such as patent holding companies), it is difficult to imagine how these tests will be met in favor of the NPE and thus, post eBay, district courts have refused to grant injunctions to such NPEs.
- 2 Prior to MedImmune, the CAFC routinely held that a licensee in good standing could not sue for declaratory judgment of patent invalidity because there was no immediate threat of being sued for patent infringement. Thus, in order to bring a declaratory judgment action a licensee had to first stop making royalty payments, thereby rendering itself vulnerable to a lawsuit for willful infringement. The Supreme Court rejected this approach, and held that a licensee in good standing is not required to "bet the farm" or risk treble damages for willful infringement and possible loss of business before seeking a declaration of its legal rights. Thus, licensees can now continue to make royalty payments while simultaneously challenging the validity of the patent in court.
- 3 Prior to the Sandisk case, a potential licensee must have had a reasonable apprehension of litigation to file for a declaratory judgment (an important right, since it enabled the potential defendant to select the forum in which the case would be heard). In Sandisk, the Court threw out the reasonable apprehension test and ruled that the new standard only requires a prospective licensee to contend that it does not need a license after a patent holder contends that it does in order to create a controversy that is sufficient to support declaratory judgment jurisdiction.
- 4 In KSR, the Court rejected the Federal Circuit's rigid application of the "teaching-suggestion-motivation," or TSM, test, holding that the determination of obviousness must allow the use of "common sense" by one skilled in the art. A key ingredient of KSR was the elimination of the requirement of foreshadowing in the prior art, which precluded a finding of obviousness with respect to "innovations" that were so obvious that no one even bothered to write about them.
- 5 Because the doctrine of patent exhaustion applies to method patents, and because the License Agreement authorizes the sale of components that substantially embody the patents in suit, the exhaustion doctrine prevents LGE from further asserting its patent rights with respect to the patents substantially embodied by those products.
- 6 The Bilski decision significantly narrowed the 1998 State Street ruling by the CAFC that spurred a decade-long flurry of business method patents. In Bilski, the CAFC held that the sole analysis to determine if a process qualifies for a patent should be the "machine-or-transformation" test, which requires a showing that the claimed invention was tied to a particular apparatus or operated to change materials to a "different state or thing."