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A Relook at Inventors' Rights

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The Leahy-Smith America Invents Act, 2011 brought in significant changes that transformed the very basis of the patent system; this included the shift from first-to-invent system of priority to first-to-file system, and the elimination of inventor's oath and declaration and the best mode defence. These changes are expected to achieve harmonization and simplify the patent administration system. This paper attempts to analyse whether administrative simplicity justifies protection of inventor rights under the current law. In the new system, the incentive/credit to inventors would be affected and the invention disclosure process rendered ineffective.

Keywords: First-to-file, first-to-invent, America Invents Act, true inventor, invention disclosure

It has long been considered that the first-to-invent system, though a big challenge to the patent system in the US, was a just system with respect to recognition of intellectual property. Unlike all other countries, the US had the first-to-invent system rather than first-to-file system. Now the US has also shifted to the first-to-file system after President Barack Obama signed the patent reform bill[1], the Leahy-Smith America Invents Act (AIA). This Act will become fully operative by 2013. It is expected that the new law will afford more certainty for patent applicants and owners and a more efficient US patent office with greater issuance of high-quality patents.[2]

One of the important reasons for the adoption of AIA is reflected in the United States House of Representatives view – 'We cannot expect America's innovators and job creators to keep pace with the global marketplace with the patent system of the past. We need a system that ensures patent certainty, approves good patents quickly and weeds out bad patents effectively'.[3] Thus, a need for a modern patent system that keeps pace with ever-changing technologies, is envisaged. The Act implements a 'first inventor-to-file' (FITF) standard for patent approval. It creates a post-grant review system to weed out bad patents and helps the Patent and Trademark Office (PTO) address the backlog of patent applications. Coster suggests that a patent is a bargain between the inventor and the public.

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The inventor must come forward with his/her invention, in order that the bargain can be struck.[4] The patenting system is a mechanism to facilitate the bargain. If this theory of FITF is applied to patenting in the new system, inventors/filers would compete in the rush to be first one at the patent office. This may affect quality of patent specifications. The focus would shift from invention creation to patent filing. This would merely increase examination backlogs at the USPTO and decrease average patent quality.

The USA was urged to change its patent system to create a 'world patent system' under the first-to-file principle.[5] The asymmetry between the US system and that of other major economies created problems, both for applicants who filed globally and for USPTO's efforts to reuse the work product of other patent offices. It has been a long standing agenda in the international arena to achieve international harmonization.[6] This shift poses benefits as well as challenges. While those in favour emphasize the clarity and administrative simplicity of first-to-file, those not in favour suggest that the first-to-file is disadvantageous to inventors and leads to low quality patents.[7] The present paper attempts to analyse whether the change from first-to-invent to first-to-file to achieve administrative simplicity and harmonization, is justified from the point of view of inventor rights.

Basis for First-to-Invent System

The basis of the age-old first-to-invent patent system in the United States is the copyright and patent clause in Article 1 of the US Constitution, which

states that Congress has the power 'to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries'. This clearly indicates that the purpose of patent grant is to secure only to 'inventors' the 'exclusive right' for their discoveries. This intellectual property clause in the US Constitution provided Congress the authority to grant patents and protect inventions to which inventors would not otherwise have any right.

Three proposals were made to address the copyright clause of the US Constitution. Charles Pinckney proposed 'to secure to authors exclusive rights for a limited time'. The other two were proposed by James Madison, who had encouraged individual states to adopt copyright legislation. Madison proposed that the Constitution permit Congress 'to secure to literary authors their copyrights for a limited time', or, in the alternative, 'to encourage, by proper premiums and provisions, the advancement of useful knowledge and discoveries'. Madison suggested that 'the utility of this power will scarcely be questioned. The copyright of authors has been solemnly adjudged, in Great Britain, to be a right of common law. The right to useful inventions seems with equal reason to belong to the inventors.[8] The public good fully coincides in both cases with the claims of individuals. The States cannot separately make effectual provisions for either of the cases, and most of them have anticipated the decision of this point, by laws passed at the instance of Congress'.

The patent law in US provided inventors the incentive for their effort and labour and hence a reward for the contribution made by them to the society. The patent system generates the reward, and contributes to the revenue of the nation. The rate of invention has greatly accelerated over the past few years due to the fast pace and application of technology. This rapid development of technology has resulted in the conflict between the contribution of an invention to society on one hand and the market value on the other hand. With the change in the legislation, the primary effect of the patent system to reward/ compensate an inventor would change significantly.

The first-to-invent is a legal concept that defines the right of an inventor in relation to a patent. Conception and reduction to practice are the two steps in inventorship analysis in the US.[9] An inventor is a party who has contributed at least one claim of a patent. The courts explain that 'the threshold question' of inventorship is 'who conceived the invention'?[10] Courts recognize that an invention is rarely a solitary endeavour. Therefore, conception and 'intellectual domination' over an invention is important and 'reduction to practice', *per se*, is irrelevant. One must contribute to the conception to be an inventor. Conception is 'the complete performance of the mental part of the inventive act' and 'the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice'.[11] According to the first-to-invent system, the first inventor is entitled to a patent, even if any other person files a patent application before the inventor.

Canada and Philippines are the two other countries which had the 'first-to-invent' priority system. Canada had this system till 1989 while the Philippines had a slightly different version till 1998. The law in the Philippines, provided an affirmative defence of prior invention analogous to the novelty rules of 35 USC §§ 102(a), (e), (g) and not the first-to-invent rule of priority recognized in 35 USC § 102(g) applied by either the USPTO or by the federal courts under 35 USC §§ 135 and 291 (ref. 12).

In the AIA, the term 'inventor' has been defined in Section 100 and means the individual or, in case of a joint invention, the individuals collectively who invented or discovered the subject matter of the invention. The definition of 'inventor' in AIA under § 100(f) includes any party who invents or discovers the subject matter of the invention. The first applicant to file *prima facie* has the right to the grant of a patent. But the decision becomes complex when there are multiple inventors independently working in the same area of technology.

Basis of Patent Rights: A Relook

Patent rights are exclusive rights granted to the inventor. Before the 18th century, patents in England were simply one form of privilege that a sovereign monarch had the power to confer by royal prerogative. The earliest patents granted in England were patents of importation where monopoly privileges were granted to foreign artisans or guilds in exchange for introducing products or processes.[13] As revenue sources dwindled, patents became important and more common as a means to political influence. The crown gradually developed customs for determining when and how to grant patents. Before every grant of patent both an evaluation of the

prospective effect on domestic industries and novelty consideration of the invention were undertaken. As an attempt by the House of Lords to prevent misuse of privileges, the Parliament finally passed the Statute of Monopolies in 1624 (ref. 14). The purpose of the Statute was to curtail the crown's abuse of all letters patent, including not only patents of invention, but patents of importation for the introduction of foreign products and processes (both new and old). The Statute nevertheless exempted 'any letters patents and grants of privilege' for the 'making of any manner of new manufacture within this realm to the first and true inventor or inventors of such manufactures, which others, at the time of the making of such letters patents and grants, shall not use'.[15]

In *Board of Trustees of Leland Stanford Jr University* v *Roche Molecular Sys Inc*, it was reaffirmed that '[s]since 1790, the patent law has operated on the premise that rights in an invention belongs to the inventor.' The decision also opined that 'an inventor owns the product of [his or her] original thought'.[16]

The reform brought by the America Invents Act not only affects the priority system, but also inventors' right. The major changes brought in by AIA, which will affect the rights of the inventor, are

- Replacing 'first-to-file' with 'first-to-invent'
- Replacing interference proceeding with derivation proceeding
- Replacing BPAI with Patent Trial & Appeal Board; determination appealable to Federal Circuit
- Eliminating inventor's oath and declaration
- Introducing post grant review and Inter Partes Review Proceedings system (opposition – 9 months)
- Eliminating best mode defence
- Introducing Supplemental Examination Proceedings
- Financial Services Patents and Tax Strategy Patents – new dimensions
- Changing false marking and virtual marking methodology
- Introducing pre-issuance submission of prior art by 3rd parties, prior user rights and revised joinder rule

Any patent application with an effective filing date on or after 16 March 2013 will not be able to initiate interference proceedings. The new legislation sets forth procedures by which the Board will conduct new administrative proceedings called derivation proceedings. Derivation proceedings were created to ensure that the first person to file the application is actually a true inventor. If a dispute arises as to which of two applicants is a true inventor (as opposed to who invented it first), it will be resolved through a derivation proceeding conducted by the Board.[17]

According to Section 135(a), 'An applicant for patent may file a petition to institute a derivation proceeding in the Office. The petition shall set forth with particularity the basis for finding that an inventor named in an earlier application derived the claimed invention from an inventor named in the petitioner's application and, without authorization, the earlier application claiming such invention was filed.'

The existing interference proceeding is an expensive and time-consuming process. It is variously estimated that, on an average, interference proceedings may cost a small entity anything between US$ 500,000 and US$ 1,000,000 (including court appeals), in order to prevail.[18] The first/true inventor in a multiple inventor dispute will now be established in a derivation proceeding. Compared to first-to-invent approach, the evidentiary inquiry required for awarding priority under first-to-file is substantially reduced or almost non-existent as priority is awarded mechanically to the inventor first-to-file an application for patent. There is no need to investigate and supply evidence of inventorship beyond the application for patent. The first-to-invent system awards patent rights to whoever comes up with the idea first. It is difficult, lengthy and sometimes an expensive process to find out who the true and actual inventor is.

It is interesting to note that in Canada, the change to the first-to-file system eliminated conflict proceedings to avoid delay in post-1989 applications.[19] In 1984 (five years before the change from first-to-invent to first-to-file system), the Canadian Patent Office declared 32 conflict proceedings out of which only three conflict proceedings were instituted in the Federal Court. In 1985, 33 conflicts were declared and no conflict proceedings were instituted in the Federal Court.[4] This shows that although provision of conflict proceeding existed, it had not been used frequently. But the presence of provision of conflict proceeding in law would have acted as a deterrent tool against wrong doers. Thus, elimination of conflict proceeding has not brought a great positive change. Similarly, it is found that less than one percent of total patent applications filed were subject to interference in the US.[20] In 2007, there were only seven interference

proceedings.[21] Therefore, the supposed benefit of elimination of interference proceedings at USPTO will not be significant.

The statute limitation for seeking relief from the wrongdoer is one year after the issuance of the patent containing the derived invention (35 USC §135). Under the proposed legislation, an inventor seeking relief from the wrongdoer, has the burden of proving that the wrongdoer derived the invention from the inventor's work. The inventor in such a case needs access to the documents in the possession of the wrongdoer. It is actually difficult to obtain the invention documents from the other party and establish the work as derived work within one year. In contrast, the inventor in the current first-to-invent priority system has possession of the evidence necessary to prove diligence as well as the dates of conception and reduction to practice. These evidentiary issues need to be addressed. Further, pre-AIA, if an examiner refused to recommend the declaration of interference, the decision was appealable to the BPAI. However, post-AIA, 'the determination by the Director whether to institute a derivation proceedings shall be final and non appealable.'

AIA introduced the FITF system with an intention to protect the interest of the first inventor. But FITF does not protect the interest of inventor in the same manner as is protected by first-to-invent system. First-to-invent ensured that only the first and true inventor is granted a patent. But, unless contested by parties, FITF system does not ensure that true and first inventor only files for the patent.

Two inventors, working separately, may make the same discovery but at slightly different times, and the second person to make the discovery may in fact be the person who is the first-to-file. Thus the inventor who files first gets patent rather than the person who invented first. In the first-to-file system, the true inventor is not given any recourse to prove and establish his inventorship and reap the fruit of his invention.

Inventor's Oath and Declaration Eliminated

In the pre-AIA law, 35 USC § 115 makes it compulsory for an applicant of patent to declare under oath that he believes himself to be the original and first inventor of the process, machine, manufacture, or composition of matter, or improvement thereof, for which he solicits a patent. The new legislation removes the requirement of inventor to be a party in filing an application. This provision enables corporations to file patent applications and stake a claim to a subject matter without the participation of any inventor. The proposed legislation also repeals the requirement that the inventor should state under oath that he or she is the original inventor (35 USC §118 -filing by other than inventor). It remains to be seen if innovation growth in the US would be affected by this change as there is no compensation/reward to the inventor. Universities and individual investors believed that the US first-to-invent system is a key factor in the US leading the world in technological development.[22] This no longer may be true.

The America Invents Act also changes the current administrative patent challenges at the USPTO by establishing post grant review, *inter partes* review and a transitional program for business method patents. In the post grant review procedure, a third party has nine months after the issuance of patent to file a petition for review of the issued patent. The threshold standard for instituting review will change from 'a substantial new question of patentability' to 'a reasonable likelihood that the petitioner will prevail on at least one claim'.[23]

A first-to-invent system deters the theft of inventions by ensuring that the true inventor ultimately prevails via interference litigation and ultimately rewarding the actual person who deserved the patent. In the first-to-file system, it is not the true inventor's right, but the first applicant's right that is protected. In the words of Galileo Galilei, patent theft is 'worse than murder', depriving the victim of 'honor and merited glory' obtained 'from studies, hard work and long vigils'.[24] The first-to-invent system ensured that the true inventor is rewarded for his work. The shift weakens the rights of actual or true inventor. It creates greater options for accused infringers. The first-to-file system defeats the main purpose of granting a patent. Patent is considered as incentive. In intellectual property law, incentive is a motivator. Patent protection is meant for those who actually perform the difficult act of invention, which includes conceiving the complete and final invention with all its claimed limitations and disclosing the fruits of that effort to the public. It is part of the *quid pro quo* of the patent grant and ensures that the public receives a meaningful disclosure from the inventor in exchange for the exclusion from practising an invention for a period of time.[25]

Canada is another country which followed first-to-invent system, but switched to first-to-file system in 1989. Limited literature is available on Canada's experience after the shift from first-to-invent to first-to-file. An empirical exploration of first-to-invent versus first-to-file system revealed the impact of the change on individual inventors in Canada. Between 1984 and mid-1989 (when the first-to-invent priority rule was applicable), the number of granted applications was relatively stable at around 1700 per month. There was a sudden increase to 3400 patents in the month immediately before the law change on 1 October 1989. But thereafter, the rate dropped to less than 1000 per month, which remained roughly stable through 1993. This is in sharp contrast to the pattern in US patent (which was following first-to-invent system) where there is fairly steady increase in subsequently granted application from 6000 per month in 1984 to around 9000 in 1993. The drop in Canadian patents was attributed to the negative impact of change in law, i.e. switch from first-to-invent to first-to-file.[7] This study from 1984 to 1993 does provide an insight into the impact even if it is general in nature. The analysis by Abrams and Wagner indicates a sharp decline in fraction of individual inventors, from 10.7 per cent prior at the end of 1989 to 7.8 per cent afterwards. During the same period in the US, the proportion of individual inventors dropped slightly from 17.4 to 16.5 per cent. Both US and Canada experienced a decline in fraction of individual inventors following the Canadian law change, while the magnitude of decline was about three times greater in Canada than in US.

Only 13 years after the first patent law was enacted by Congress in America, granting rights to inventors, America recorded greater number of patents than Britain which was until then the leader of the industrial revolution. By 1865, the per capita patenting rate in the United States was three times that of Britain.[26] As historians Sokoloff and Naomi Lamoreaux wrote: 'Observers attributed much of [America's] rapid technological progress to its distinctive patent system'.[27] Due to the greater access to property rights in new technological knowledge, the US patent system became very popular and attracted investment. The US system of invention disclosure documentation and record notebook practice is highly acclaimed worldwide. This was a very vital aspect of recognition of inventor rights in the US. One must note that this encouraged inventors to record negative data as well in the development of a new process or product. With the shift to first-to-file, this practice will lose relevance. Technological development requires rigour and insight from the point of view of the inventor. Recording of research related to an invention provided an understanding of methods adopted, modified or abandoned. Inventor names often are associated with decades of success of a given company, so much so that competing companies performed patent mapping based on inventor names. The inventor will no longer be in such prominence with the changed law.

Conclusion

The first-to-file system as opposed to the first-to-invent, does not recognize the first, or true, or entrepreneurial inventors. It does not protect the interest of the true inventor in a manner similar to the first-to-invent system. With the AIA in place, the patent system will be considered as a strong source of economy and may no longer be a means to encourage invention. The shift of the only nation from the first-to-invent to first-to-file system is striking. The systematic documentation of invention development served as an evidence of inventor's work. Post-AIA, this requirement may be reduced. Patenting index is an indicator of the innovation level of any nation. Large corporations have been successful due to single inventors who have developed lead technologies. Inventor recognition has been a predominant aspect to encourage further innovations. The success of the AIA would be measured, amongst others, on the basis of whether it leads to greater patenting index or not.

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