

THE EFFECT OF PATENT TROLLS ON INNOVATION: A MULTI-JURISDICTIONAL ANALYSIS

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1. Introduction

1.1. Defining A Troll

Defining a patent troll is a very difficult task. Hence, identifying the activities of the troll would be a better approach. A troll does not:

1. Intend to actually practice a patent. Here intention is of primary importance as small inventors may have the intent to practice a patent, but do not do so due to lack of resources.
2. A patent troll does not produce any thing of value but merely acquires patents with a view to obtain licensing revenue.
3. They do not make use or sell new products and technologies but *solely* aim to force third parties to purchase licenses.

1.2. Trolls Vs. Legitimate Actors

It is also essential to separate two classes of people who might act similarly to trolls but are not trolls. They are:

1) Innovators

The goal of a patent troll is simply to obtain a patent that it can use to extract licensing revenues, but innovators develop a new technology that can be used by a producer. An innovator seeks not just to obtain a patent, but also to create an underlying technology that has some value. This point can be demonstrated by analogizing the patent to a piece of land. Both the innovator and the patent troll can potentially own the land, thus having the right to exclude others from it. The innovator, however, uses the land to raise a crop but a patent troll merely aims at excluding people from the land¹.

2) Producers

Patent trolls do not include those who acquire patents as part of a defensive or offensive strategy related to their own product line. A producer need not actually practice the patent to avoid being called a patent troll. The critical question is whether it is enforcing its patent in a market in which it participates. For instance, a patentee might manufacture a product that can either use a widget or a gadget. The patentee has patents on both widgets and gadgets. However, the patentee decides to use only widgets in its product. While the patentee does not practice the gadget patent, it is not a patent troll. Indeed, even if the patentee chooses to license its gadget patent to competitors, the fact that the patent relates to a market that it participates in characterizes it as a producer, rather than a patent troll.

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¹ Rantanen, J, "Slaying the Troll: Litigation as an Effective Strategy against Patent Threats," (2006) 23 *Santa Clara Computer Hardware & Technology Law Journal* 43, 59.

After identifying the line of activity of a typical troll, a patent troll could be defined as:

“A patent troll is company or business function whose primary business activity is to acquire patents for the purpose of offensively asserting them against other companies.”

1.3. The *Modus Operandi* of Trolls

Ray Niro is the first patent troll (by his own admission); in 18 years of patent litigation, he had sued 235 companies and made a fortune of 315 million dollars². A study of one of his typical operations would show how patent trolls work:

In early 2001, Schneider Automation Inc was selling a patent covering the use of spreadsheet programs in manufacturing equipment. He called former clients to tell them about the patent and offering his legal representation on contingency. His pitch piqued the interest of Daniel Henderson. In March 2001, Henderson won Schneider’s patent auction - he was the only bidder - under the name Solaia Technology LLC, a company formed to hold the patents. A few months later, Niro sent hundreds of nearly identical letters to allegedly infringing companies offering to “*amicably and promptly resolve all issues*” for a payment of \$600,000 to \$1 million. When the letters didn’t get an immediate response, Niro sued 50 companies for patent infringement. Most of the defendants, major companies like Boeing, Clorox and BMW, settled immediately. Solaia took in about \$30 million in fees, and Niro's firm got about 30 percent, roughly \$10 million³.

It is not merely the big companies that are hit by the patent trolls. Patent trolls are not always small companies, neither are the victims necessarily big companies. Another example would illustrate this point: one California company, Pangea Intellectual Properties (PanIP), claimed its patent is infringed by websites that process financial information that customers enter online. PanIP had sent letters to hundreds of small businesses seeking licensing fees of \$25,000 on average. Some letters reportedly demanded as much as \$30,000 but later requests were as low as \$10,000 and rumours are that the company accepted as little as \$5,000. Many companies who failed to pay the fees faced costly litigation. Most recent figures show that PanIP sued 40 small websites in 2002. Although a majority of the defendants settled, some banded together in a joint defense group and successfully convinced PanIP to drop the lawsuits⁴.

1.4. Business Models of Trolls

There are four broad business models followed by the trolls:

- (i) Trolls could be companies which purchase controversial patents from others merely for the purpose of asserting them.
- (ii) A patent troll could be a company that originally sold products, but has either completely or partially closed its operations.

² Xenia, P, “Extreme Makeover: From Patent Troll to the Belle of the Ball,” at <http://www.law.com/jsp/article.jsp?id=1171360978084>, (Last visited on March 3, 2007).

³ Xenia, P., “Extreme Makeover: From Patent Troll to the Belle of the Ball,” at <http://www.law.com/jsp/article.jsp?id=1171360978084>, (Last visited on March 3, 2007).

⁴ Brennan, J., et al, “Patent trolls in the U.S., Japan, Taiwan and Europe”, <http://www.law.washington.edu/Casrip/Newsletter/Vol13/news13i2BrennanEtAl.htm>, (Last visited on April 2, 2007).

- (iii) Patent trolls could be the agents that assert patents on behalf of patent owners.
- (iv) Patent trolls could be law firms that help clients to exploit their IP, for which they take contingency fees.⁵

2. How Are Patent Trolls Undermining Innovation?

The strategy taken by patent trolls slows the progress of science in several ways. First, patent trolls increase the transactional costs associated with developing technology and with claiming IP rights. In a legal system where patent trolls thrive, the development of a new technology must be accompanied by extensive searches for related patents. Not only must well known patents of competitors be taken into account, but obscure patents with only vague connections to the technology being developed must be identified. These searches can add considerable cost and reduce the likelihood that new technologies will be developed⁶. The legal costs associated with litigation initiated by patent trolls also reduce the funding available for innovation, and these legal costs can rise to quite significant amounts. Personnel who would otherwise be engaged in promoting innovation throughout the organization will have their attention diverted elsewhere by the litigation, which will consume the human resources of the technology developers in addition to the financial resources⁷.

3. Trolling- Incentives In The Legal System

The difficult process of patent troll avoidance is made harder due to the fact that under many legal systems, especially that of the United States (U.S.), potential trolls have an incentive to remain hidden and have their patents infringed, rather than to enter into negotiations with developers of technology. Damages awarded through litigation have the potential to vastly overcompensate a patent holder whose patent has been infringed rather than a patent holder who grants a license.⁸

3.1. Punitive Damages

The U.S. grants punitive damages to patent holders in cases of willful infringement. These punitive damages can be treble the initial damages claim⁹. Second, the various forms of damage awards available to infringed patent holders fail to take into account some important factors that would tend to reduce the amount of damages available. Whether a patent holder is seeking to disgorge profits or to extract a “reasonable license fee”, there is an assumption that developers of the infringing product had no alternative but to have incorporated the patented technology into their final product. This suggests a model in which the final product could not have been produced without the patented technology, and that the patented technology contributed to the value of the final product. However, this is not always the case¹⁰.

⁵ Beyers, J., “Perspective – Rise of the Patent Trolls,” <http://news.com./rise+of+the+patent+trolls/2010-1071>, (Last visited on March 12, 2007)

⁶ Harkins, C., “Fending Off Paper Patents and Patent Trolls: A Novel “Cold Fusion” Defense Because Changing Times Demand It,” (2007) 17 *Albany Law Journal of Science and Technology* 407,434.

⁷ Xenia, P., “Extreme Makeover: From Patent Troll to the Belle of the Ball,” at <http://www.law.com/jsp/article.jsp?id=1171360978084>, (Last visited on March 3, 2007).

⁸ Reitzig, M, et al, “On Sharks, Trolls, and Other Patent Animals: Being Infringed as a Normatively Induced Innovation Exploitation Strategy,” http://papers.ssrn.com/sol3/papers.cfm?abstract_id=885914, (Last visited on March 12, 2007).

⁹ 35 U.S.C. § 284.

¹⁰ Xenia, P., “Extreme Makeover: From Patent Troll to the Belle of the Ball,” <http://www.law.com/jsp/article.jsp?id=1171360978084>, (Last visited on March 3, 2007).

In cases where the patented technology is of little value, the product developer will be able to easily invent around the patent, or avoid using the technology altogether. Thus, the amount it would be willing to pay to license the technology would be very small¹¹. However, damage awards do not tend to take into account the ability of the product developer to avoid using the patented technology had they been approached earlier¹².

3.2. Permanent Injunctions

Patent holders seeking to assert a troll-like strategy can also seek overcompensation by relying on the availability of permanent injunctions which prevent another party from using the patented technology once a finding of infringement has been made. This allows the patent holder to be overcompensated by pursuing a strategy of waiting for its patent to be infringed and for the product incorporating the infringing technology to be on the market.¹³ Once the product is on the market and the developer has made a substantial investment, the product developer will be willing to pay a large amount of money to settle an action for infringement in order to stay in business and recover its investment.¹⁴

The availability of permanent injunctions can also impose costs on a society as a whole, rather than merely on the patent infringer. For example, the patent infringement dispute between RIM and NTP threatened to lead to a shut down of all Blackberry services. The interruption in service which would have ensued would have caused serious difficulties for consumers of the service, such that the economy as a whole could have been negatively affected¹⁵. Interestingly, the availability of permanent injunctions in patent infringement suits has recently been addressed by the U.S. Supreme Court in *eBay v. MercExchange*¹⁶.

Prior to this case, a general rule had developed such that virtually automatic permanent injunctions would be issued against any party that was found to have infringed a patent¹⁷. The power to award a permanent injunction is within the discretion of the judge, who must examine four equitable factors before deciding whether or not to award a permanent injunction. The patent holder must demonstrate the following: 1) that it has suffered irreparable harm, 2) that monetary damages are insufficient compensation, 3) that the balance of hardship imposed by an injunction favours the patent holder, and 4) that an injunction would not harm the public interest.

4. Arguments In Favour Of Patent Trolls

An argument that might be made in favour of patent trolls is that they are entitled to exercise their rights against product developers because in order to obtain their patents, they were required to disclose an innovative technology that they have developed to the public. The disclosure of the new technology thus promotes innovation, and the patent holder is merely rewarded for this advancement of science. However, an examination of the strategy pursued by patent trolls illustrates that the inventions disclosed in patents filed by patent trolls are unlikely to be very innovative, and thus of questionable validity and questionable value to the progress of science and the arts. If the strategy of a patent troll is to gain income solely through litigation against patent infringers rather than through exploitation of the patented

¹¹ Ibid.

¹² Ibid.

¹³ Lemley, M., "Should Patent Infringement Require Proof of Copying?," <http://ssrn.com/abstract=954988>, (Last visited on March 12, 2007).

¹⁴ Landers, A., "Liquid Patents", (2006) 84 *Den. Univ. L. Rev.* 199, 205.

¹⁵ <http://www.msnbc.msn.com/id/10265694/>, (Last visited on July 12, 2007)

¹⁶ *Ebay One Click Patent Challenge by MerckExchange (eBay v. MercExchange)* 126 S. Ct. 1837 (2006).

¹⁷ Brunstad, S., "Courts Must Apply 4-Part Equitable Test for Permanent Injunctions: *eBay Inc. v. MercExchange LLC*," <http://www.law.washington.edu/Casrip/Newsletter/Vol13/newsv13i2US4.html>, (Last visited on July 12, 2007).

technology, then this strategy will only be successful if others independently invent the same technology¹⁸.

In order to be an effective part of the patent troll strategy, the patents held by patent trolls will be inherently weak. The weakness of these patents indicates that patent trolls are not simply exercising the rights that they are entitled to under the patent system. Instead, the weakness of such patents suggests that patent trolls are exploiting vulnerabilities in the patent system.

6. Comparative Analysis of Trolls Across Jurisdictions

6.1. Patent Trolls In The U.S.

An examination of patent troll activity suggests that it is concentrated in the information technology industry in the U.S.¹⁹. There have been some suggestions that the U.S. Patent Office is overwhelmed by the large volume of patent applications they receive. The patent examiners have only a limited amount of time to judge whether or not a particular patent is valid, and when there is doubt there may be a tendency for the examiners to grant the patents and let courts resolve the question if litigation arises²⁰. If patents are granted too easily, this will encourage patent trolls since they can threaten other parties with an infringement suit without having legitimately earned the right to do so.

This has played into the hands of patent trolls, allowing them to maintain broad, vague, but legally valid patents where unsuspecting infringement based on independent invention is almost assured. The current test for obviousness in the U.S. requires that, for a finding of obviousness, there be some “suggestion, teaching, or motivation” in the prior art that would lead a person of ordinary skill in the art to the claimed invention²¹. However, the test for obviousness is currently under review by the U.S. Supreme Court in *KSR v. Teleflex*. Interestingly, several members of the Supreme Court commented negatively on the “*suggestion, teaching, or motivation*” test during oral argument. The above case also highlights another feature of the U.S. patent system that might make it more attractive to patent trolls²². There are many aspects of patent law that appear to be uncertain in the U.S., with frequent reversals at the Federal Circuit. Legal uncertainty can act to the advantage of patent trolls because defendants to an infringement action cannot accurately predict whether or not the action has legal merit.

Another unique feature of the U.S. legal system that may embolden patent trolls is the fact that in litigation, each party generally bears its own costs. This aspect of the U.S. legal system is quite different from the rule in other jurisdictions where the losing party must contribute to the legal costs of the winning party. There is less of a disincentive for patent trolls to engage in extensive litigation against potential infringers, even when the claims of the patent trolls are dubious.

¹⁸ Xenia, P., “Extreme Makeover: From Patent Troll to the Belle of the Ball,” at <http://www.law.com/jsp/article.jsp?id=1171360978084>, (Last visited on March 3, 2007).

¹⁹ Brennan, J., et al, “Patent trolls in the U.S., Japan, Taiwan and Europe” <http://www.law.washington.edu/Casrip/Newsletter/Vol13/newsv13i2BrennanEtAl.html>, (Last visited on September 29, 2007).

²⁰ Magliocca, G., “Blackberries and Barnyards: Patent Trolls and the Perils of Innovation”, <http://ssrn.com/abstract=921252>, (Last visited on September 27, 2007).

²¹ Keim, B., “Gobbledygook or the Future of Obvious in U.S. Patent Law? *Teleflex v. KSR*,” <http://www.law.washington.edu/Casrip/Newsletter/Vol14/newsv14i1US2.html>, (Last visited on September 27, 2007).

²² *Ibid*.

Patent trolls may also be taking advantage of a judicial reluctance to employ the equitable doctrines of *laches* and *estoppel* when considering infringement claims²³. A *laches* defense might be claimed where a patent holder has been aware of patent infringing activity for a long period of time, but did not take action against the infringer until the long period of time has passed. The patent troll strategy is most profitable when the patent troll waits to assert its claim of infringement until a product developer has incorporated the patented technology into a final product which is being marketed. If patent holders are forced to assert their claims as soon as they become aware of a potential infringement, it might reduce the viability of the patent troll strategy²⁴.

An *estoppel* could be raised against a claim of infringement where the patent holder has made a representation, perhaps implicitly, that it will not enforce the patent, and the infringer has relied on that representation²⁵. The use of the doctrine of *estoppel* might have the greatest effect where patents held by bankrupt businesses are then obtained by other parties. The original patent holder may have had a policy of not enforcing certain patents, and users of the patented technology may have relied on the fact that the patents would not be enforced. An increased application of the *estoppel* doctrine could thus eliminate this opportunity for patent troll-like activity²⁶.

A final feature of the U.S. patent system that may work to the benefit of patent trolls is the relative unavailability of compulsory licensing. Patent law in many other jurisdictions provides for the establishment of a compulsory license where a patent holder does not exploit the technology disclosed in a patent and unreasonably refuses to grant licenses to practice the patent to other parties. For example, in Canada, Section 65 of the Patent Act provides for compulsory licensing of patented technology where the patent holder has abused his exclusive rights and three years have expired since the patent has been granted.

Therefore, Section 65 and other compulsory licensing provisions can have the effect of reducing the leverage asserted by patent holders threatening to obtain a permanent injunction against a technology developer who is marketing a widely used product. However, compulsory licensing has been met with strong resistance in the U.S., as it has the potential to affect not only patent trolls, but also patent holders who have developed and marketed the subject matter of their patents. Patent holders argue that compulsory licensing will result in them receiving less than the market value of their patented technology²⁷.

This argument against compulsory licensing has faced same resistance similar to the notion that a permanent injunction should not be automatically granted in cases of patent infringement. If a permanent injunction is not granted in cases of infringement, then damages awarded to the patent holder may simply be equivalent to granting a compulsory license to the patent infringer²⁸.

The U.S. patent system does appear to be suffering from unique weaknesses that leave it susceptible to patent trolls. However, many of these weaknesses are in the process of being amended, particularly as a result of recent interventions of the Supreme Court. Advancements in technology have highlighted important issues in patent law that are now being revisited. However, there is no doubt that some patent holders will strongly object to

²³ Barker, D., "Troll or No Troll? Policing Patent Usage with an Open Post-Grant Review", (2005) *Duke Law & Technology Review* 9, 11.

²⁴ *Ibid.*

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ Grab, L., "Equitable Concerns of *eBay v. Mercexchange*: Did the Supreme Court Successfully Balance Patent Protection Against Patent Trolls?" (2006) 8 *North Carolina Journal of Law & Technology* 231.

²⁸ *Ibid.*

any attempts to reduce the rights available to them. While a reduction in the frequency of permanent injunctions in the U.S. might be expected after the Supreme Court's decision in *eBay v. MercExchange*²⁹, this will not necessarily lead to a frequent occurrence of judicially imposed compulsory licenses as seen in *Finisar v. DirectTV*³⁰ Group.

The Supreme Court's ruling in *eBay v. MercExchange*³¹ merely stresses the discretion available to judges in patent infringement cases and the requirement to consider all of the circumstances of the case. While patent troll activity must be reduced, it is difficult to draw up a *bright line* legal definition of patent troll activity. The use of judicial discretion and an examination of the facts of each case may be an appropriate method of dealing with the problem of permanent injunctions and compulsory licensing where patent troll activity may be occurring.

It is in light of the aforementioned discussion that the Patent Reform Act of 2005 was introduced in the U.S. Congress on June 8, 2005. It attempts to solve some problems related to the working of patents and also problems like patent trolls. The major proposal was to amend the present patent system by incorporating some provisions such as introducing compulsory licensing, working of patents, and first to file provision. Further, careful consideration has been given to the procedural aspect of infringement cases, by eliminating treble damage awards and strengthening the statutory requirements for granting injunctive relief. This author feels the impact of these provisions might be for the better.

6.2. The European Patent System

Trolls have had a deep impact in the U.S. Europe represents a slightly different case as the patent law of the European Union (EU) as well as patent litigation systems in European nations are not only distinct from that of the U.S., but vary to some extent from one EU member nation to another. So the issue to be analyzed is whether the incentives and disincentives for trolls remain the same or are they transformed and as a result what is the impact on troll activity.

The biggest drive for trolls is the potential to obtain huge amounts as damages from infringers or even secure lop-sided out of court settlements which are mostly the result of the non-viability of entering into costly and time consuming litigation. Thus to a great extent what a troll can extract from an infringer depends greatly on the efficiency of the patent litigation system.

Factually, trolling involving European entities may be evinced by the way of mentioning the dispute between Infineon, a German chip manufacturer and Rambus, a US memory manufacturer. The dispute arose over Rambus claiming royalty payments from Infineon for millions of U.S. dollars. The end result was a settlement for \$23.5 million to be paid by Infineon to Rambus for two years³².

The European Patent System is unique in that there is a central patent office for grant of patents which are then valid across all European Patent Convention (EPC) member states, however, specific disposal of infringement suits is national rather than centralized. Thus if a European patent is infringed anywhere in Germany and the German courts uphold the infringement, it does not imply that the same patent will be deemed infringed automatically in

²⁹ *Ebay One Click Patent Challenge by MerckExchange (eBay v. MercExchange)* 126 S. Ct. 1837 (2006).

³⁰ *Finisar Case (Finisar v. DirectTV Group)* 217 Fed. Appx. 981.

³¹ Barker, D., "Troll or No Troll? Policing Patent Usage with an Open Post-Grant Review", (2005) *Duke Law & Technology Review* 9, 11.

³² http://www.patenthawk.com/blog/2005/03/bad_memories.html#more, (Last visited on February 13, 2007).

other member nations too. This is a big disincentive for a troll looking to target infringement of a European Patent that is being worked community wide³³.

It would be seemingly cumbersome to knock on the doors of courts across the spectrum of EPC member nations. On the other hand the potential costs of litigating in Europe are somewhat lower in quantum *vis-à-vis* the same in the U.S. This *prima facie* seems like a potential incentive for trolling, however it may also translate into the fact that infringers would be more willingly take up litigation and fight it out rather than settle out of court for unreasonably high royalties and one time payments. However a real disincentive to litigate in Europe may be that the loser must bear all costs of litigation for itself and the winning opponent³⁴.

Thus, as it stands now the European patent system holds both incentives and disincentives for patent trolls. Another key factor that may be determinative of the success or failure of patent troll strategies would be the criteria employed by national courts in tabulating the quantum of damages to be awarded in cases where infringement is successfully established. As evident from the U.S. experience, the practice of granting treble damages and infringers' profits can really make trolling worthwhile.

7. Possible solutions to the Patent Troll Problem

The reasons that the patent troll strategy has developed in the present patent system appears to result from judicial procedure and its adjudication in infringement cases. Some observers have mentioned that due to heavy pending applications and lack of technical hands to examine patent applications, patent trolls are being allowed to thrive based on the filing of worthless patents. In the U.S. alone, nearly 350,000 patent applications have been filed and there are only 3000 examiners examining the applications. As a result, each patent application gets only an average of 17-25 hours of inspection against the prior art³⁵. Thus, Patents have been granted without adequate examination. In the author's opinion, we need to solve the problem from the root level by developing the staff and expertise of the patent office.

7.1. Open Post-Grant Review

Post grant review shall operate in two situations:

1. At the time of patent renewal; and
2. Any time a patent is sold.

In the first instance the patentee has to demonstrate the working of the patent to the Patent Office at the time of renewal. If the patent holder fails to do so, the patent may be compulsory licensed. The period till renewal offers sufficient time for the patent holder to formulate strategies to work the patent. His non-use of the patent prevents the society from gaining anything from the patent. Therefore this provision strikes an ideal balance between the rights of the society and that of the inventor.

A similar burden of exhibiting use of the patent has to be shown when the patent is being sold. This ensures that entities do not acquire patents just for the purpose of enforcing them, without actually working them.

³³ Macdonald, M., "Beware of the troll", <http://www.thelawyer.com/cgi-bin/item.cgi?id=116783&d=pndpr&h=pnhpr&f=pnfpr>, (Last visited on February 20, 2007).

³⁴ Singleton, S., "Patents and Loser Pays: Why Not", http://www.ppf.org/issues-pubs/pops/pop13.3patents_losers.pdf, (Last visited on February 2, 2007)

³⁵ Mc Mahon, P., et al "Who is a troll? Not a simple answer", (2006) *Sendon Conference Journal* (Fall 2006), 2, 2.

Open post-grant review would definitely reduce instances of patent trolls without putting too much of a burden on holders of legitimate patents. Troll-like behavior would decrease because patents would lose some of their strength as a strategic weapon. At the same time, valid patents would become more valuable, either to the patentee or to a legitimate purchaser. Innovation would increase, and technology that should belong to the public would not be available for exploitation by patent trolls³⁶.

7.2. Compulsory Licensing

Compulsory licensing is another method which can be used to reduce patent troll activity. Countries can reduce the incentive of patent trolls by this provision in the initial stages of the patent application. Compulsory licensing is a kind of provision which allows any interested citizen to apply for the working of particular patents, where the invention is not used or exploited by the patentee for the period of 3 or 5 years. Time is the prerequisite for applying for compulsory licensing. Any patented invention that is not used for the period of 3-5 years will fall under this provision. But, in that case the applicant (one who applied for compulsory licensing) has to prove that the patent has not been reduced to work.

This will be the effective mechanism to subdue patent trolls before they have a chance to bring their claims. It is evident from the above discussion on the definition of patent troll that trolls are those which do not do anything other than waiting for somebody to trespass its patents for the benefit of getting payment from the trespasser. Thus a system of compulsory licenses punishes those trolls that failed to exploit their rights. Moreover, it also curtails other investor companies from buying vague insignificant patents which are not workable.³⁷

7.3. Granting of Injunctive Relief in Infringement Suits

As has been discussed above, infringement suits are the main threat used by trolls to obtain revenue. Injunctive relief in the US is very generous. After *eBay v. MercExchange*, there may be a shift towards a more restrained use of injunctions. However, this is not necessarily the case. If patent trolls are to be eliminated, courts must ensure that they bear in mind the nature of the case before awarding any kind of declaratory injunctions. In addition to stringent application of the four-part test articulated in *eBay v. MercExchange*, patent troll activity may be further reduced if no damages or injunctions are granted to the patentee where the patentee has made no attempt, directly or indirectly, to work the patents. It is worth mentioning here that the Japanese courts take into consideration the extent of the contribution of a patented technology to an infringing product before adjudicating the infringement matter, which may be another effective method to curtail patent trolls³⁸.

7.4. Reformulation of Criteria for Indemnifying Patent Holder

There is another possible solution to the patent troll problem. Courts have adopted very liberal ways of formulating the damages in patent infringement cases. However, while dealing with these cases, courts must consider in general, whether the plaintiff's invention is being worked or not. The plaintiff may adduce evidence or the court may direct the

³⁶ Lemley, M., "Patent Reform Legislation – Public Comments on Substitute HR 2795 and the Role of the Antitrust Modernization Commission," http://www.amc.gov/commission_hearings/pdf/Statement_Lemley.pdf,

(Last visited on October 10, 2007).

³⁷ Paul, J., et al, "Patent Trolls: A Stereotype Causes a Backlash Against Patents and Licensing," <http://www.finnegan.com/publications/news-popup.cfm?id=1855&type=article>, (Last visited on October 10, 2007).

³⁸ Brennan, J., "Patent Trolls in US, Japan, Taiwan and Europe," http://www.law.washington.edu/casrip/newsletter/vol13/newsv_13i2brennatetal.html, (Last visited on October 10, 2007).

defendants to produce some documentary evidence to prove non-working of the invention. Normally courts just leave out these factors by following traditional methods of awarding damages to the plaintiffs.

Once the non-working of patents is proved, indemnification should carefully be considered. It is just not fair to adjudicate all the infringement cases based on the application of general conditions rather than determining a proper damage award on a case by case basis. However, there is ambiguity in awarding damages. *Reitzig et al*³⁹, describe how courts might better quantify damages in infringement cases. It is suggested defendant's that the court should first look at the plaintiff's balance sheet of loss in addition to giving careful consideration as to whether the patented invention has been developed or marketed by the patent holder. Consideration should be given to the production of any product developed by the patent holder incorporating the patented technology, and also the period of time it has been on the market alongside the defendant's product. Hence, if the plaintiff does not at all have a product in the market then it would be unfair to award treble damages. Further, the judiciary should consider the amount of loss incurred from any acts of infringement.

8. Conclusion - The Indian Response To The Problem of Trolling

The Patent (Amendment) Act, 2005, has effectively reduced if not eliminated the problem of patent trolls. Most trolling activity occurs in the field of technology patents.⁴⁰ This Act disallows patents on software (including embedded software) and excludes an area with huge scope for trolling.

Another way in which trolling activity has been discouraged is through a strong pre-grant opposition regime with a time of six months being provided. There is also a provision for post grant opposition. The Intellectual Property Appellate Board, which is an administrative body designed to dispose disputes quickly, reduces costs of litigation, such that small entities which are targeted by trolls need not worry about the high cost of litigation to defend their patents⁴¹.

The concept of reasonable period in relation to compulsory licensing in Section 84(6)(iv) has also been defined as less than six months. In an application for compulsory licence, the Controller of Patents is required to consider, "*whether the applicant has made efforts to obtain a licence from the patentee on reasonable terms and conditions and such efforts have not been successful within a reasonable period as the Controller may deem fit.*" This balances interests and minimises the scope of trolling activity in India.

The domestic working requirement is a pervasive theme of India's patent laws. India's disfavor of patented imports and its view that domestic working ought to be part of the basic *quid pro quo* for the grant of an Indian patent are further evidenced in the current Act by Section 83, on general principles, which provides that Indian patents "*are not granted merely to enable patentees to enjoy a monopoly for the importation of the patented article.*"

Section 84(1)(c) "*not worked in the territory of India*" ground for compulsory licensing also overlaps to a considerable extent with the Section 84(1)(a) ground, *i.e.*, that "*the reasonable requirements of the public with respect to the patented invention have not been satisfied.*" Section 84(7)(d) provides that the reasonable requirements of the public are deemed unsatisfied "*if the patented invention is not being worked in the territory of India on*

³⁹ Xenia, P., "Extreme Makeover: From Patent Troll to the Belle of the Ball," at <http://www.law.com/jsp/article.jsp?id=1171360978084>, (Last visited on March 3, 2007).

⁴⁰ Rantanen, J., "Slaying the troll: litigation as an effective strategy against patent threats," (2006) 23 *Santa Clara Computer Hardware & Technology Law Journal* 43, 59.

⁴¹ Narula, R., "Intellectual Property Environment in India," <http://www.ipfrontline.com/depts/article.asp?id=15279&deptid=6>, (Last visited on March 12, 2007).

a commercial scale to an adequate extent or is not being so worked to the fullest extent that is reasonably practicable.” Similarly, Section 84(7)(e) provides that the reasonable requirements of the public will be deemed unsatisfied “*if the working of the patented invention in the territory of India on a commercial scale is being prevented or hindered by the importation from abroad of the patented article*” by the patentee, his agents, or third parties against whom the patentee has not enforced the patent.

Hence, the domestic working and reasonable period requirements, the compulsory licensing and pre-grant opposition regime and finally the patentable subject matter, have made the Indian system fairly immune to the problem of patent trolls that have been plaguing many other countries⁴².

⁴² Mueller, J., “The Tiger Awakens: The Tumultuous Transformation of India’s Patent System and The Rise of Indian Pharmaceutical Innovation,” (2007) 68 *University of Pittsburgh Law Review*, 491, 533.