Compared with the long history of U.S. patent law, Chinese patent law is still in its infancy. Nevertheless, there are similarities between the two laws in terms of remedies available for patent infringement. Both provide injunctive relief, damages and provisional rights remedies. Nevertheless, in granting each remedy, there are some differences. China has made consistent efforts to upgrade its patent laws to provide patent owners with adequate remedies. However there is still large room for improvement in the standards for granting preliminary injunctions, and in determining lost profits and reasonable royalties. Additionally, the Supreme Court of China should reconsider the issues of limitations on damages and attorney fees in order to balance the interests of the patent owners and innocent infringers. Unquestionably, the theories and experiences provided by U.S. patent law are good “prior art.”
REMEDIES FOR PATENT INFRINGEMENT:
A COMPARATIVE STUDY OF U.S. AND CHINESE LAW

GUANGLIANG ZHANG*

I. INTRODUCTION

A patent confers upon its owner the right to exclude others from making, using, offering for sale, or selling its patented invention.1 Just like any other right, the patent right would mean nothing to the patentee without adequate remedies for infringement in the law. The purposes of remedies are to compensate the patentee for past infringement and to enjoin future infringement.2

The first U.S. Patent Act was passed in May 1790.3 Nearly two centuries later, the first Patent Act of the People's Republic of China was enacted.4 These two patent acts, though enacted at different times, have the similar ultimate purpose of promoting the progress of science and the useful arts.5 Both laws have provided remedies for patent owners as a legal guarantee for that worthy goal.

During the early 1990's, the United States and China negotiated intellectual property ("IP") issues several times, and reached an important bilateral agreement.6 The last two decades of the past century have witnessed the rapid development of China's IP legislation and progress on the enforcement of IP laws. It is well known that the United States has attached great importance to the protection of IP. An analysis of the similarities and differences between the IP systems of the two countries should therefore be an interesting and meaningful topic. This paper will focus on a small part of this extensive topic: the remedies for patent infringement.

The main purpose of this paper is to examine the remedies for patent infringement under U.S. law and under Chinese law and to make a comparative study between them.

*Judge, Beijing No. 1 Intermediate People's Court. Judge Guangliang Zhang received an LL.M. in Intellectual Property Law from The John Marshall Law School in June 2001 and is a Ph.D. Candidate at Peking University Law School. The author deeply appreciates the help and direction provided by Professor Janice Mueller while preparing this paper.

1 35 U.S.C. § 154 (1994 & Supp. 1999); see also Zhonghua Renmin Gongheguo Fagui Huibian 1979-2001 [Patent Law of the People's Republic of China] art. 11, translated in CHINALAW No. 190 [hereinafter Patent Act of PRC] (providing that "no entity or individual may, without the authorization of the patentee, exploit the patent, that is, make, use or sell the patented product, or use the patented process for production or business purposes").


4 Patent Act of PRC, supra note 1. The Patent Act of PRC was passed on March 12, 1984. Id. The first and second amendments to the law were passed respectively on September 2, 1992 and August 25, 2000. Id.

5 U.S. CONST. art. I, § 8, cl. 8; see also Patent Act of PRC, supra note 1, art. 1 ("This law is enacted to protect patent rights for invention-creations, to encourage inventions-creations, to foster the spreading and application for inventions-creations, and to promote the progress of science and technology, for meeting the needs of the construction of socialist modernization.").

Members of the international community have made consistent efforts to cooperate on IP matters, which is evidenced by a series of international conventions and treaties on IP. However, it was the World Trade Organization ("WTO") Agreement on Trade-Related Aspects of Intellectual Property ("TRIPS") that set the minimum standards for IP enforcement for all WTO members for the first time. The United States is an important member of the WTO, and China will eventually become a member as well. Therefore, this paper will briefly discuss the minimum requirements for remedies under TRIPS and whether the United States and China have met the requirements.

Parts II and III of the paper will review the remedies for patent infringement under U.S. law and Chinese law respectively. Part IV will consist of a comparison between the two laws. The different legal systems and histories of patent laws of the U.S. and China do not make the remedies for patent infringement totally different. In fact, there are many similarities. The U.S. patent law and the courts' decisions have provided patent owners with reliable remedies. While enacting and amending the Patent Act of China, the legislators have “borrowed” some good experiences from foreign patent systems. Though the remedies for patent infringement under Chinese law conform to the minimum requirements provided by TRIPS, the Chinese Supreme Court's Interpretations and more court decisions are needed to construe relatively abstract provisions of the Patent Act. In addition, there is still large room for improvement in the standards for granting preliminary injunctions and determining lost profits and reasonable royalties in the Chinese law. Chinese courts should also reconsider the issues of limitations on damages and attorney fees in order to balance the interests of patent owners and innocent infringers.

II. REMEDIES UNDER U.S. LAW

There are three types of remedies under the U.S. Patent Act: injunctive relief, damages, and provisional rights for certain claims.

---


8 General Agreement on Tariffs & Trade-Multilateral Trade Negotiations: Agreement on Trade-Related Aspects of Intellectual Property Rights, including trade in counterfeit goods, Apr. 15, 1994, 33 I.L.M. 81 [hereinafter TRIPS].

9 Sina Net at http://www.sina.com.cn (last visited Feb. 26, 2001). On Feb. 26, 2001 Long Yongtu, the deputy minister of the Economy and Trade Department of PRC and the chief negotiator for the WTO accession negotiation, said that China's accession to the WTO was definite, and the specific time of accession was not important. Id. China had finished negotiating with 24 WTO members, including the U.S., by Feb. 24, 2001. Id.


A. Injunctive Relief

From the patentee’s point of view, the right to enjoin the alleged infringer from continuing infringing activities is perhaps a more important remedy than compensation for past infringement in the form of damages. The Patent Act provides that the court “may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.” In patent infringement cases, preliminary injunctions, temporary restraining orders, and permanent injunctions are available to the patentee.

1. Preliminary Injunctions

Courts issue preliminary injunctions to protect the patentee during the pendency of the lawsuit upon a strong showing that certain standards have been met. The standards for preliminary injunctions in patent suits are basically the same as for preliminary injunctions in other types of cases. To obtain a preliminary injunction in a patent infringement suit, the plaintiff must establish: (a) a reasonable likelihood of success on the merits; (b) an irreparable harm; (c) the balance of hardships tipping in the patentee’s favor; and (d) a tolerable effect on the public interest.

a. Reasonable Likelihood of Success on the Merits

In order to prove a reasonable likelihood of success on the merits, a plaintiff must establish “clear title” to the patent. In Filmtec Corp. v. Allied-Signal Inc., the Court of Appeals for the Federal Circuit (“Federal Circuit”) held that when there are serious doubts as to who owns the patented invention, the court should not grant a preliminary injunction.

In addition to establishing clear title, the plaintiff must make a “clear showing” that the patent is valid and infringed. A patent shall be presumed valid, and the burden of establishing invalidity of the patent, or any claim thereof, shall rest on the party asserting such invalidity. If the plaintiff is likely to withstand the alleged infringer’s validity attacks on the patent and is “reasonably likely” to succeed on the
infringement claim, the plaintiff will be held to have met the requirement. With respect to the infringement claim, both literal infringement and infringement under the doctrine of equivalents should be considered.

b. An Irreparable Harm

In patent suits, irreparable harm has been presumed when the plaintiff has made a clear showing of patent validity and infringement. The presumption of irreparable harm "derives in part from the finite term of the patent grant, for patent expiration is not suspended during litigation, and the passage of time can work irreparable harm. The opportunity to practice an invention during the notoriously lengthy course of patent litigation may itself tempt the infringer." There are other facts that may support the presumption of irreparable harm. These facts include: (i) the possible loss of the patentee's market share; (ii) the difficulty of determining the potential injuries to the patentee; and (iii) the harm to the patentee's goodwill or reputation.

The alleged infringer may rebut the presumption of irreparable harm. The facts that establish a lack of irreparable harm to the patentee may include: (i) the patentee's undue delay in seeking a preliminary injunction; (ii) the patentee's pattern of granting licenses under the patent, where it may be reasonable to expect that infringement can be compensated by damages; (iii) the patentee's failure to exploit the patented invention; (iv) the alleged infringer's decision to cease the allegedly infringing activities; and (v) the patentee's large market share.

c. Balance of Hardships Tipping in the Patentee's Favor

Once the patentee establishes the validity and infringement of the patent, the court has considerable discretion in the decision to grant or deny a preliminary injunction. To exercise its discretion, the court will balance the relative conveniences and inconveniences to the respective parties, and consider the effect on the public interest. As for the date from which the balance of hardships should be viewed, the Federal Circuit implied that it should be the date that the alleged infringer began the infringing activity, rather than the date of the order.

---

23 Id.
26 Lu, supra note 17, at 169.
27 Polymer Techs., Inc. v. Bridwell, 103 F.3d 970, 974 (Fed. Cir. 1996).
28 Lu, supra note 17, at 184.
29 CHISUM, supra note 15, § 20.04[1][f], at 729.
30 Id.
d. Public Interest

Courts often find that there is a strong public interest in the enforcement of patents that are valid and infringed.\(^3\) It is very rare that the grant or denial of a preliminary injunction in a patent suit will seriously affect the public interest.\(^3\) However, if the accused invention pertains to health care, the environment, or another area of critical public interest, the public interest factor will play a greater role.\(^3\) A two-step analysis is needed to consider the public health or safety interest. The first question is whether the accused product or process is vital to the public health or safety.\(^3\) The second question is whether there is an adequate supply of acceptable noninfringing substitutes for the accused product or process if the preliminary injunction is granted.\(^3\)

None of the four factors discussed above are necessarily decisive, when taken individually.\(^3\) The trial court has the discretion to grant or deny the preliminary injunction based on the four factors, and the grant or denial of a motion for a preliminary injunction will not be vacated or reversed on appeal unless the trial court abused its discretion.\(^3\)

The applicant for a preliminary injunction is required to give a bond, or security, in accordance with Rule 65(c) of the Federal Rules of Civil Procedure, which provides:

\[
\text{[n]o restraining order or preliminary injunction shall issue except upon giving of security by the applicant, in such sum as the court deems proper, for the payment of such costs and damages as may be incurred or suffered by any party who is found to have been wrongfully enjoined or restrained.}\]

2. Temporary Restraining Orders

The standards for granting temporary restraining orders, like preliminary injunctions, are the same for both patent suits and other suits.\(^4\) The applicant for a temporary restraining order must also submit a bond, or security, to the court.\(^4\) The trial court may grant a temporary restraining order without written or oral notice to the adverse party or its attorney.\(^4\)

Rule 65(b) of the Federal Rules of Civil Procedure provides that the applicant for a temporary restraining order must show "by affidavit or by the verified complaint that immediate and irreparable injury, loss, or damage will result to the applicant..."\(^4\)

---

\(^3\) Lu, supra note 17, at 186.
\(^4\) CHISUM, supra note 15, § 20.04[1][f][ii], at 740.
\(^5\) Id. at 746.
\(^6\) Lu, supra note 17, at 188.
\(^7\) Id.
\(^8\) Chrysler Motors Corp. v. Auto Body Panels of Ohio, Inc., 908 F.2d 951, 953 (Fed. Cir. 1990).
\(^9\) Lu, supra note 17, at 193.
\(^11\) Id.
\(^12\) Id.
Before the adverse party or that party's attorney can be heard in opposition. As an emergency remedy, the term of a temporary restraining order shall not exceed ten days, though that term may be extended by another ten days upon a showing of good cause. Temporary restraining orders are rarely granted in patent cases.

3. Permanent Injunctions

The Patent Act empowers the court “to grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.” Article I, section 8, clause 8 of the U.S. Constitution authorizes Congress to award exclusive rights for “limited Times to Authors and Inventors... to their respective Writings and Discoveries.” However, the ultimate purpose of awarding those exclusive rights is to “promote the Progress of Science and useful Arts,” in which a strong public interest is embodied. The value of a patent is the right granted to the patent owner to exclude others from exploiting the patented invention. Therefore, the general rule is that the court will issue an injunction when infringement has been adjudged, absent a sound reason for denying it.

Like the decision to grant or deny a preliminary injunction, the decision to grant or deny a permanent injunction, after a decision on the merits, is within the discretion of the trial court. Though prevailing patentees are rarely denied permanent injunctions, where an important public interest will be prejudiced, the reason for denying injunctive relief may be compelling. In Vitamin Technologists, Inc. v. Wisconsin Alumni Research Foundation, the court held that concerns for the health of great numbers among the public warranted refusal of an injunction on irradiation of oleomargarine. In another case, the court refused to grant an injunction against city operation of a sewage disposal plant, for if the plant closed, raw sewage would flow into Lake Michigan and endanger the public health.

In addition to circumstances where important public interests dictate the denial of permanent injunctions, it is well-settled law that “an injunction shall not issue with respect to any infringing product for whose infringement the patentee has been awarded full compensation.” Once a patentee has been fully compensated by an infringer for the use of an infringing device, a court may not grant an injunction

---

43 Id.
44 Id.
45 Chisum, supra note 15, § 20.04[1], at 659-60.
48 Id.
51 Lu, supra note 17, at 195.
52 Vitamin Technologists, Inc. v. Wis. Alumni Research Found., 146 F.2d 941, 944 (9th Cir. 1944).
53 Id. at 946.
54 Milwaukee v. Activated Sludge, Inc., 69 F.2d 577, 593 (7th Cir. 1934).
preventing the infringer from using or repairing that device.\textsuperscript{56} This rule stems from an implied license that the patent owner grants to the infringer when the infringer pays the patent owner the damages awarded by the court for the infringement.\textsuperscript{57}

\section*{B. Damages}

The U.S. Patent Act provides that "[u]pon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court."\textsuperscript{58} The court "may increase the damages up to three times the amount found or assessed."\textsuperscript{59} Expert testimony may be received by the court "as an aid to the determination of damages or of what royalty would be reasonable under the circumstances."\textsuperscript{60}

The goal of damages for patent infringement is to provide full compensation to the patentee.\textsuperscript{61} "[A]dequate damages should approximate those damages that will fully compensate the patentee for infringement."\textsuperscript{62} The best approximation of the amount of damages is the amount necessary to restore the owner to the financial position she would have enjoyed had the infringer not engaged in the infringement.\textsuperscript{63} Under § 284 of the Patent Act, there are three types of damages: basic damages, increased damages, and interest on damage awards.\textsuperscript{64} In addition, the court may award reasonable attorney fees to the prevailing party in exceptional cases.\textsuperscript{65}

\subsection*{1. Basic Damages}

Basic damages are the actual damages suffered by the patentee. Lost profits and a reasonable royalty are the two methods of determining basic damages in patent infringement cases.\textsuperscript{66} Lost profits are based on the patentee’s actual lost profits, proven to result from the infringement. A reasonable royalty method is most commonly used when the patentee’s actual lost profits cannot be proven.\textsuperscript{67} Under

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{56} Amstar Corp. v. Envirotech Corp., 823 F.2d 1538, 1549 (Fed. Cir. 1987).
\item \textsuperscript{57} See Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 344-46 (1961) [hereinafter Aro I]; Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 498 (1964) [hereinafter Aro II]; see also Stickle v. Heublein, Inc., 716 F.2d 1550, 1563 (Fed. Cir. 1983) (showing that the injunction against infringement must be modified to permit use of existing machine possessed by the infringer because the reasonable royalty as to an infringer who is using a machine is, under the circumstances, a flat sum rather than a use-based royalty). Such modification is a license implied in law rather than a compulsory license. Id.
\item \textsuperscript{59} Id.
\item \textsuperscript{60} Id.
\item \textsuperscript{61} CHISUM, supra note 15, § 20.01, at 7.
\item \textsuperscript{62} Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 1545 (Fed. Cir. 1995) (en banc).
\item \textsuperscript{63} CHISUM, supra note 15, § 20.01, at 7.
\item \textsuperscript{65} Id.
\item \textsuperscript{66} Hartness Int'l, Inc. v. Simplimatic Eng'g Co., 819 F.2d 1100, 1112 (Fed. Cir. 1987).
\item \textsuperscript{67} Id.
\end{itemize}
\end{footnotesize}
certain circumstances, the court may also grant a mixed award, using lost profits as a measure for some infringing sales and royalties as a measure for other infringing sales.68

a. Lost Profits

To recover lost profits, the patentee must show causation. That is, the patentee must show that but for the infringement, the patentee would have made greater sales, charged higher prices, or incurred lower expenses.69 In addition to causation, the patentee must establish a reasonable approximation of the amount of lost profits.70 In Rite-Hite Corp. v. Kelley Co., the Federal Circuit recognized a foreseeability requirement in addition to the causation requirement.71 The court held that the balance between full compensation, which is the meaning that the Supreme Court has attributed to § 284 of the Patent Act, and the reasonable limits of liability, encompassed by the general principles of law, could best be viewed in terms of reasonable, objective foreseeability.72 In Rite-Hite, the Federal Circuit held that the patentee’s “lost sales of the ADL-100, a product that directly competed with the infringing product, was reasonably foreseeable.”73 There are a number of different methods available to calculate the patentee’s lost profits, including: (i) diverted sales, (ii) increased costs, and (iii) price erosion.74

i. Diverted Sales

Lost profits based on diverted sales are awarded when the court finds a patentee would have made all, or a portion of, the sales made by the alleged infringer.75 A patentee is entitled to all of the sales made by the infringer if the patentee can establish: (1) demand for the patented product; (2) absence of acceptable noninfringing substitutes; (3) manufacturing and marketing capability to exploit the demand; and (4) the amount of the profit the patentee would have made.76 These four factors (“Panduit factors”), established by the court in Panduit Corp. v. Stahlin Bros. Fiber Works, Inc.,77 have been applied in many patent decisions.78

---

68 State Indus. v. Mor-Flo Indus., 883 F.2d 1573 (Fed. Cir. 1989).
69 CHISUM, supra note 15, § 20.03[1], at 70.
70 Id.
71 56 F.3d 1538 (Fed. Cir. 1995) (en banc).
72 Id.
73 See Minco, Inc. v. Combustion Eng'g, Inc., 95 F.3d 1109, 1118 (Fed. Cir. 1996) (“This court has clarified that adequate damages can include lost profits due to diverted sales, price erosion, and increased expenditures caused by infringement.”).
74 CHISUM, supra note 15, § 20.03[1][b] at 76.
76 Id.
(1) Demand for the Patented Product

The patentee must prove a demand for the patented product during the period of infringement. Sales of the patented product or products made by the patented process support the finding of demand. A substantial number of sales of the infringing product is also evidence of demand for the patented product. The patentee’s commercial success with the patented product is the best evidence of such demand. The infringer’s commercial success with the infringing product, especially when the infringer advertised the patented features of the infringing product, can also prove the demand for the patented product, though the patent owner often overlooks this kind of evidence. In proving the four *Panduit* factors, the demand factor is relatively easy for the patent owner to prove. Few patentees have been denied lost profit damages for failure to prove demand.

(2) Absence of Acceptable Noninfringing Substitutes

Whether there are acceptable noninfringing substitutes is perhaps the most heavily litigated question in lost profit cases. In *Standard Havens Products, Inc. v. Genecor Industries, Inc.*, the Federal Circuit summarized the patentee’s burden to prove this *Panduit* factor as follows: “to prove that there are no acceptable substitutes, the patent owner must show either that (1) the purchasers in the marketplace generally were willing to buy the patented product for its advantages, or (2) the specific purchasers of the infringing product purchased on that basis.” Acceptable substitutes are those products that offer the key advantages of the patented products but do not infringe. If a substitute has those advantages for which consumers seek out the patented product, it will be deemed an acceptable substitute. An acceptable substitute need not have all the advantages of the patented product.

The substitute itself should not be infringing. An infringing product of a third party is not an acceptable substitute for the patented product. Its presence in the marketplace does not defeat the patentee’s entitlement to lost profit damages.

The substitute should have not only the desired advantages of, but also a comparative price to the patented product. A substitute that has a disparately higher price than, or possesses characteristics significantly different from the patented product, is not an acceptable substitute. In order to qualify as an

---

70 State Indus. v. Mor-Flo Indus., 883 F.2d 1573, 1578-1579 (Fed. Cir. 1989).
73 Id.
74 Id.
75 Id., supra note 81, § 2:34, at 54.
76 953 F.2d 1360, 1373 (Fed. Cir. 1991).
78 Id., supra note 81, § 2:35, at 58.
79 *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211 (Fed. Cir. 1995).
80 Id., supra note 81, § 2:36, at 59.
acceptable substitute, the alternative must be available to consumers during the period of infringement.\textsuperscript{91}

Acceptable substitutes may be products of the defendant or a third party, or they may be the unpatented products of the patent owner. As for patented products of the patent owner, the Federal Circuit has made clear that they cannot constitute acceptable noninfringing substitutes because such products are not available from anyone except the patent owner.\textsuperscript{92}

(3) Manufacturing and Marketing Capability to Exploit the Demand

The patent owner had to have the physical ability to make the lost sales in order to be entitled to lost profits.\textsuperscript{93} The demand capacity that the patentee must have is measured by combining the sales of the infringer and the patent owner.\textsuperscript{94} The Federal Circuit has held that that this factor is only relevant to the demand existing in the market and the patentee’s ability to meet that demand. Customer loyalty to or preference for the defendant is irrelevant.\textsuperscript{95}

The Federal Circuit has been particularly liberal in determining the manufacturing and marketing capacity of the patentee.\textsuperscript{96} The court has held that a patentee had the capacity to meet the demand when the patentee could have subcontracted the work to manufacture the patented products for the infringer’s consumers.\textsuperscript{97} In another case, the Federal Circuit accepted evidence that the patentee could have expanded its facilities to meet the demand.\textsuperscript{98} However, where a patentee had no manufacturing facilities, the court found that it could not meet the demand.\textsuperscript{99} A patentee who has not begun to manufacture the patented product will bear a much heavier burden to prove that its actual damages are much larger than a reasonable royalty.\textsuperscript{100}

Nevertheless, at least one court has adopted much more stringent standards for this \textit{Panduit} factor. In the \textit{Polaroid Corp. v. Eastman Kodak Co.}, the court implemented a test incorporating an analysis of Polaroid’s forecasting and decision-making skills as well as its technical and physical potential.\textsuperscript{101} The court found that Polaroid did not have the capacity to manufacture film packs for the entire market based on its finding that the company’s forecasting ability was "poor."\textsuperscript{102}

In addition to manufacturing capability, this factor also requires that the patentee have marketing capability. The Federal Circuit has been liberal in determining marketing capability. The patentee’s substantial sales and the fact that

\begin{thebibliography}{99}
\bibitem{91} Zygo Corp. v. Wyko Corp., 79 F.3d 1563, 1571 (Fed. Cir. 1996).
\bibitem{92} Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1540 (Fed. Cir. 1995) (en banc).
\bibitem{93} SKENYON, supra note 81, \textsection 2:44, at 70.
\bibitem{94} Id. at 71.
\bibitem{95} See Datascope Corp. v. SMEC, Inc., 879 F.2d 820, 825 (Fed. Cir. 1989).
\bibitem{96} SKENYON, supra note 81, \textsection 2:44, at 70.
\bibitem{97} Gyromat Corp. v. Champion Spark Plug Co., 735 F.2d 549 (Fed. Cir. 1984).
\bibitem{100} Hebert v. Lisle Corp., 99 F.3d 1109, 1120 (Fed. Cir. 1996).
\bibitem{102} Id.
\end{thebibliography}
it was known in the market were held to be persuasive evidence of the patentee's marketing capability in one case.\textsuperscript{103}

\textit{(4) Amount of Profit the Patentee Would Have Made}

The amount of profit the patentee would have made is relevant to the calculation of the amount claimed as lost profits in order to make the patentee whole.\textsuperscript{104} A patent owner who failed to establish this factor would not be entitled to its lost profits on lost sales. The patent owner must provide the court with a fairly detailed computation of its lost profits by a preponderance of the evidence.\textsuperscript{105} The amount of lost profits should not be speculative.\textsuperscript{106} However, a comprehensive, exact proof of the amount of lost profits is not required. When the amount of damages cannot be ascertained precisely, any reasonable doubt is appropriately resolved against the infringer.\textsuperscript{107}

There are two steps for the patent owner to follow in the process of calculating the amount of lost profits. The first step is to calculate the amount of the lost sales. The second step is to establish the monetary net lost profit on those lost sales.\textsuperscript{108} “The number of lost sales” refers not merely to the sales lost due to the infringement, but to the number of sales affected by the infringement, including the number of sales lost, sales made at eroded prices, and affected future sales.\textsuperscript{109}

Calculating the number of lost sales sometimes may be quite simple. In a two-supplier market, it is reasonable to infer that the patent owner would have made all of the sales of the infringer, absent the infringement.\textsuperscript{110} In this situation, the lost profits due to diverted sales would be the number of sales of the infringing product multiplied by the pre-infringement profit on the patentee’s own product. It would be rather difficult to calculate the number of lost sales and the lost profits in a multiple-supplier market, where a market share theory would be applied.

If the patent at issue is for a mere improvement of a product, or the patented product contains quite a few features, only one or a few of which are patented, the question is whether the patent owner should apportion the profits between the patented and unpatented elements of the product when calculating the lost profits. In \textit{Del Mar Avionics, Inc. v. Quinton Instrument Co.}, the Federal Circuit held that if the patent owner proves that it could reasonably anticipate the sale of the unpatented components together with the patented components, then it might prove the extent of its lost profits by the entire market value rule.\textsuperscript{111} The entire market value rule “permits recovery of damages based on the value of the entire apparatus containing several features, where the patent related feature is the basis for

\textsuperscript{103} Gyromat Corp. v. Champion Spark Plug Co., 735 F.2d 549, 554 (Fed. Cir. 1984).
\textsuperscript{104} SKENYON, supra note 81, § 2:44, at 72.
\textsuperscript{105} Id. at 72.
\textsuperscript{106} Id.
\textsuperscript{107} Del Mar Avionics, Inc. v. Quinton Instrument Co., 836 F.2d 1320, 1327 (Fed. Cir. 1987).
\textsuperscript{108} Id.
\textsuperscript{109} SKENYON, supra note 81, § 2:47, at 76.
\textsuperscript{110} Kaufman Co., Inc. v. Lantech, Inc., 926 F.2d 1136, 1144 (Fed. Cir. 1991).
\textsuperscript{111} 836 F.2d 1320 (Fed. Cir. 1987).
customer demand.” In *Rite-Hite Corp. v. Kelly Co.*, Judge Lourie noted, “[a]ll the components together must be analogous to components of a single assembly or be parts of a complete machine, or they must constitute a functional unit.”

While the above-discussed *Panduit* test has been adopted by the Federal Circuit, and has been frequently applied in lost profit cases, it is not necessarily the exclusive test for the issue of causation (i.e., that the patent owner would have made sales but for the infringement). Moreover, the *Panduit* test is only applicable when determining causation with respect to patented products. The inclusion of unpatented products in the damage computation is governed by another test, such as the entire market value rule.

Under the entire market value rule, the patent owner is entitled to lost profits due to lost sales of not only the patented product but also unpatented products, if the owner can prove that the unpatented products are either competitive with or function with the patented products. In *Rite-Hite*, the Federal Circuit agreed with the conclusion of the trial court that Rite-Hite’s lost sales of ADL-100, a product not covered by the patent at issue but directly competing with the infringing products, were reasonably foreseeable, and held that the compensation for such losses constituted the full compensation set forth by Congress, as interpreted by the Supreme Court. The Federal Circuit further noted that refusal to award reasonably foreseeable damages, necessary to make Rite-Hite whole, would be inconsistent with the meaning of § 284 of the Patent Act.

Under the entire market value rule, the patent owner may be entitled to recover lost profits on unpatented accessories, parts, or supplies, if there is evidentiary support that the patent owner can anticipate the sales of the unpatented spare parts together with the patented components. In addition, the patent owner may be entitled to recover lost profits if there is a reasonable probability that the patent owner would have made the sale of the spare parts had the infringer not made the infringing sales.

**ii. Increased Costs**

When calculating the lost profits of the patent owner, the court must consider the costs that the patentee would have incurred had the patentee made the sales actually made by the infringer. In most cases, the court has held that it was improper to allocate a portion of fixed or overhead costs of the hypothetically

---

112 State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1580 (1989).
113 56 F.3d 1538, 1550 (Fed. Cir. 1995) (en banc).
114 SKENYON, supra note 81, § 2:28, at 44.
115 SKENYON, supra note 81, § 2:53, at 95.
116 *Cf. Rite-Hite*, 56 F.3d at 1570 (noting that the "clear purpose of the patent law [is] to redress competitive damages resulting from infringement of the patent," Judge Lourie found no basis for extending that recovery to include damages for items that are neither competitive with nor function with the patented invention).
117 Id.
118 Id.
119 King Instrument Corp. v. Ontari Corp., 767 F.2d 853, 865 (Fed. Cir. 1985).
increased sales.\textsuperscript{121} In one case, the Federal Circuit noted that “the increased income approach to the computation of lost profits is well established in the law relating to patent damages . . . . Thus, fixed costs, or those costs which do not vary with increase in production, such as management salaries, property taxes, and insurance, are excluded when determining profits.”\textsuperscript{122} Under this method, the patent owner’s lost profits will be the difference between the gross dollar amount that the patentee would have received from the lost sales and the dollar amount of the variable costs.\textsuperscript{123} Hence, the patent owner’s lost profit for each infringing sale will be greater than the profit that the patentee actually makes out of each of her own sales.\textsuperscript{124}

### iii. Price Erosion

Price erosion, or price reduction, is another type of damage that may be awarded to a prevailing patentee. In \textit{Yale Lock Manufacturing Co. v. Sargent}, the Supreme Court held that “[r]eduction of prices, and consequent loss of profits, enforced by infringing competition, is a proper ground for awarding of damages.”\textsuperscript{125} Price erosion damages and lost sales damages stand on the same ground.\textsuperscript{126} In many patent infringement cases, both price erosion and lost sales damages were awarded to the patent owners.\textsuperscript{127}

There are several types of price erosion damages. First, is the price reduction that the patent owner is forced to make to meet the infringer’s competition.\textsuperscript{128} Second, is the discounts the patent owner offers for similar reasons.\textsuperscript{129} Third, is the damages the patent owner suffers where it is unable to raise\textsuperscript{130} or lower\textsuperscript{131} its prices to the planned rates due to the infringement.

\textsuperscript{121} CHISUM, supra note 15, § 20.03[1][d], at 160.


\textsuperscript{123} SKENYON, supra note 81, § 2:46, at 73.

\textsuperscript{124} Id. at 74.

\textsuperscript{125} 117 U.S. 536, 551 (1886).

\textsuperscript{126} Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1157 (6th Cir. 1978).

\textsuperscript{127} SKENYON, supra note 81, § 2:4, at 10.

\textsuperscript{128} See Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056, 1067 (Fed. Cir. 1983) (affirming a damage award where the district court had found there were only two suppliers, and that the plaintiff reduced its prices to meet the defendant’s competition).

\textsuperscript{129} See TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 902 (Fed. Cir. 1986) (determining that an award, which is “adequate to compensate,” should consider the totality of the circumstances including the special discounts that the plaintiff had to give to compete with the defendant’s pricing practices).

\textsuperscript{130} Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d 1559, 1579 (Fed. Cir. 1992). In \textit{Minnesota Mining}, the patent owner contended that it would have raised its prices by 4 percent during the time of infringement to match the rate of inflation. \textit{Id.} The infringer argued that the patent owner could not raise its price at all as there would have been zero inflation in the relevant market. \textit{Id.} The Special Master elected a figure between the 4 percent asserted by the patent owner and the 0 percent asserted by the infringer, finding that the patent owner was forced to forego a 2 percent price increase per annum due to the infringement. \textit{Id.} The Federal Circuit affirmed the finding. \textit{Id.}

\textsuperscript{131} Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1579 (Fed. Cir. 1992). In \textit{Brooktree}, the plaintiff had planned to lower its prices of its patented products by 10 percent annually, however, due to the infringement, the plaintiff was forced to lower its prices by 30 percent
To obtain price erosion damages, the patent owner must establish that it would have obtained higher prices for its products during the infringement period "but for" the infringement.\textsuperscript{132} If the patent owner fails to prove this, and the infringer can demonstrate that market forces other than the infringement forced the patent owner to lower its prices, the owner would not be entitled to lost profits due to price erosion.\textsuperscript{133} In a two-supplier market where the patent owner and the infringer are head-to-head competitors, it will obviously be much easier for the patent owner to prove causation, that is, that its price erosion was due solely to the infringement. In a multi-supplier market, where the patent owner has more than one competitor, the patent owner must show the extent to which the price erosion was due to the infringement.\textsuperscript{134} The court may award the patent owner partial price erosion damages if there are other factors, besides the infringement, causing the price erosion.\textsuperscript{135}

\textit{b. Reasonable Royalty}

The patent owner may recover a reasonable royalty as a measure of damages. A reasonable royalty is generally the amount that a person desiring to manufacture and sell a patented product at a reasonable profit as a business proposition would be willing to pay as royalty to the patent owner.\textsuperscript{136} As a measure of recovery, a reasonable royalty is intended to provide a just recovery to a patentee who cannot prove lost profits for evidentiary or other reasons.\textsuperscript{137} A reasonable royalty is the baseline for damages awarded to a prevailing patentee. Section 284 of the Patent Act provides that the court shall award the successful patent claimant "in no event less than a reasonable royalty."\textsuperscript{138} The finding of infringement will establish that the patent owner is entitled to reasonable royalty damages.\textsuperscript{139} Nevertheless, the patent owner must still prove the amount of the reasonable royalty damages.\textsuperscript{140} This is unlike lost profit damages, for which the patent owner has to prove both the fact and amount of damages.\textsuperscript{141} Basically, there are three approaches by which a court may arrive at a reasonable royalty: (i) adoption of an established royalty; (ii) hypothetical negotiations between a willing licensor and licensee; or (iii) an analytical approach.\textsuperscript{142}

instead. \textit{Id.} The court held that the losses were reasonable and awarded the plaintiff lost profits due to price erosion. \textit{Id.} at 1580-81.

\textsuperscript{132} SKENYON, \textit{supra} note 81, \S\ 2:3, at 8.

\textsuperscript{133} BIC Leisure Prods., Inc. v. Windsurfing Int'l, Inc., 1 F.3d 1214, 1220 (Fed. Cir. 1993).

\textsuperscript{134} Boesch v. Graff, 133 U.S. 697, 706 (1890).


\textsuperscript{136} Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1157-58 (6th Cir. 1978).

\textsuperscript{137} CHISUM, \textit{supra} note 15, \S\ 29.09[3], at 180.


\textsuperscript{140} See Unisplay S.A. v. Am. Elec. Sign Co., 69 F.3d 512, 517 (Fed. Cir. 1995) (asserting that any reasonable royalty rate determined by the trier of fact must be supported by relevant evidence in the record).

\textsuperscript{141} SKENYON, \textit{supra} note 81, \S\ 3:3, at 5.

\textsuperscript{142} \textit{Id.} \S\S\ 1:13, 3:8.
i. Adoption of an Established Royalty

Many decisions describe an established royalty as the best, true, or primary measure of damages in cases where one exists. An established royalty rate is a uniform rate freely negotiated and paid by a number of licensees.

Not every negotiated royalty is credited as an established royalty by the court. To set an established royalty, the previously negotiated royalty must be:

1. paid or secured before the infringement complained of;
2. paid by such a number of persons as to indicate a general acquiescence in its reasonableness;
3. uniform at the place where the licenses are issued;
4. not paid under threat of suit or in settlement of litigation;
5. for comparable rights or activity under the patent.

A patent owner who has proven the existence of an established royalty should not be awarded less on a reasonable royalty theory. If the patent has not yet gained public recognition or acceptance, there has been widespread infringement, or the patent owner set the royalty very low to avoid challenges to the patent, then the established royalty might be set at too low a level to be reasonable. Under these circumstances, a higher figure may be awarded to the patent owner.

Absent a sound public interest, a patent owner should have the absolute right to license or not license, to utilize the patented invention, and to choose licensees. Theoretically, damages awarded to the patent owner should always be higher than the established royalty in order to deter infringement. Otherwise, it would "make an election to infringe a handy means for competitors to impose a 'compulsory license' policy upon every patent owner." Such a policy would be "against the will and interest of the person wronged, [and] in favor of the wrongdoer."

ii. Hypothetical Negotiations Between a Willing Licensor and Licensee

The second approved method of determining a reasonable royalty is often called the "willing licensor-willing licensee" approach. The willing licensor-willing licensee negotiation requires that the royalty rate be determined on the assumption that the patent is valid and infringed. The court should analyze the negotiation as

---

143 CHISUM, supra note 15, § 20.03(2)(a), at 169-71.
144 CHISUM, supra note 15, § 20.03(2), at 168.
145 CHISUM, supra note 15, § 20.03(2)(b), at 171-74.
146 U.S. Nat'l Bank of Portland v. Fabri-Value Co. of Am., 235 F.2d 565, 568 (9th Cir. 1956).
150 Id.
152 SKENYON, supra note 81, § 3-5, at 10.
of the date the infringement occurred, but may consider events after that date as evidence.

The hypothetical negotiation should be employed in such a way as to dissuade infringers from believing "that blatant, blind appropriation of inventions patented by individual, nonmanufacturing inventors is the profitable, can't-lose course." The primary inquiry in fixing a reasonable royalty is what the parties would have agreed upon if both were reasonably trying to reach an agreement.

 Courts have developed a number of factors that are probative of the royalty rate that would have been set in such a hypothetical negotiation. In Georgia-Pacific Corp., v. U.S. Plywood Corp., the trial court offered a list of 15 evidentiary facts that may be relevant to the determination of the reasonable royalty for a patent license. These factors generally can be divided into two groups. The first group, which relates to the specific and general market conditions in the pertinent industry, includes: "(i) prior and existing licenses under the patent, (ii) industry custom and licenses on comparable patents, and (iii) the patent owner's licensing policy and the relation between the parties." The second group, which relates to the anticipated profitability of the patented product or process, includes: "(iv) [the] infringer's anticipated profits, (v) comparative utility and noninfringing alternatives, (vi) collateral benefits and convoyed sales, (vii) improvements, small parts, and apportionment, (viii) state of development and commercial success, and (ix) duration of the patent." This second group of factors, in a sense, sets the range of feasible rates, while the first group of factors points to the rate that the parties would have set within that range.

The setting of a reasonable royalty after infringement cannot be regarded as an equivalent of ordinary negotiation between a willing patentee and licensee. Such a view would constitute a pretense that the infringement never happened. The reasonable royalty reached through such hypothetical negotiation may be greater than a royalty actually negotiated in order to adequately compensate the patentee, but the patentee must demonstrate circumstances that would support such an award. A court may award against an infringer a sum in addition to a reasonable royalty calculated under the hypothetical negotiation. For example, in Maxwell v. J. Baker, Inc., the Federal Circuit held that the trial court did not err in asking the jury to determine both a reasonable royalty and additional damages necessary to compensate for the infringement.

154 Id.
156 Id.
159 CHISUM, supra note 15, § 20.03[3][b], at 195.
160 Id.
161 Id.
162 Id.
166 86 F.3d 1098 (Fed. Cir. 1996).
iii. Analytical Approach

The analytical approach is another approved method of arriving at a reasonable royalty. The analytical approach involves the following steps: (1) establish the projected gross profit margin from the infringing sales at the outset of the infringement; (2) subtract the overhead expenses from the projected gross profit to get the anticipated net profit margin of the infringer; and (3) subtract the standard industry net profit margin from the anticipated net profit margin of the infringer. The balance will be the reasonable royalty rate. This royalty rate is then applied to the actual infringing sales to determine the total reasonable royalty damages.\(^{167}\)

In *TWM Manufacturing Co. v. Dura Corp.*,\(^ {168}\) the Federal Circuit approved the analytical approach. Using this approach, the infringer’s profit projection document, at the time the infringement began, is of great importance. Nevertheless, the absence of such a document does not necessarily preclude the application of this approach, as the patentee can base this approach on other evidence including the infringer’s actual profits.\(^ {169}\)

c. Mixed Awards

The damages awarded to the patent owner “may be split between the lost profits as to the extent that they are proven and a reasonable royalty for the remainder.”\(^ {170}\) Such an award is an appropriate method when the infringement occurs under different market conditions in terms of customer type, product type, time period, or geographic area, so that the extent and provability of the damages to the patentee is altered.\(^ {171}\) In *H.K. Porter Co. v. Goodyear Tire & Rubber Co.*, the damages awarded to the patent owner are a good illustration of this method.\(^ {172}\) In that case, the court of appeal affirmed an award of lost profits for the years 1964-67 but a reasonable royalty for the years 1962-63 and 1968-71.\(^ {173}\) Before 1964, the lost profit was less than a reasonable royalty, a minimum measure as viewed by the court. After 1967, the patentee sold one of its plants and therefore lacked the capacity to meet the demand.\(^ {174}\)

When a patentee and an exclusive licensee sue an infringer as joint plaintiffs, it may be proper to award a reasonable royalty to the former and lost profits to the latter in view of their respective interests.\(^ {175}\) In this circumstance, it would be impossible for the patent owner to prove causation. However, the infringement itself would establish that the patent owner is entitled to reasonable royalty damages if the owner can prove the sum of the royalty.\(^ {176}\)


\(^{168}\) Id.

\(^{169}\) SKENYON, supra note 81, § 3-4, at 9.

\(^{170}\) Id.

\(^{171}\) State Indus., Inc. v. MorFlo Indus., Inc. 883 F.2d 1573, 1577 (Fed Cir. 1989).

\(^{172}\) CHISUM, supra note 15, § 20.03[1][e], at 164.

\(^{173}\) 536 F.2d 1115 (6th Cir. 1976).

\(^{174}\) Id.

\(^{175}\) Id.

\(^{176}\) CHISUM, supra note 15, § 20.03[1][e], at 167.

\(^{177}\) See supra section II.B.1.b.
2. Increased Damages

Section 284 of the Patent Act, the statutory basis for increased damages, authorizes the court to "increase the damages up to three times the amount found or assessed." Though the statute does not state the basis upon which a trial court may increase the damages, it is well-settled law that increased damages must be based on willful infringement or bad faith. In *Jurgens v. CBK, Ltd.*, the Federal Circuit distinguished bad faith in litigation and bad faith infringement. The court stated that only the latter justified increased damages because bad faith infringement was merely a type of willful infringement.

Whether an increased damage award is for the purpose of punishment or for compensation is a longstanding controversy in the law. Perhaps the best view is that an increased damage award serves both purposes. The Federal Circuit held that "enhanced damages may be awarded only as a penalty for an infringer's increased culpability, namely willful infringement or bad faith." Increased damages cannot be awarded solely for compensation without a finding of increased culpability of the infringer.

It is obvious that the finding of willful infringement is crucial in the damage award. Nevertheless, there are no "hard and fast" per se rules with respect to willfulness. In order to assist the district court in evaluating the degree of the infringer's culpability and in determining whether, and to what extent, to increase damages, the Federal Circuit listed the following factors in *Read v. Portec, Inc.*:

(a) whether the infringer deliberately copied the ideas or design of another;
(b) whether the infringer, when he knew of the other's patent protection, investigated the scope of the patent and formed a good-faith belief that it was invalid or that it was not infringed;
(c) the infringer's behavior as a party to the litigation;
(d) the defendant's size and financial condition;
(e) the closeness of the case;
(f) the duration of the defendant's misconduct;
(g) remedial action of the defendant;
(h) the defendant's motivation for harm;
(i) whether the defendant attempted to conceal its misconduct.

None of the factors is decisive in finding willfulness. Willful infringement is a conclusion of fact. The test for willful infringement is "whether, under all the circumstances, a reasonable person would prudently conduct himself with any confidence that a court might hold the patent invalid or not infringed."

---

179 80 F.3d 1566, 1570 (Fed. Cir. 1996).
180 CHISUM, supra note 15, § 20.03[4][b][ii], at 336.
181 Id.
182 Beatrice Foods Co., 923 F.2d at 1579.
183 Id.
184 Rolls-Royce Ltd. V. GTE Valeron Corp., 800 F.2d 1101, 1110 (Fed. Cir. 1986).
185 970 F.2d 816, 826-27 (Fed. Cir. 1992).
Willfulness refers to the state of mind of the alleged infringer\textsuperscript{188} on either the day it began its infringing activities or the day it became aware of the patent, whichever is later.\textsuperscript{189} The court emphasized that a person with knowledge of a patent is under an affirmative duty to exercise due care to determine whether he will infringe a valid patent right before beginning the possibly infringing activity.\textsuperscript{190}

Obtaining the advice of counsel does not mandate a finding of non-willfulness. Conversely, the absence of advice of counsel does not mandate a finding of willfulness.\textsuperscript{191} Nevertheless, willful infringement is often found if the defendant has failed to obtain and follow the opinion of counsel.\textsuperscript{192} Good faith reliance on the competent advice of counsel constitutes a defense to willfulness.\textsuperscript{193} A written opinion prepared by an outside, independent, U.S. patent attorney or agent, based on all available facts, is most likely to be held competent.\textsuperscript{194}

The law is clear that while willful infringement may allow enhanced damages, such a finding does not compel the district court to grant them.\textsuperscript{195} The decision to grant or deny increased damages remains firmly within the scope of the trial court’s reasoned discretion, informed by the totality of the circumstances.\textsuperscript{196} After a finding of willful infringement, a trial court refusing to increase damages, without providing any reasoning in support of its denial, will be held to have abused its discretion.\textsuperscript{197}

In addition to the award of enhanced damages for willful infringement, the extent of enhancement is also committed to the discretion of the district court.\textsuperscript{198} The trial court may increase damages at different amounts based on the degree of the infringer’s culpability at the different stages of infringement.\textsuperscript{199} In \textit{Stryker Corp. v. Davol Inc.}, the trial court increased the damages for pre-trial infringement by 50% and doubled damages for infringement post-verdict until entry of the permanent injunction.\textsuperscript{200} The Federal Circuit held the award to be a reasonable measurement of Davol’s culpability and well within the district court’s discretion.\textsuperscript{201} However, this discretion is limited to a trebling of the basic damage award.\textsuperscript{202} Therefore, the maximum amount of damages allowed by the statute is three times the amount of the basic damage award, including the amount of basic damages.\textsuperscript{203}

\textsuperscript{188} Mahurkar v. C.R. Bard, Inc., 79 F.3d 1572, 1579 (Fed. Cir. 1996).
\textsuperscript{189} Chisum, supra note 15, § 20.03[b][IV], at 395-97.
\textsuperscript{190} Underwater Devices Inc. v. Morrison-Knudsen Co., 717 F.2d 1389, 1390 (Fed. Cir. 1983).
\textsuperscript{192} Skenyon, supra note 81, § 4:19, at 31.
\textsuperscript{193} Mahurkar, 79 F.3d at 1579.
\textsuperscript{194} Skenyon, supra note 81, § 4:19, at 31-32.
\textsuperscript{195} Read Corp. v. Portec, Inc., 970 F.2d 816, 826 (Fed. Cir. 1992).
\textsuperscript{196} Jurgens v. CBK, Ltd., 80 F.3d 1566, 1570 (Fed. Cir. 1996).
\textsuperscript{197} Tate Access Floors, Inc. v. Maxxess Techs., Inc., 222 F.3d 959, 963 (Fed. Cir. 2000).
\textsuperscript{198} Read, 970 F.2d at 826 (Fed. Cir. 1992).
\textsuperscript{199} Stryker Corp. v. Davol Inc., 234 F.3d 1252, 1250-61 (Fed. Cir. 2000).
\textsuperscript{200} Id.
\textsuperscript{201} Id.
\textsuperscript{202} Signtech USA, Ltd. v. Vutek, Inc., 174 F.3d 1352, 1358 (Fed. Cir. 1999).
\textsuperscript{203} Id.
3. Interest on Damage Award

Section 284 of the Patent Act provides that the court should award a prevailing claimant "damages adequate to compensate for the infringement . . . together with interest and costs as fixed by the court." The rationale for awarding interest to a successful patent owner is the same as in other areas of law. Pre-judgment interest serves to further compensate a winning plaintiff from the time of a judgment until payment is made.

a. Pre-judgment Interest

The Supreme Court noted in 1983 that, absent some justification for withholding such award, pre-judgment interest should ordinarily be awarded to afford the patent owner full compensation for infringement. The trial court's decision to award or not to award pre-judgment interest will only be set aside if the decision constitutes an abuse of discretion. Pre-judgment interest will be denied when patent owners unduly delay in bringing the infringement suit, or for a stay of the litigation that patent owners themselves request.

Pre-judgment interest, the purpose of which is for compensation not punishment, should be awarded from the date of infringement until the date of judgment. Hence, pre-judgment interest should not be awarded on the punitive or increased portion of the damages, nor be awarded on future lost profits. As for the interest rate, it is within the trial court's discretion to fix the rate at the statutory rate or a higher rate based on a proper evidentiary showing.

b. Post-judgment Interest

Post-judgment interest is awarded on monetary judgment recovered in all civil cases. The purpose of post-judgment interest is to compensate the winning plaintiff for the loss from the time between the ascertainment of damages and payment by the defendant. Because the rates of prejudgment interest are usually higher than those of the post-judgment interest, the determination of the demarcation line between the pre-judgment and post-judgment interests becomes

---

207 SKENYON, supra note 81, § 4:3, at 4.
208 Mainland Indus., Inc. v. Standal's Patents Ltd., 799 F.2d 746, 748 (Fed. Cir. 1986).
212 Id.
important. The Federal Circuit held this to be a nonpatent issue. The Federal Circuit further noted that, regarding nonpatent issues, it generally conformed its law to that of the regional circuit, without regard to the relationship of the issue to its exclusive jurisdiction when there was an existing and expressed uniformity among the circuits.

There is a consensus among the regional circuit courts that post-judgment interest begins with the date of entry of judgment. In 1990, the Supreme Court held that post-judgment interest should run from the date of ascertainment of the damages thus establishing a meaningful ascertainment test, which has been followed by some circuits.

4. Attorney Fees

The “American Rule” is that each party bears its own attorney fees and expenses. Section 285 of the Patent Act was enacted by the Congress to make some patent cases an exception to that rule. The Patent Act provides that the court “in exceptional cases may award reasonable attorney fees to the prevailing party.”

It is a two-step process to determine whether to award attorney fees under § 285 of the Patent Act. The first step is to determine whether the case is exceptional. The second step is to determine whether attorney fees should be awarded. In the two-step process, there will be three crucial issues to be decided by the trial court: (a) whether it is an exceptional case; (b) who is the prevailing party; and (c) what constitutes reasonable attorney fees.

a. Exceptional Cases

The prevailing party must prove the case is exceptional before the trial court decides whether to award attorney fees. There must be an adequate basis in the record to support a finding that the case is exceptional. A case may be exceptional for either of two basic reasons: (i) misconduct of a party giving rise to the litigation (e.g., willful or deliberate infringement by the infringer or fraud or inequitable conduct by the patent owner in obtaining the patent), or (ii) misconduct of a party

---

217 Id.
218 Id.
219 Id.
221 See, e.g., Kelly v. HUD, 97 F.3d 118 (6th Cir. 1996).
223 Id.
during the litigation (e.g., discovery abuse, frivolous suit, or a violation of an injunction).\textsuperscript{228}

Willful infringement or bad faith by the infringer is sufficient to make a case "exceptional."\textsuperscript{229} After an express finding of willful infringement, a trial court was held to have abused its discretion in refusing to find the case exceptional for the purpose of awarding attorney fees without providing any reasons.\textsuperscript{230}

Nevertheless, the finding of an exceptional case does not mandate the awarding of attorney fees.\textsuperscript{231} The grant or denial of attorney fees is within the discretion of the trial court.\textsuperscript{232} The trial court may weigh such factors as "the degree of culpability of the infringer, the closeness of the question, litigation behavior, and any other factors whereby fee shifting may serve as an instrument of justice" in making its decision.\textsuperscript{233}

Attorney fees for appeal may be awarded if the appeal itself is exceptional.\textsuperscript{234}

\textbf{b. Prevailing Party}

Under § 285 of the Patent Act, only the "prevailing party" is entitled to a reasonable attorney fee. However, sometimes it is a quite complicated task to determine who is the prevailing party in a patent infringement suit. The suit may involve more than one claim, patent, or accused infringing product or process.\textsuperscript{235}

The Federal Circuit addressed the definition of "prevailing party" in \textit{Manildra Mill Corp. v. Ogilvie Mills, Inc.}, where the court adopted the Supreme Court's definition from \textit{Farrar v. Hobby}.\textsuperscript{236} The Supreme Court held that "a plaintiff prevails when actual relief on the merits of his claim materially alters the legal relationship between the parties by modifying the defendant's behavior to the plaintiff's benefit... The Court held that a plaintiff who wins nominal damages is a prevailing party."\textsuperscript{237}

In cases where one party prevails on some claims while the other party prevails on other claims, the Federal Circuit has held that one resolution might be either to deny fees entirely or to grant fees only to the extent that a party prevailed.\textsuperscript{238} The court further noted that even if the fees were awarded, "the amount of the fees awarded to the prevailing party should bear some relation to the extent to which that party actually prevailed."\textsuperscript{239}

\begin{itemize}
  \item \textsuperscript{228} Sensonics, Inc. v. Aerosonic Corp., 81 F.3d 1566, 1574 (Fed. Cir. 1996).
  \item \textsuperscript{229} SKENYON, \textit{supra} note 81, § 4:29, at 57.
  \item \textsuperscript{230} Jurgens v. CBK, Ltd., 80 F.3d 1566, 1573 (Fed. Cir. 1996).
  \item \textsuperscript{231} See Nat'l Presto Indus. v. West Bend Co., 76 F.3d 1185, 1193 (Fed. Cir. 1996) (holding that the district court's decision to not award attorney fees in a case of willful infringement was not an abuse of discretion).
  \item \textsuperscript{232} Delta-X Corp. v. Baker Hughes Prod. Tools, Inc., 984 F.2d 410, 414 (Fed. Cir. 1993).
  \item \textsuperscript{233} Nat'l Presto, 76 F.3d at 1183.
  \item \textsuperscript{234} Rohm & Haas Co. v. Crystal Chem. Co., 736 F.2d 688, 692 (Fed. Cir. 1984).
  \item \textsuperscript{235} CHISUM, \textit{supra} note 15, § 20.03[4][e][v] at 503.
  \item \textsuperscript{236} Manildra Mill Corp. v. Ogilvie Mills, Inc., 76 F.3d 1178, 1183 (Fed. Cir. 1996) (citing Farrar v. Hobby, 506 U.S. 103 (1992)).
  \item \textsuperscript{237} Farrar, 506 U.S. at 112.
  \item \textsuperscript{238} Beckman Instruments, Inc. v. LKB Produkter AB, 892 F.2d 1547, 1553-54 (Fed. Cir. 1989).
  \item \textsuperscript{239} \textit{Id}.
\end{itemize}
c. The Amount of Reasonable Attorney Fee

Determination of the amount of the attorney fee is also within the district court’s discretion. Courts have adopted a variety of approaches to decide what constitutes a reasonable attorney fee, using actual fees in some instances, but more often balancing a number of factors to set the fees. An award of attorney fees may include “those sums that the prevailing party incurs in the preparation and performance of legal services related to the suit.” Besides fees for the lawyer’s time, the attorney fees awarded may include such litigation expenses as consultant and expert witness fees, lodging expenses, and overhead clerical services (e.g., paralegal work). Courts may also award attorney fees for time the attorney spends on issues involving the attorney fee award. Courts divide on whether premium or contingency fees recognizing counsel’s success, or reasonable fees for in-house counsel should be awarded to the prevailing party.

C. Provisional Rights Remedies

The American Inventor Protection Act of 1999 provides new “provisional rights,” which permit a patentee to be awarded a reasonable royalty for activities performed by another between the publication date of the patent application and the issuance of the patent. The remedies for provisional rights are only a reasonable royalty. The amount awarded cannot be increased under § 284 of the Patent Act. There are several prerequisites for the provisional rights remedy.

First, provisional rights do not accrue until a patent is actually granted. Where no patent issues, no provisional rights remedies exist.

Second, provisional rights remedies are only for activities occurring during the period from the date of publication to the date of issuance of the patent. Activities that give rise to the provisional rights remedies include making, using, offering for sale, selling the patented products, or products made by a patented process in the United States, or importing patented products or products made by a patented process into the United States.

Third, the published applicant should give actual notice of the published application to the person who is obliged to pay the reasonable royalty. The applicant should also explain what acts are regarded as giving rise to provisional

---

241 CHISUM, supra note 15, § 20.03[4][c][vii], at 515-16.
243 Id.
245 CHISUM, supra note 15, § 20.03[4][c][vii], at 518.
246 Id. at 528.
251 Id.
The reasonable royalty for the provisional rights will probably be calculated from the date that actual notice is given, rather than from the date of the publication of the patent application.\textsuperscript{255}

Fourth, the invention as claimed in the patent must be substantially identical to the invention as claimed in the published patent application.\textsuperscript{256} The standard for "substantially identical" is intended to be the same as that applied for intervening rights in the context of reissue and reexamination application.\textsuperscript{257} It seems that courts will decide the substantially identical issue through a case-by-case analysis, based on a claim comparison, the prior art, and even extrinsic evidence such as expert testimony.\textsuperscript{258} The time limitation on obtaining a reasonable royalty is six years from the date the patent is issued.\textsuperscript{259}

### III. Remedies Under Chinese Law

The three types of remedies for patent infringement under Chinese law include civil, criminal, and administrative remedies. Civil remedies, the most common remedies, are available to every patent owner. In addition to civil remedies, the patent owner may seek criminal or administrative remedies for certain infringing activities, which will be discussed below in detail.

#### A. Civil Remedies

Under Chinese law, civil remedies for patent infringement include injunctive relief, damages, other civil remedies, and provisional rights for certain claims.

##### 1. Injunctive Relief

Injunctive relief includes preliminary injunctions and permanent injunctions. Under Chinese law, courts usually grant permanent injunctions after finding infringement.\textsuperscript{260} In fact, to the author’s knowledge, there has been no such case in which the patent owner has been denied a permanent injunction. That is not to say

\textsuperscript{251}\textsuperscript{,} Philippe Signore, \textit{The New Provisional Rights Provision}, 82 J. PAT. & TRADEMARK OFF. SOCY., 742, 748 (2000).

\textsuperscript{255} Id. at 750.

\textsuperscript{256} 35 U.S.C. § 154(d)(2).

\textsuperscript{257} Signore, \textit{supra} note 254, at 752-53.

\textsuperscript{258} Id. at 754.

\textsuperscript{259} 35 U.S.C. § 154(d)(3).

\textsuperscript{260} See Zhonghua Renmin Gongheguo Fagui Huibian 1979-2001 \textit{[General Principles of the Civil Law of the People’s Republic of China]} art. 118, translated in CHINALAW No. 346 [hereinafter General Principles of the Civil Law] (providing that the owner is entitled to demand the infringer desist, the ill effect be eliminated and damages be compensated, upon the finding of infringement of copyright, patent, or trademark rights); \textit{see also id.} art. 134(1) (providing that desisting from infringement is a basic form of civil liability).
that courts cannot deny permanent injunctions in patent cases. If a major public interest will be affected, the court can deny a permanent injunction.\textsuperscript{261}

The patent owner may request that the court grant a preliminary injunction. However, before the Patent Act of 2000\textsuperscript{262} was enacted, there was a general misunderstanding among attorneys that preliminary injunctions were not available in patent cases. Now section 61 of the Patent Act dissipates that misunderstanding by providing that:

[a] patent owner of the interested party who can establish that an infringement is going on or is going to occur, which will cause irreparable harm to the owner if the activities are not stopped timely, may apply to the people's court for such rulings as to order the related party to desist from the activities or to adopt provisional security measures, before filing the lawsuit.\textsuperscript{263}

Prior to the Patent Act of 2000, there was, however, a legal basis, though not so explicit, upon which the court could grant preliminary injunctions. One is section 93 of the Civil Procedure Law of the People's Republic of China.\textsuperscript{264} The other is section 97 of the Civil Procedure Law of the People's Republic of China and the Supreme Court's interpretation thereof.\textsuperscript{265} Therefore, a preliminary injunction may be in either of the following two forms. One form is the property preservation measure under section 93 of the Civil Procedure Law, which includes sequestration, attachment, and freezing of the alleged infringing products. The other form is preliminary execution under section 97 of the Civil Procedure Law, which is an order given by the court that the alleged infringer should desist from the allegedly infringing activity before the decision of the case on the merits. For example, in Tian Guohua & Wei Sauying v. Zhengzhou Guancheng Hydraulic Control Equipment Factory, the court granted the plaintiff's application for preliminary execution, and

\textsuperscript{261} See id. art. 7 (providing that civil activities shall respect social ethics and should not harm the public interest).

\textsuperscript{262} See Patent Act of PRC, supra note 1.

\textsuperscript{263} Id. art. 61.

\textsuperscript{264} See Zhonghua Renmin Gongheguo Fagui Huibian 1979-2001 [Civil Procedure Law of the People's Republic of China] art. 93, translated in CHINALAW No. 119. The Civil Procedure Law of the People's Republic of China provides that any interested party whose lawful rights and interests, due to urgent circumstances, would suffer irreparable harms without immediate application of property preservation, may, before filing the lawsuit, apply to the people's court for the adoption of property preservation measures. \textit{Id.} The applicant shall provide a bond. If the applicant fails to do so, his application shall be rejected. \textit{Id.} After receiving a party's application, the people's court must make an order within 48 hours concerning property preservation; if property preservation is granted by an order, the implementation thereof shall begin immediately. \textit{Id.} If the applicant fails to bring an action within 15 days, after the people's court has adopted the preservation measures, the people's court shall cancel the property preservation. \textit{Id.}

\textsuperscript{265} Id. art. 97; see also SUP. PEOPLE'S CT. DIRECTIVE ON THE IMPLEMENTATION OF THE CIVIL PROCEDURE LAW § 107 (July 14, 1992) (construing the "urgent circumstances" provided by article 252(3) of the Civil Procedure Law and stating that urgent circumstances include cases in which certain activities need to be stopped immediately).
ordered the defendant to shut down the factory that only manufactured the alleged infringing product.266

In practice, the court will consider two factors in determining whether to adopt the property preservation or preliminary execution measures. The first factor is the probability of the applicant winning the case. The second factor is the irreparable harm to the patent owner absent those measures.

An applicant for the property preservation measure should provide a bond.267 The bond should be equivalent to the value of the property preserved.268 There are no legal provisions regarding whether the applicant for preliminary execution should also give a bond, but the court usually requires the applicant to do so to prevent potential harm to the alleged infringer. If the applicant fails to provide a bond, his application will be rejected.269

2. Damages

A prevailing patent owner is entitled to damages to reasonably compensate for the patent owner’s actual losses caused by the infringement.270 The following are measures for damages provided by the Patent Act271 and the Interpretations of the Supreme Court.272

a. Actual Pecuniary Loss of the Patent Owner

Actual pecuniary loss of the patent owner is a measure provided by the Directive of the Supreme Court.273 A similar measure provided by the Patent Act is “losses of the patent owner suffered from the infringement.”274 As “losses of the patent owner” is such a broad concept, the author believes that courts will continue to apply the measure established by the Supreme Court. Under this measure, damages will be the sum of lost sales of the patent owner caused by the sales of the infringing products (or products produced by the patented process in suit) multiplied by the unit net profits on the patented product produced by the patent owner.275 This measure is inapplicable to situations where there is a big demand for the patented product in the

268 See SUP. PEOPLE’S CT. DIRECTIVE ON THE IMPLEMENTATION OF CIVIL PROCEDURE LAW § 98 (July 14, 1992).
269 See Civil Procedure Law of the People’s Republic of China, supra note 264, art. 93.
271 Patent Act of PRC, supra note 1, art. 60. Damages may be determined by either the losses of the patent owner or the illegal enrichment of the infringer; or by reference to the amount of royalty, which may be multiplied to determine the damages reasonably, in case that the losses of the patent owner or the illegal enrichment of the infringer is unascertainable. Id.
273 Id.
274 See Patent Act of PRC, supra note 1, art. 60.
market, or the sales of the patent owner increase rather than drop even though the infringing products are put into the market.

b. The Entire Profits of the Infringer

The entire profits of the infringer is another measure provided by the Interpretation of the Supreme Court.276 A similar measure provided by the Patent Act is “illegal enrichment of the infringer.”277 Under this measure, damages will be the amount of the infringing sales in the market multiplied by the unit net profit of the infringing product, (including products produced by the patented process in suit) that is, the entire profits of the infringer.278

c. In a Reasonable Sum No Less Than a Royalty

A reasonable sum no less than a royalty is a measure provided by the Interpretation of the Supreme Court.279 A similar measure provided by the Patent Act is “by reference to the amount of royalty, which may be multiplied to determine the damages reasonably, in case that the losses of the patent owner or the illegal enrichment of the infringer is unascertainable.”280 The patent owner should establish that there was a royalty rate for the patent at issue, or for a patent comparable to the patent at issue. Then the court will decide whether the royalty is reasonable. If the royalty is reasonable, the court then will decide whether, or to what extent, to increase the royalty. Some courts in Beijing usually increase the royalty up to five times to deter infringement.

d. Fixed Sum Compensation

In a directive document concerning damages for IP, the Supreme Court stated that, for those cases in which neither the losses of the plaintiff nor the illegal profits of the defendant are ascertainable, the IP owner may be awarded damages not less than 5000 Yuan (about $605) or not more than 300,000 Yuan ($36,275), whatever amount the court considers just.281 This provision is applicable to patent cases. When setting the award amount, the court will consider such factors as the infringer’s state of mind (whether the infringement is willful), the type of patent (whether the patent is for an invention, utility model, or design282), and the duration of the patent.

276 Id.
277 See Patent Act of PRC, supra note 1, art. 60.
278 Id.
279 Id.
280 Id.
e. Other Reasonable Measures Agreed upon by the Patentee and the Infringer

The Supreme Court's Interpretation provides that a court should credit any other measures for damages, which are negotiated and agreed upon by the patent owner and the infringer, provided that they are fair and reasonable. The patent owner is entitled to choose one of these measures of damages. It should establish the amount of the damages with clear and convincing evidence.

There are no provisions concerning attorney fees or costs in civil law or patent law. Traditionally, each party had to bear its own attorney fees or costs. However, in *DeFrance v. Beijing Suncity Market*, a trademark infringement case, the court held that the attorney fees and investigation costs were also losses to the plaintiff, which should be compensated. After *DeFrance*, courts in Beijing have generally granted reasonable attorney fees and costs to prevailing patent owners in all IP cases. The court may also award a prevailing defendant attorney fees and costs if the patent owner brought the lawsuit frivolously. There are a variety of ways to set the fees. If the court holds that the attorney fees are too high to be reasonable, it will determine what the reasonable attorney fees should be by reference to the fee rates set by the Attorney and Public Notary Administration Division under the Ministry of Justice.

3. Civil Remedies Other Than Injunctive Relief and Damages

If the infringement caused an ill effect to the goodwill or reputation of the patent owner or its products, the court may order the infringer to take measures to eliminate the ill effect, such as publishing a notice in the newspaper or other media to make an apology to the patent owner. If the infringement is very serious and blatant, the court may order civil punitive measures in addition to granting injunctive relief and awarding damages to the patent owner. Such civil punitive measures may include confiscation of illegal profits or the property used in carrying out the infringing activities, or imposition of a fine or detention upon the infringer.

Regulations for Patent Law. Under Chinese Patent Law, there are three kinds of patents: invention, utility model, and design. *Id.* "Invention" means any new technical solution relating to a product, a process or an improvement thereof. *Id.* "Utility model" means any new technical solution relating to the shape, the structure, or of their combination, of a product, which is fit for practical use. *Id.* "Design" means any new design of the shape, pattern, color, or their combination, of a product, which creates an aesthetic feeling and is fit for industrial application. *Id.* Usually, the award for an invention patent is much higher than the award for a utility model patent or for a design patent, because an invention generally needs more inventive or creative labors than the other two.

284 *See* *Beijing High People's Court IP Tribunal, Protection of Intellectual Property Rights Cases and Comments* 259 (2000).
285 The courts in different areas divide on this issue. Maybe the Supreme Court will give a directive to resolve this issue.
286 This document was promulgated in 1990. Some attorneys believe that the fee rates are too low.
287 *See* General Principles of the Civil Law, *supra* note 290, art. 118.
289 *See* General Principles of the Civil Law, *supra* note 290, art. 134.
4. Provisional Rights

Section 13 of the Patent Act of 1992 and section 61(2) of the Patent Act of 2000 authorize provisional rights remedies. Section 13 provides that “[a]fter the publication date of the patent application for an invention, the applicant may demand the entity or individual exploiting the patent to pay an appropriate royalty.” Section 61(2) adds a time limitation on the provisional rights remedies, providing that:

[the time limitation on obtaining an appropriate royalty for the exploitation of the invention by another during the period from the date of publication of the application to the date of issuance of the patent is two years, counting from the date on which the patent owner knew or should have known of the exploitation of the patent, or from the date of the issuance of the patent in a case where the patent owner knew or should have known the exploitation prior to the issuance of the patent.]

There are several characteristics of provisional rights remedies. First, provisional rights remedies are only available to owners of patents for inventions, not to owners of patents for utility models or designs. Second, the right to obtain the appropriate royalty does not accrue until the patent is issued. If the patent has never been issued, the applicant has no right to obtain the royalty. Third, the invention as claimed in the patent should be substantially identical to the invention as claimed in the published patent application and exploited by others. Fourth, the activities of “exploiting the invention” that give rise to the provisional rights remedies include making, using, offering for sale, or selling the patented products, or products made by a patented process in China, or importing patented products or products made by a patented process into China.

B. Criminal Remedies

Under Chinese law, there are criminal remedies available to those patent owners whose patents have been passed off by others. Section 216 of the Criminal Code of the People’s Republic of China provides that “[i]n serious circumstances, those passing off other’s patent, shall be sentenced to imprisonment for a period less than 3 years or imposed a penal servitude, with a fine concurrently or separately.”

Passing off patents refers to acts of an infringer that put the patent notice or patent number of the patent owner on the infringer’s similar products or on the package of the product, to deceive the consumers that those products are the patented products of the patent owner. The rationale for imposing severe

291 Patent Act of PRC, supra note 1, art. 61(2).
293 Id., art. 11.
295 See BEIJING HIGH PEOPLE’S COURT IP TRIBUNAL, PROTECTION OF INTELLECTUAL PROPERTY RIGHTS CASES AND COMMENTS 259 (2000).
punishment for this kind of infringement is that the general public usually believes that patented products are high quality products. This kind of act not only infringes upon the rights of the patent owner, but also harms the interests of the consumers. Patent passing off also goes against the public interest underlying the granting of patents.

C. Administrative Remedies

Like criminal remedies, administrative remedies are limited to patent passing off activities. The Patent Act of 2000 provides that the patent administration agencies are empowered to order the offender to correct its activities, and the agencies have the power to publicize the offense. In addition, the illegal enrichment of the offender will be confiscated, and a fine in an amount of no more than three times the illegal enrichment, or no more than 50,000 Yuan (about $6,045), will be imposed concurrently if there is no illegal enrichment. Any above-mentioned order made by the patent administration agencies shall be subject to a judicial review in accordance with the Administrative Procedure Law of the People's Republic of China.

IV. COMPARISON OF U.S. AND CHINESE LAW

Compared with the long history of U.S. patent law, Chinese patent law, with its history of less than 20 years, is still in its infancy. Nevertheless, there are similarities between the two laws in terms of remedies available to patent owners for patent infringement. Both provide injunctive relief, damages and provisional rights remedies. However, in granting each remedy, there are some differences, which will be discussed below.

A. Injunctive Relief

Under U.S. law, there are well-established standards or rules for granting or denying injunctive relief. In China, though preliminary injunctions are available under the law, the courts in different areas may adopt different standards in

296 Patent Act of PRC, supra note 1, art. 63.

Besides the civil liabilities, the patent administration agencies may order those passing off another's patent to correct, publish the offense, confiscate the illegal enrichment; the agencies may impose a fine in the amount of no more than three times the illegal enrichment concurrently, or a fine no more than 50,000 Yuan in case that there are no illegal profits. If the offense constitutes a crime, the criminal liability of the offender will be prosecuted.

297 Id.

granting this remedy. Specifically, some courts have taken much more stringent standards than other courts. Therefore, the standards for granting preliminary injunctions need to be improved in order to set forth a uniform criterion among the courts. As for permanent injunctions, the circumstances under which they should be denied also need to be studied, as there are few or even no particular cases or legislation dealing with this issue.

B. Damages

As discussed above, the damages of the patent owner in the U.S. can be measured by the lost profits of the patent owner, a reasonable royalty, or a mixed award under a market share rule.\textsuperscript{299} In China, the damages can be measured in variety of ways, but the basic measures are lost profits, illegal enrichment, or a reasonable royalty.\textsuperscript{300} Whether the damages of the patent owner can be measured by the illegal profits of the infringer is a big difference between the U.S. and China.

Prior to the enactment of the Patent Act of 1946, the patent owner was entitled to recover the infringer's profit in U.S. equity actions. In 1946, Congress changed the law by dropping any reference to the infringer's profits.\textsuperscript{301} In Aro Manufacturing Co. v. Convertible Top Replacement Co., the Supreme Court noted that the Patent Act of 1946 expressly eliminated the recovery of the infringer's profits as a measure of damages.\textsuperscript{302} Now, except for design patent cases, the patent owner cannot recover the infringer's profits though they may be considered as evidence in establishing a reasonable royalty.\textsuperscript{303} In China, the illegal profits of the infringer are still an important measure for the damages of the patent owner.

As for the lost profits of the patent owner, there is no "entire market value" rule in China. The patent owner cannot recover the lost profits of those products not covered by the patent. The reasonable royalty measure, which is only a basic method for computing the damages, is not the baseline for damages. The basic evidence for a reasonable royalty is a negotiated royalty, and there is no "hypothetical negotiation" approach or analytical approach for setting a reasonable royalty.

There are two additional differences in determining damages between U.S. and Chinese law. One is whether there should be a "notice of infringement" requirement in order to get damages. Under U.S. law, a patent owner is only entitled to damages for infringing acts occurring after actual or constructive notice of infringement is given to the accused infringer.\textsuperscript{305} There is no such "notice of infringement" requirement for the patent owner in China. The patent owner is entitled to damages for any actual infringement except as otherwise provided by the law. The court usually holds that the publication of the issuance of a patent is a constructive notice of the patent, and everyone is obliged to use due care not to infringe it. This kind of approach is probably harsh toward innocent infringers. In reality, it is unrealistic to

\textsuperscript{299} See supra Part II.B.1.
\textsuperscript{300} See supra Part III.A.2.
\textsuperscript{301} CHISUM, supra note 15, § 20.02[4], at 53.
\textsuperscript{303} 35 U.S.C § 289 (1994).
\textsuperscript{304} See supra Part II.B.1.b.
expect innocent infringers, especially ordinary individuals or small businesses, to pay enough attention to dull patent gazettes to avoid infringement. This rule should be changed in the future.

Another difference lies in the issue of who determines the damages. In a jury case in the United States, the jury will usually determine the amount of damages, and it is within the judge's discretion to increase the damages up to three times in a case of willful infringement. That is not the scenario in China, where judges determine the damages. In cases where a people's assessor (who is not like a juror in the United States) participates in the trial of a case, the assessor has the same power as that of a judge. The people's assessor may decide the factual and legal issues of the case. In addition, judges usually do not increase the damages measured by lost profits or illegal profits even after finding willful infringement, but they may impose a fine or other civil sanction against the infringer. If damages are measured by a reasonable royalty, the judge may increase the damages up to five times after finding a serious violation. However, there are no specific provisions on how many times the court may increase the damages by the law.

C. Provisional Rights Remedies

The provisional rights remedies in the United States allow patent owners to obtain a reasonable royalty, while the remedies in China provide an appropriate royalty. An appropriate royalty is a sum of money that the two parties can agree upon through negotiation. If the parties fail to agree, the court will decide the appropriate royalty. Unlike patent owners in the United States, there is no requirement for the patent owners in China to give actual notice to those exploiting the invention during the period from the publication of the application to the issuance of the patent in order to get these remedies.

D. Criminal Remedies

Perhaps the biggest difference between the two countries' laws is in the remedies for patent passing off under Chinese patent law, and "false marking" under U.S. patent law. As discussed in Part III of this paper, patent passing off, or counterfeiting, is regarded as a patent infringing activity in China. The patent owner may sue for patent infringement and is entitled to all civil remedies including injunctive relief and damages. A criminal sanction or severe administrative sanction

---

306 See supra Part II.B.2.
307 See Zhonghua Renmin Gongheguo Fagui Huibian 1979-2001 [Criminal Procedure Law of the People's Republic of China] art. 105, translated in CHINALAW No. 40 (providing that cases of first instance shall be tried in a people's court by a collegial panel consisting of both judges and people's assessors or of judges alone, and people's assessors shall have equal rights and duties with the judges when carrying out their duties).
308 Id.
309 See Wang Yongguang v. Ningbo Chunfeng Co., China L. & Prac., (Beijing No. 1 Intermediate People's Court) (doubling the damages measured by a reasonable royalty).
may even be imposed on the offender if the offense is serious. Consumers may also sue for damages. The cause of action is false advertising.

In contrast, false marking offenders in the U.S. are much luckier. Though anybody may sue them for penalty, the penalty is only a fine of not more than $500 for every offense. In a strict sense, patent passing off, or false marking, is not a patent infringing activity in the U.S. because this type of activity is not regulated under chapter 28 of the Patent Act. The offender does not infringe upon the right of the patent owner to exclude others from exploiting the patented invention. Whether a specific act like patent passing off or false marking should be severely punished remains a question. The answer will be determined by such factors as the purpose of the legislation and the legislative history.

E. TRIPS Requirements

As discussed in Part I of this paper, TRIPS has set forth minimum requirements for the enforcement of IP rights. Have the U.S. and China already met the minimum requirements? The answer is yes.

The basic remedies provided by TRIPS are injunctions and damages. As for injunctions, there is no question that both the Patent Act of the U.S. and that of China have provided that remedy for patent owners. Hence both countries have already met that basic requirement. As for damages, TRIPS puts a limitation on damages. The right owner is only entitled to damages when the infringer knew or had grounds to know that he was engaged in infringing activities. The limitation on damages provided by the U.S. Patent Act is consistent with this provision. The Patent Act of China does not provide such a limitation. For the reasons stated above, Chinese courts hold that a patent owner is entitled to damages for any infringement. The fact that the infringer did not know or should not have known he was infringing is not a defense for damages. In this respect, the protection for the patent owner in China is well above the requirement set forth by TRIPS.

TRIPS also provides that appropriate attorney fees should be paid to the right owner. This is not a problem in the U.S., nor in some courts in China. However, as discussed in Part III, the Supreme Court of China should promulgate a judicial interpretation to unify the decisions of the lower courts on the issue of attorney fees after China’s access to the WTO.

As for the TRIPS provision that the right owner may recover profits and/or payment of pre-established damages even where the infringer did not know or had no reasonable ground to know that he was engaged in infringing activity, it does not pose a problem in the United States, since the requirement of this provision is not compulsory.

---

314 See TRIPS, supra note 8, at art. 44.
315 See TRIPS, supra note 8, at art. 45.
316 Id.
317 See TRIPS, supra note 8, at art. 45(2).
TRIPS does not require that courts impose criminal sanctions upon patent infringers. Therefore, the criminal liability imposed upon those passing off patents by Chinese laws is above the requirement.

As a member state, the U.S has already met the minimum requirements provided by TRIPS. China, as a would-be member, meets the requirements too, especially after the amendments to its patent laws in 2000.

V. CONCLUSION

China has made consistent efforts to upgrade its patent laws to provide patent owners with adequate remedies. However, as discussed above, with respect to the standards for granting preliminary injunctions, and in determining lost profits and reasonable royalties, there is still large room for improvement. Additionally, the Supreme Court of China should reconsider the issues of limitations on damages and attorney fees in order to balance the interests of the patent owners and innocent infringers. Unquestionably, the theories and experiences provided by U.S. patent law are good “prior art.”