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# A COMPARATIVE ANALYSIS OF SELECTED ASPECTS OF PATENT LAW IN CHINA AND THE UNITED STATES

Louis S. Sorell<sup>†</sup>

*Abstract:* China's recent admission to the World Trade Organization will bring increased attention to China's patent law, especially as foreign companies expand their technology-based presence in China. This Article summarizes the development of patent law in the United States and China, and compares various aspects of Chinese and American patent law. These aspects include the administrative and judicial hierarchy of the American and Chinese patent systems, patentability requirements, infringement and validity issues, the availability of injunctive relief, and the determination of monetary damages. The Article also discusses the compulsory licensing provisions of China's patent law. Similarities and differences of each patent system are also discussed.

## I. INTRODUCTION

The foundations of patent law in the United States predate the founding of the republic.<sup>1</sup> In contrast, the concept of patent law in the People's Republic of China was not recognized until 1950.<sup>2</sup> Nevertheless, as China evolves from a planned economy towards a "socialist market economy,"<sup>3</sup> its patent law must mature to conform to the standards of the global economy.<sup>4</sup> This Article briefly reviews the development of patent law in both the United States and China, compares important features of the two systems, and describes some recent substantive revisions in China's patent law.<sup>5</sup>

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<sup>1</sup> See generally H. Forman, *Two Hundred Years of American Patent Law*, in 200 YEARS OF ENGLISH & AMERICAN PATENT, TRADEMARK & COPYRIGHT LAW, 21, 25-27 (1976).

<sup>2</sup> See generally L. Harrington, *Recent Amendments to China's Patent Law: The Emperor's New Clothes?*, 17 B.C. INT'L & COMP. L. REV. 337, 342-48 (1994).

<sup>3</sup> See Hu Zuocho, *The Commercialization and Evaluation of Intellectual Property Rights*, Address at the Mainland-Hong Kong Special Administrative Region (HKSAR) Intellectual Property Symposium, at [www.cpo.cn.net/english/meeting/200hk/e09-1.htm](http://www.cpo.cn.net/english/meeting/200hk/e09-1.htm) (Apr. 14, 2000).

<sup>4</sup> China was admitted to the WTO on November 10, 2001. Joseph Kahn, *World Trade Organization Admits China, Amid Doubts*, N.Y. TIMES, Nov. 11, 2001, at A16.

<sup>5</sup> Interview with Mr. Kan Zu, Partner, Beijing Unitalen Patent & Trademark Law, in New York, NY. (Spring 2001).

## II. THE DEVELOPMENT OF PATENT LAW IN THE UNITED STATES AND CHINA

Prior to the establishment of the United States, the colonial governments enacted laws to establish or stimulate industries by awarding exclusive grants.<sup>6</sup> However, unlike the prior English “patents of invention,” which were royal grants and favors, colonial patent laws were specific grants to individual inventors.<sup>7</sup> In 1641 Massachusetts adopted what many consider to be the first general patent statute in America, and other states soon followed.<sup>8</sup> However, by 1787 it was clear that, in view of overlapping state patents, a centralized patent system was desirable.<sup>9</sup> Ultimately, this desire manifested itself in the United States Constitution, which states that:

The Congress shall have Power . . . to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.<sup>10</sup>

The first American patent statute was subsequently enacted in 1790. Significant amendments and improvements were made in 1836, 1861, and 1952.<sup>11</sup> Additional important amendments to American patent law occurred in 1994<sup>12</sup> and 1999.<sup>13</sup>

The Constitution of the People’s Republic of China also recognizes the importance of inventions:

The state promotes the development of the natural and social sciences, disseminates scientific and technical knowledge, and

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<sup>6</sup> See Forman, *supra* note 1, at 25-27.

<sup>7</sup> See *id.*

<sup>8</sup> See *id.*

<sup>9</sup> See *id.* at 25-26.

<sup>10</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>11</sup> See generally Forman, *supra* note 1, at 28-30.

<sup>12</sup> In 1994, the Uruguay Round Agreements Act (“URAA”), 35 U.S.C. § 154 (1994), implemented the participation of the United States in the Uruguay Round of the General Agreement on Tariffs and Trade (“GATT”). The URAA was enacted to harmonize the term provisions of U.S. patent law with our leading trading partners (e.g., Europe and Japan), and extended the terms of U.S. patents in force on June 8, 1995 to the greater of: (i) seventeen years from the date of patent issuance; or (ii) twenty years from the filing date of the patent application from which the patent issued. See § 154(c)(1). For U.S. patent applications filed or issued after June 8, 1995, the patent term is twenty years from the date of filing of the patent application. See § 154 (a)(2).

<sup>13</sup> See American Inventors Protection Act of 1999, Pub. L. No. 106-113, 113 Stat. 1501 (1999).

commends and rewards achievements in scientific research as well as technological discoveries and inventions.<sup>14</sup>

Modern Chinese patent law began with the issuance of the “Provisional Regulations on the Protection of the Invention Right and the Patent Right” in 1950. Although these regulations and subsequent enabling rules promulgated in 1963 provided modest rewards to inventors, state ownership of novel inventions was mandated.<sup>15</sup> Moreover, during the Cultural Revolution from 1966-1975, even these small awards and incentives were eliminated.<sup>16</sup> Only after the overthrow of the “Gang of Four” in 1976 and the establishment of the “Four Modernizations” of (i) development of industry, (ii) agriculture, (iii) science and technology, and (iv) national defense, did China’s leadership begin to encourage economic and industrial development.<sup>17</sup> As a result, between 1980 and 1983, China sent envoys with legal, scientific, and political backgrounds abroad to study the patent laws and practices of various developed nations including the United States, Canada, and various European countries.<sup>18</sup>

In 1984, China enacted a basic patent law based on the information obtained from various foreign countries.<sup>19</sup> Nevertheless, “complaints by U.S. patentees and other foreign patent holders of piracy and infringement by the Chinese continued through the 1980’s.”<sup>20</sup> After threats of sanctions by the United States Trade Representative (“USTR”), China agreed to revamp its intellectual property protection, and signed a Memorandum of Understanding on the protection of intellectual property with the United

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<sup>14</sup> XIANFA [Constitution] art. 20 (1993) (P.R.C.).

<sup>15</sup> Harrington, *supra* note 2, at 342 & n.32.

<sup>16</sup> *Id.* at 342.

<sup>17</sup> *Id.* at 343 & n.35.

<sup>18</sup> *Id.* at 345 n.52.

<sup>19</sup> Zhonghua Remin Gongheguo Zhuanli Fa [Patent Law of the People’s Republic of China] (1984), translated in Charles D. Paglee, *Chinalaw Web—PRC Patent Law*, at <http://www.qis.net/~chinalaw/prclaw107.htm> (last modified May 1, 1998). The 1984 Patent Law was adopted at the Fourth Session of the Study Committee of the Sixth National People’s Congress on March 12, 1984, and became effective on April 1, 1985. *Id.*

<sup>20</sup> Harrington, *supra* note 2, at 345 (footnote omitted).

States in 1992.<sup>21</sup> China's patent law was thereafter amended in 1992,<sup>22</sup> and implementing regulations were also adopted.<sup>23</sup>

The 1992 amendments made several important reforms, including:

- Expanding the technological fields of patent protection to include pharmaceutical products, foods, beverages, flavorings, and substances obtained via a chemical process.
- Extending the duration of patent rights for inventions from fifteen to twenty years, and extending the duration of patent rights for utility models and designs from five to ten years.
- Narrowing the grounds under which a compulsory license may be granted.
- Replacing the pre-grant opposition procedure (typical in European patent practice) with a post-granting revocation procedure, thereby shortening the patent approval process.<sup>24</sup>

The 1992 amendments generated mixed reviews. One commentator has observed that, on balance, the 1992 amendments were expected to "allow investors to act with more confidence in the turbulent waters of China's burgeoning commercial markets."<sup>25</sup> However, another commentator has taken a less optimistic view, observing that China's patent law "cannot be that significant without some breakthrough in both economic and legal

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<sup>21</sup> See *id.* at 371-74.

<sup>22</sup> The 1992 amendments were adopted by the Gyanyu Xiugai Zhonghua Remin Gungheguo Zhuanli Fa De Jueding [Decision Regarding the Revision of the Patent Law of the People's Republic of China] (adopted at the twenty-seventh Session of the Standing Committee of the Seventh National People's Congress on Sept. 4, 1992). These amendments are discussed in detail in Harrington, *supra* note 2, at 359-69.

<sup>23</sup> See Zhong Hua Ren Min Gong He Guo Zhuan Li Fa Shi Shi Xi Ze [Implementing Regulations for the Patent Law of the People's Republic of China], translated in Charles D. Paglee, *Chinalaw Web—Implementing Regulations for the Patent Law*, at <http://www.qis.net/chinalaw/prclaw108.htm> (last modified May 1, 1998). These regulations were promulgated by China's Patent Office on December 21, 1992.

<sup>24</sup> See Yin Xintian, *A Brief Introduction to the Patent Practice in China*, 9 DUKE J. COMP. & INT'L LAW 253 (1998). Several of the 1992 amendments were made to reconcile China's patent law with the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS"). For example, prior to the 1992 amendments, pharmaceutical products were not patentable under China's patent law. See State Intellectual Property Office of the P.R.C., *Differences Between Chinese Patent Law and TRIPS Agreement*, at <http://www.cpo.cn.net/english/meeting/2000kh/e01-1.htm> (last visited Feb. 6, 2002). For a more specific discussion of administrative protection of pharmaceutical products in China, see Gao Xia-Yun, *An Introduction to Administrative Protection for Pharmaceuticals*, 9 DUKE J. COMP. & INT'L L. 259 (1998).

<sup>25</sup> Harrington, *supra* note 2, at 370.

reforms,” while also concluding that “reforms have been leading China to a market economy ruled by law, suggesting a significant patent law.”<sup>26</sup>

Most recently, on August 25, 2000 China finalized the second revision of its patent law.<sup>27</sup> These revisions were approved by the National People’s Congress, and took effect on July 1, 2001.<sup>28</sup> These revisions are intended to further the following principles:

- Accommodation of the socialist market economy.
- Strengthening the protection of patent rights.
- Simplification and acceleration of patent approval.
- Harmonizing China’s patent law with international standards and treaties.<sup>29</sup>

### III. PATENTABILITY REQUIREMENTS IN THE UNITED STATES AND CHINA

#### A. Patentability Requirements in the United States

American patent law permits the granting of three types of patents: i.e., utility patents, design patents, and plant patents. Utility patents are directed to inventions that are a “process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”<sup>30</sup> Utility patents cover inventions most people are familiar with: e.g., computers, electronics, machines, chemicals and pharmaceuticals. Design patents are directed to a “new, original, and ornamental design for an article of manufacture.”<sup>31</sup> Plant patents are directed to a distinct and new variety of plant which has been asexually reproduced, other than “a tuber propagated plant or a plant found in an uncultivated state.”<sup>32</sup> Utility and plant patents

<sup>26</sup> Liwei Wang, *The Current Economic and Legal Problems Behind China’s Patent Law*, 12 *TEMPLE INT’L & COM. L.J.* 1, 41-42 (1998).

<sup>27</sup> This revision was made by the Gyanyu Xiugai Zhonghua Remin Gungheguo Zhanli Fa De Jueding [Decision Regarding the Revision of the Patent Law of the People’s Republic of China] (adopted at the Seventeenth Session of the Standing Committee of the Ninth National People’s Congress on August 25, 2000). See Patent Office of the P.R.C., *Proclamation No. 78, Transitional Measures for the Implementation of the Revised Patent Law and its Implementing Regulations*, at <http://www.cpahktd.com/Publications/Laws/Proclamation-78.html> (June 25, 2001).

<sup>28</sup> See *Sino-U.S. Intellectual Property Symposium Held in Beijing*, 2 *CHINA INTELL. PROP. NEWSL.* (Xinhua News Agency), at <http://www.lehmanlaw.com/newsletter/ip/archives/20010314.htm> (Mar. 14, 2001) (discussing important portions of these revisions).

<sup>29</sup> Statement of Mr. Ma Lianyuan, Deputy Commissioner of State Intellectual Property Office of the P.R.C., delivered at the National Patent Work Conference (Jan. 18, 2001) (on file with author).

<sup>30</sup> 35 U.S.C. § 101 (1994).

<sup>31</sup> § 171.

<sup>32</sup> § 161.

have a basic term of twenty years from the filing date of the corresponding patent application;<sup>33</sup> however, design patents have a term of fourteen years from the date of grant of the design patent.<sup>34</sup>

To obtain a United States patent for an invention, the invention must meet the following criteria:

- The invention must be directed to “patentable subject matter,” i.e., a new and useful process, machine, manufacture or composition of matter, or a new and useful improvement thereof.<sup>35</sup>
- The invention must be “novel.” Unlike most other countries (including China), the United States has a “first-to-invent” rather than a “first-to-file” patent system.<sup>36</sup> The types of “prior art” which can defeat the novelty of an invention include: (i) a description of the invention in a printed publication anywhere in the world prior to the invention by the applicant or more than one year prior to the filing date of the United States patent application;<sup>37</sup> (ii) public knowledge or use in the United States of the invention prior to the invention by the applicant or more than one year prior to the filing date of the United States patent application;<sup>38</sup> (iii) an offer for sale or sale of the invention in the United States more than one year prior to the filing date of the United States patent application;<sup>39</sup> and (iv) a description of the invention in another United States patent having a filing date earlier than the date of the applicant’s invention.<sup>40</sup> In addition, the inventor’s rights to a patent are forfeited if the invention was abandoned prior to the filing of a patent application;<sup>41</sup> was invented by someone other than those named on the patent application;<sup>42</sup> or was first made by someone else anywhere in the world, and the prior invention was not abandoned, suppressed or concealed.<sup>43</sup>

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<sup>33</sup> § 154(a)(2); *see also* § 161.

<sup>34</sup> § 173.

<sup>35</sup> § 101.

<sup>36</sup> *See Paulik v. Rizkalla*, 760 F.2d 1270 (Fed. Cir. 1985).

<sup>37</sup> 35 U.S.C. § 102(a), (b) (1994).

<sup>38</sup> § 102(a), (b).

<sup>39</sup> § 102(b).

<sup>40</sup> § 102(c).

<sup>41</sup> § 102(c).

<sup>42</sup> § 102(f).

<sup>43</sup> § 102(g).

- The invention must be “nonobvious” to one of ordinary skill in the relevant technical field or “art” in view of the prior art.<sup>44</sup>
- The patent application describing the invention must contain an adequate written description of the invention, and the means and process of making and using the invention. The description must also be sufficient to enable a person of ordinary skill in the art to make and use the invention, and must disclose what the inventor considered the “best mode” of carrying out the invention.<sup>45</sup>
- The patent application must claim the invention with one or more “claims” which “particularly point out and distinctly claim” the subject matter of the invention.<sup>46</sup>

### B. Patentability Requirements in China

China’s current patent law<sup>47</sup> permits the granting of a patent for three types of “inventions-creations.” These are “inventions,” “utility models,” and “designs.”<sup>48</sup> “Inventions” correspond to what American patent practitioners would consider “utility” patents, whereas “utility models” correspond to “improvement” patents, which fall within the umbrella of utility patents under U.S. patent law.<sup>49</sup> “Design” patents are roughly equivalent in both countries.<sup>50</sup> Invention patents have a term of twenty years from the filing date of the patent application, whereas utility model and design patents have a term of ten years.<sup>51</sup>

Unlike American patent law, in which the inventor initially owns all rights irrespective of the type of invention,<sup>52</sup> China’s patent law distinguishes between “service” and “non-service” inventions. A “service”

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<sup>44</sup> § 103 (1994).

<sup>45</sup> § 112. Although these requirements are all contained in the same (first) paragraph of Section 112, they are independent requirements commonly referred to as the “written description,” “enablement,” and “best mode” requirements.

<sup>46</sup> § 112, para. 2. This is commonly referred to as the “definiteness” requirement.

<sup>47</sup> See Zhonghua Remin Gongheguo Zhuanli Fa [Patent Law of the People’s Republic of China] (2000), [hereinafter China’s Patent Law (“CPL”)], translated in <http://www.san-you.com/en/list.asp?id=163&df=2> (last modified Jan. 8, 2002). CPL was amended for the second time by the Decision Regarding the Revision of the Patent Law of the People’s Republic of China, adopted at the Seventeenth Session of the Study Committee of the Ninth National People’s Congress on August 25, 2000. *Id.*

<sup>48</sup> *Id.* art. 2.

<sup>49</sup> Interview with Kan Zu, *supra* note 5; see also Harrington, *supra* note 2, at 347 n.66 (describing utility models as “minor technical and production improvements”).

<sup>50</sup> Interview with Kan Zu, *supra* note 5.

<sup>51</sup> CPL, *supra* note 47, art. 42.

<sup>52</sup> 35 U.S.C. § 261 (1994) (providing that U.S. patents have the attributes of personal property, and are assignable in law by an instrument in writing).



invention is one made by an inventor in execution of tasks for the entity employing the inventor, or made by the inventor mainly using the material and technical means of the employer. Patent rights for service inventions belong to the controlling entity. Conversely, patent rights for non-service inventions vest in the inventor.<sup>53</sup>

Under China's patent law there are three requirements for patentability:

- **Novelty**—Before the filing date of the patent application, no identical invention or utility model has been publicly disclosed in publications anywhere or has been publicly used or made known to the public by any other means in China, nor has any other person filed a patent application in China which described the invention or utility model where the patent application was published after the filing date of the inventor's patent application.<sup>54</sup> This prerequisite is analogous (although not identical) to the novelty requirement under American patent law,<sup>55</sup> although the critical date here is the filing date of the application, consistent with China's status as a "first-to-file" country.<sup>56</sup>
- **Inventiveness**—The invention must have prominent substantive features and represent a notable improvement compared with the technology existing before the filing date of the patent application. If the patent application is for a utility model, it must have substantive features and represent an improvement.<sup>57</sup> This prerequisite is analogous to the nonobviousness requirement under American patent law.<sup>58</sup>
- **Practical Applicability**—An invention or utility model must be capable of being made or used and producing effective results.<sup>59</sup> This corresponds to the utility requirement of American patent law.<sup>60</sup>

For design patents, the design may not be identical or similar to any other design which has been publicly disclosed anywhere or publicly used in China, and additionally cannot "be in conflict with any legal prior rights

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<sup>53</sup> CPL, *supra* note 47, art. 6.

<sup>54</sup> *Id.* art. 22.

<sup>55</sup> See 35 U.S.C. § 102.

<sup>56</sup> CPL, *supra* note 47, art. 9.

<sup>57</sup> *Id.* art. 22.

<sup>58</sup> See 35 U.S.C. § 103.

<sup>59</sup> CPL, *supra* note 47, art. 22.

<sup>60</sup> See 35 U.S.C. § 101.

obtained by any other person.”<sup>61</sup> The precise meaning of this latter provision is unclear from the statutory language. However, practitioners in China have observed that this language (which was added in the most recent revisions to China’s patent law) aims to prevent conflicts with prior copyright and trademark rights, which are intended to preempt subsequent design patent protection.<sup>62</sup>

A grace period exists to prevent certain acts from barring patentability if these acts occur within six months prior to the filing date of a patent application.<sup>63</sup> Analogous grace periods exist under American patent law, although the grace periods are for one year rather than six months.<sup>64</sup>

An important distinction between American and Chinese patentability standards is that China’s patent law specifically precludes patentability for certain inventions clearly patentable under American law, such as “plant varieties” and “methods for the diagnosis or for the treatment of diseases.”<sup>65</sup> Another important distinction is that only “invention” patent applications are substantively examined under China’s patent law.<sup>66</sup> A request for substantive examination of an invention patent application must be made within three years of the application filing date.<sup>67</sup> Thus, patent applications for utility models and designs are only preliminarily examined for administrative and procedural conformity. If these standards are met, the design or utility patent will be granted without substantive examination.<sup>68</sup>

The administrative procedures available for an applicant dissatisfied with the initial substantive examination of a patent application are similar in the United States and China. In the United States, an applicant dissatisfied with the results of the examination of a patent application may appeal to the United States Patent and Trademark Office’s Board of Patent Appeals and Interferences (“BPAI”).<sup>69</sup> The decision of the BPAI may be appealed to the United States Court of Appeals for the Federal Circuit<sup>70</sup> and ultimately to the United States Supreme Court,<sup>71</sup> although this rarely occurs.

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<sup>61</sup> CPL, *supra* note 47, art. 23.

<sup>62</sup> See *The Outline of the Revised Patent Law*, CPA NEWSLETTER, at <http://www.cpahkld.com/Newsletter/RevPLaw.html> (last visited Mar. 5, 2002).

<sup>63</sup> CPL, *supra* note 47, art. 24.

<sup>64</sup> See 35 U.S.C. § 102(b) (providing a one-year grace period for certain acts, i.e., offers for sale, sales and publication, which would otherwise preclude patentability).

<sup>65</sup> CPL, *supra* note 47, art. 25.

<sup>66</sup> CPL, *supra* note 47, arts. 35, 40; Interview with Kan Zu, *supra* note 5.

<sup>67</sup> CPL, *supra* note 47, art. 35.

<sup>68</sup> *Id.* art. 40.

<sup>69</sup> 35 U.S.C. § 134.

<sup>70</sup> § 141.

<sup>71</sup> 28 U.S.C. § 1254(1) (1994).

In China, an applicant dissatisfied with the substantive examination of an invention patent application may seek reexamination by the Patent Reexamination Board ("PRB").<sup>72</sup> If the applicant is dissatisfied with the PRB's decision, legal proceedings may be instituted in the People's Court.<sup>73</sup> Subsequent judicial appeals may be taken to the intermediate court of a city or province, and at least theoretically to the People's Supreme Court, although such an appeal is extremely rare.<sup>74</sup>

From an administrative perspective, it appears that China's patent law and practice conforms to international norms. China became a member state of the Paris Convention for the Protection of Industrial Property in 1985 and of the Patent Cooperation Treaty ("PCT") as of January 1, 1994.<sup>75</sup> However, the number of invention patent applications filed by and granted to Chinese applicants is comparatively small. Furthermore, foreign enterprises hold many Chinese patents in high-technology fields.<sup>76</sup>

#### IV. ENFORCEMENT ISSUES REGARDING PATENTS IN CHINA

##### A. *Patent Infringement Issues*

A person who makes, uses, offers to sell, or sells an invention patented in the United States, without authority, infringes the patent.<sup>77</sup> Similarly, under China's patent law, exploitation of a patent without the patentee's authorization constitutes infringement.<sup>78</sup> However, there are significant differences regarding both the procedural and substantive aspects of patent infringement litigation in the United States and China. For example, in the United States, federal courts have exclusive jurisdiction over patent infringement suits.<sup>79</sup> In contrast, a patent infringement action in

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<sup>72</sup> CPL, *supra* note 47, art. 41.

<sup>73</sup> *Id.*

<sup>74</sup> Interview with Kan Zu, *supra* note 5.

<sup>75</sup> See State Information Office of the Council of the P.R.C., *Intellectual Property Protection in China*, at <http://www.english.peopledaily.com.cn/whitepaper/9.html> (June 1994); see also Xintian, *supra* note 24, at 255.

<sup>76</sup> Xu Yiping, *Patent and Design Protection Versus Small and Medium Size Enterprises in China*, Address at the Mainland-HKSAR Intellectual Property Symposium (2000), at <http://www.cpo.cn.net/english/meeting/2000hk/e05-1.htm> (last visited Feb. 6, 2002).

<sup>77</sup> 35 U.S.C. § 271(a) (Supp. V 1999).

<sup>78</sup> CPL, *supra* note 47, art. 57. "Exploitation" means the making, using, offering to sell, selling or importing of a patented product, or using a patented process or use, or offering to sell, selling or importing the product obtained directly by the patented process, for production or business purposes. *Id.* art. 11.

<sup>79</sup> See 28 U.S.C. § 1338(a) (Supp. V 1999) (conferring patent jurisdiction on the federal district courts); 28 U.S.C. § 1259(a) (Supp. V 1999) (conferring exclusive jurisdiction of all appeals in patent cases in the district courts to the U.S. Court of Appeals for the Federal Circuit).

China may be filed in the People's Court, or a request may be made to "the authorities for patent work" to administratively resolve the infringement issue.<sup>80</sup>

This administrative procedure has no counterpart in American patent law. If the administrative route is chosen, the request is made to the patent administrative office having jurisdiction over the matter. An administrative authority for patent affairs is established in every province, autonomous region, and municipality.<sup>81</sup> The patent administrative office has the power to enjoin acts of infringement and may mediate the damages issue upon the request of the parties.<sup>82</sup> If mediation is unsuccessful, a lawsuit may be initiated in the People's Court in accordance with China's Civil Procedure Law.<sup>83</sup> There are tactical advantages in using the administrative route to establish infringement: namely, the administrative procedure is faster and the administrative decision of infringement may be used as evidence of infringement in a subsequent judicial proceeding.<sup>84</sup> However, as a practical matter, the issue of damages may be difficult to resolve using the administrative route.<sup>85</sup>

Under both American and Chinese patent law, determination of infringement requires a comparison of the plaintiff's patent claims and the accused product or process. Accordingly, interpretation of patent scope is the first step in an analysis of alleged infringement.

In the United States, the interpretation or construction of a patent claim is a question of law resolved by the judge, even if the patent infringement case will ultimately be tried to a jury.<sup>86</sup> Once the proper meaning of the claims has been determined, infringement may be found in either one of two ways: literal infringement or infringement under the doctrine of equivalents. Literal infringement requires that every feature or "element" of the patent claim be found in the accused product or process.<sup>87</sup> The judge may use "intrinsic" evidence such as the patent claim language, the patent description or "specification," as well as the "prosecution history" (i.e., the documents generated during the patent application process) to determine the meaning and scope of the claims. Additional "extrinsic"

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<sup>80</sup> CPL, *supra* note 47, art. 57.

<sup>81</sup> Interview with Kan Zu, *supra* note 5; *see also* Xintian, *supra* note 24, at 256.

<sup>82</sup> CPL, *supra* note 47, art. 57.

<sup>83</sup> *Id.*

<sup>84</sup> Interview with Kan Zu, *supra* note 5.

<sup>85</sup> *Id.*

<sup>86</sup> *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

<sup>87</sup> *Amhil Enterprises, Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996).

evidence such as the testimony of technical experts may be also used by the judge to resolve ambiguities in the meaning of terms in the claims.<sup>88</sup>

Infringement under the doctrine of equivalents may be found even if the accused product or process does not contain each limitation of the claim, but the accused product or process must contain a feature “equivalent” to the missing claim limitation.<sup>89</sup> An “equivalent” feature is one that is insubstantially different than the corresponding element required by the patent’s claim.<sup>90</sup> However, the scope of equivalency is not unlimited: for example, the doctrine of “prosecution history estoppel” prevents the patentee from regaining aspects of the claimed invention that were relinquished during the “prosecution” of the patent application during the examination process before the U.S. Patent and Trademark Office.<sup>91</sup> It is important to note that the substantive body of American patent law regarding claim interpretation and infringement analysis (both literal and under the doctrine of equivalents) has evolved from case law: the American patent statute is silent on this issue, and simply states that infringement occurs if a person, without authority, “makes, uses, offers to sell or sells any patented invention, within the United States, or imports into the United States any patented invention” during the term of the patent.<sup>92</sup>

In contrast, China’s patent law specifically states that “[t]he extent of protection of the patent right for invention or utility model shall be determined by the terms of the [patent’s] claims. The description and the appended drawings may be used to interpret the claims.”<sup>93</sup> However, it is unclear whether this provision distinguishes between literal infringement and infringement under the doctrine of equivalents. As Justice Jiang Zhipei recently queried:

[In] a patent infringement litigation, how is the judge to define the scope of protection? Should the principles of equivalence be applied, and to what extent? How do we judge the infringing conduct? How do we conduct and evaluate a technical appraisal to solve the dispute on technology between

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<sup>88</sup> Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996).

<sup>89</sup> Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40 (1997).

<sup>90</sup> *Id.*

<sup>91</sup> Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 56 U.S.P.Q.2d 1865 (Fed. Cir. 2000), *cert. granted*, 69 U.S.L.W. 3779 (U.S. June 18, 2001) (No. 00-1543). The *Festo* decision has significantly narrowed the usefulness of the doctrine of equivalents for patentees, although it is unclear at present whether the U.S. Supreme Court will adopt the limitations on the doctrine of equivalents set forth by the federal circuit in *Festo*.

<sup>92</sup> 35 U.S.C. § 271(a) (Supp. V 1999).

<sup>93</sup> CPL, *supra* note 47, art. 56.

the parties concerned? How do we calculate the damages of patent infringement? Chinese judges need to solve these problems urgently.<sup>94</sup>

However, Justice Cheng Yongshun recently commented that both the principles of estoppel and the doctrine of equivalents may be used in defining the scope of a patent.<sup>95</sup> Justice Yongshun's comments highlight two fundamental problems encountered in attempting to view China's patent law using American patent law principles such as claim construction and the doctrine of equivalents.

First, there is a paucity of reported case law regarding patents. Thus, there is little guidance for practicing patent attorneys. In fact, as noted by Justice Zhipai, decisions made by the People's Court have no precedential value, and cannot be cited by a later judge even if both cases have similar facts, because judges may only cite laws and regulations. Accordingly, "cases with similar facts may end up with different judgments by various courts."<sup>96</sup> The necessity of uniform application of patent laws in China has been recognized by the Chinese government, and an "Intellectual Property Trial Division" has been established within the Supreme People's Court. This Division is responsible for both hearing important intellectual property cases and for instructing and supervising lower courts in intellectual property matters.<sup>97</sup>

Second, Chinese patent applications do not generate a "prosecution history."<sup>98</sup> Without such a record, competitors lack fundamental information regarding what both the patentee and the Chinese Patent Office considered the scope of the patented invention. Absent this information, prosecution history estoppel and/or the doctrine of equivalents cannot be applied in a given patent infringement case.

In patent infringement actions, the trial court is the Intermediate People's Court in each of the municipalities, provinces, and coastal special economic zones, as well as the Intermediate People's Court assigned by the Supreme People's Court. The corresponding Higher People's Court has

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<sup>94</sup> Jiang Zhipai, *Patent Litigation in China*, 9 FED. CIR. B.J. 479, 484 (2000). Justice Zhipai is the Deputy Chief Justice of the Intellectual Property Trial Chamber of the Supreme People's Court.

<sup>95</sup> Justice Cheng Yongshun, *New Development of Judicial Protection of Intellectual Property Rights in China*, Address at the Mainland-HKSAR Intellectual Property Symposium (2000) (on file with author). Justice Yongshun is a justice of the Supreme People's Court.

<sup>96</sup> Zhipai, *supra* note 94 at 483 n.16.

<sup>97</sup> Justice Cheng Yongshun, *Judicial Protection of Intellectual Property in China*, 9 DUKE J. COMP. & INT'L L. 267, 268 (1998).

<sup>98</sup> Interview with Kan Zu, *supra* note 5.

appellate jurisdiction in such cases.<sup>99</sup> There is no single appellate court for patent appeals in China analogous to the U.S. Court of Appeals for the Federal Circuit.<sup>100</sup>

Under American patent law, the patentee always bears the burden of proving infringement (literal or doctrine of equivalents) by a preponderance of the evidence, regardless of the type of patent (e.g., product, process, design) involved.<sup>101</sup> Conversely, China's patent law expressly shifts the burden of proof when the infringement action involves a process patent for the manufacture of a new product:

When any infringement dispute relates to a process patent for the manufacture of a new product, any entity or individual manufacturing the identical product shall furnish proof to the effect that a different process is used in the manufacture of its or his product.<sup>102</sup>

It is believed that this "burden shifting" provision for process patents is intended to overcome the disadvantages a patentee has in proving infringing use of a patented process, in view of the lack of pretrial discovery in patent litigation in China.<sup>103</sup>

This provision was decisive in *Glaxo Group Ltd. v. South-West Hecheng Pharmaceutical Factory*.<sup>104</sup> The multinational pharmaceutical company Glaxo owned a Chinese invention patent for a process of manufacturing the drug Ondansetron, which is used to prevent nausea and vomiting caused by cancer chemotherapy. Glaxo learned of defendant South-West's unauthorized manufacture of the drug and initially filed a complaint with the local administrative authority for patent affairs, requesting an investigation and handling of the matter.<sup>105</sup> Subsequently,

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<sup>99</sup> Zhipei, *supra* note 94, at 481. The Supreme People's Court has assigned forty-three of the 400 Intermediate People's Courts to serve as courts of first instance in patent infringement cases. Yongshun, *supra* note 97, at 271.

<sup>100</sup> The U.S. Court of Appeals for the Federal Circuit was created in 1982 to handle all appeals of patent cases from the United States District Courts as well as the U.S. Patent and Trademark Office. See 28 U.S.C. § 1295 (Supp. V 1999); 35 U.S.C. § 141 (Supp. V 1999).

<sup>101</sup> See, e.g., *Braun Inc. v. Dynamics Corp.*, 975 F.2d 815 (Fed. Cir. 1992).

<sup>102</sup> CPL, *supra* note 47, art. 57. This provision was included in Article 60 of the prior patent law.

<sup>103</sup> Interview with Kan Zu, *supra* note 5.

<sup>104</sup> *Glaxo Group Ltd. v. S.W. Hecheng Pharm. Factory*, (Chongqing Municipal No. 1 Intermediate People's Court), described in *Glaxo vs. South-West Pharmaceutical Factory*, CHINA PATENT AGENT (H.K.) LTD. (2001), at <http://www.cpahklt.com/Newsletter/Glaxo-SWPh.html>.

<sup>105</sup> Presumably this request was made pursuant to Article 60 of the prior patent law (now CPL Article 57), which permits the patentee the choice of either instituting legal proceedings for patent infringement in the People's Court or requesting the administrative authority for patent affairs to handle the matter.

Glaxo withdrew the administrative complaint and instituted a patent infringement lawsuit in the Chongqing Municipal First Intermediate People's Court,<sup>106</sup> seeking a cessation of infringement, a public apology, and damages of RMB 320,000 yuan.

Upon court order, the defendant submitted details of the processes it used to manufacture the drug to the court, and suggested that the court conduct an on-site inspection and technical appraisal if deemed necessary. The defendant also asserted that it did not infringe Glaxo's patent because the defendant's processes were essentially different than Glaxo's patented process. However, Glaxo contended that the information submitted by the defendant to the court failed to establish that the submitted processes were actually used by the defendant to manufacture its drug. Accordingly, Glaxo requested the defendant to produce its regulatory documents previously furnished to China's Ministry of Health to obtain approval for defendant's manufacture of the drug, and to testify that the approved processes were the methods of manufacture actually being used by the defendant.<sup>107</sup>

The defendant refused to produce the requested regulatory documents.<sup>108</sup> The court eventually ruled that the defendant's drug was identical to the drug obtained from Glaxo's patented process.<sup>109</sup> In addition, the court held that the defendant had failed to meet its statutory burden of proving that the process it submitted to the court was the process actually used by the defendant to make its drug product.<sup>110</sup> The court also ordered the defendant to immediately cease its manufacture and sale of the drug, and to make a public apology to the plaintiff.<sup>111</sup> The plaintiff was awarded RMB 320,000 yuan in compensatory damages, and the defendant was also ordered to pay the litigation fee of RMB 15,363 yuan.<sup>112</sup> This was the first case involving a foreign patentee in which the defendant lost due to its failure to meet the statutory burden of proof.<sup>113</sup>

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<sup>106</sup> The Intermediate People's Court of Chongqing is one of four Intermediate People's Courts having jurisdiction over patent disputes pursuant to the approval of the Supreme People's Court. The other three courts are the Dalian, Wenzou, and Fustian Intermediate People's Courts. *See* Zhipai, *supra* note 94, at 481 n.11.

<sup>107</sup> *See* *Glaxo vs. South-West Pharmaceutical Factory*, *supra* note 104.

<sup>108</sup> *Id.*

<sup>109</sup> *Id.*

<sup>110</sup> *Id.*

<sup>111</sup> *Id.*

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*



### B. *Patent Validity Issues*

American patent law provides for administrative reexamination of challenged patents.<sup>114</sup> Similarly, under China's patent law, the PRB may consider the validity of an issued patent and may declare the patent invalid.<sup>115</sup> Although the prior version of the law held that decisions of the PRB were final, the most recent revisions permit the losing party to appeal to the People's Court within three months of notification of the decision.<sup>116</sup>

Significant differences exist between American and Chinese patent law regarding the determination of patent validity in patent infringement actions. In American patent cases, the accused infringer typically attacks the patent's validity at trial before the same court or jury hearing the infringement and damages issues.<sup>117</sup> It is also possible for the accused infringer to seek to initiate a reexamination proceeding in the U.S. Patent and Trademark Office after the patent litigation commences;<sup>118</sup> however, the trial court may use its discretion to determine whether to stay the patent litigation until the validity issues are resolved by patent reexamination.<sup>119</sup>

Under China's patent law a party may challenge an issued patent at any time.<sup>120</sup> Thus, an accused infringer seeking to delay the resolution of a pending patent infringement action may request an invalidity determination by the PRB.<sup>121</sup> However, such delays are more rare in the case of invention patents than utility models or design patents because such patents have already been substantively examined prior to being granted.<sup>122</sup>

The interplay of the judicial and administrative processes in the patent litigation context in China is illustrated by the case of *Buhler A.G. v. Patent Reexamination Board*.<sup>123</sup> The Swiss company Buhler obtained a Chinese patent for an apparatus and method for milling cereals. Two Chinese companies thereafter requested the PRB to invalidate the patent, and the PRB subsequently found the patent invalid because the claimed invention

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<sup>114</sup> See 35 U.S.C. §§ 301-307 (1994 & Supp V 1999).

<sup>115</sup> CPL, *supra* note 47, art. 46.

<sup>116</sup> *Id.*

<sup>117</sup> See discussion *supra* Part III.A.

<sup>118</sup> 35 U.S.C. § 302 (Supp. V 1999).

<sup>119</sup> See, e.g., *Gardco Mfg., Inc. v. Herst Lighting Co.*, 820 F.2d 1209 (Fed. Cir. 1987).

<sup>120</sup> CPL, *supra* note 47, art. 45.

<sup>121</sup> Interview with Kan Zu, *supra* note 5; see also Xintian, *supra* note 24, at 256-57.

<sup>122</sup> See Xintian, *supra* note 24, at 256-57.

<sup>123</sup> *Buhler A.G. v. Patent Reexamination Board* (Higher People's Court of Beijing Municipality), described in *Buhler A.G. vs. China Patent Reexamination Board*, CHINA PATENT AGENT (H.K.) LTD., at <http://www.cpahkLtd.com/Publications/Cases/Ebuhle.html>.

lacked inventiveness.<sup>124</sup> Buhler then instituted an administrative proceeding against the PRB's invalidity decision in the First Intermediate People's Court of Beijing Municipality.<sup>125</sup> The First Intermediate People's Court affirmed the invalidity judgment of the PRB, and Buhler then appealed to the Beijing Higher People's Court. The Higher People's Court ultimately affirmed the invalidity decisions of the PRB and the lower court.<sup>126</sup>

### C. *Obtaining Injunctive Relief*

Under American patent law, a patentee may obtain preliminary and permanent injunctive relief to prevent the continued violation of patent rights.<sup>127</sup> China's patent law also provides that a preliminary injunction may be obtained upon "reasonable evidence" of infringement or imminent infringement, and that a delay in stopping such infringement is likely to cause irreparable harm.<sup>128</sup> Similarly, if an administrative patent action is brought, the administrative patent authority is empowered to immediately enjoin acts of patent infringement.<sup>129</sup>

### D. *Patent Damages*

American patent damages must be "adequate to compensate [the claimant] for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer . . ."<sup>130</sup> The "adequate to compensate" measure of damages is typically calculated as the patentee's lost profits due to the infringing activities.<sup>131</sup> The court may enlarge damages up to triple damages at its discretion, especially in cases of willful infringement.<sup>132</sup>

In China, patent damages are determined "according to the losses suffered by the patentee or the profits gained by the infringer out of the

<sup>124</sup> See discussion *supra* Part III.B.

<sup>125</sup> For patent administrative disputes relating to the invalidation of a granted patent, the Beijing Municipality First Intermediate Court has jurisdiction as the trial court because the Patent Reexamination Board and the Chinese Patent Office reside in Beijing, and the Beijing Higher People's Court has appellate jurisdiction in such cases. Zhipei, *supra* note 94, at 481.

<sup>126</sup> See *Buhler A.G. vs. China Patent Reexamination Board*, *supra* note 123.

<sup>127</sup> 35 U.S.C. § 283 (Supp. V 1999).

<sup>128</sup> CPL, *supra* note 47, art. 61.

<sup>129</sup> *Id.* art. 57.

<sup>130</sup> 35 U.S.C. § 284 (Supp. V 1999).

<sup>131</sup> See, e.g., *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1326 (Fed. Cir. 1987).

<sup>132</sup> 35 U.S.C. § 284; see, e.g., *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895, 902 (Fed. Cir. 1986).

infringement.”<sup>133</sup> The new patent law has also been amended to provide that where damages are difficult to quantify an acceptable alternative is “the appropriate times of the licensing royalties for licenses for the said patent.”<sup>134</sup> Given the unavailability of pretrial discovery, this provision will presumably make it easier for the patentee to prove damages.

China’s patent law also prohibits the “passing off” of patent rights.<sup>135</sup> If a person “passes off” another’s patent (this means making a false representation as to the ownership or authority to use another’s patent rights), the illegal income received shall be confiscated, and may be coupled with a fine of up to three times the illegal income.<sup>136</sup> If there is no illegal income, a fine of no more than RMB 50,000 yuan may be imposed.<sup>137</sup> Moreover, prosecution is mandated for criminal infringement.<sup>138</sup> Similarly, if a non-patented product or process is passed off as patented, a fine of no more than RMB 50,000 yuan may be imposed.<sup>139</sup> These acts of patent fraud are outside the scope of American patent law.

#### *E. Compulsory Licensing Issues*

Another critical distinction between the patent laws of the United States and China is that, unlike the United States, China permits compulsory licensing of patents under certain circumstances despite the patentee’s refusal to otherwise grant a license. Conversely, under American patent law, with certain narrow exceptions, the patentee has the absolute right to refuse to license or otherwise permit others to practice the patented invention.<sup>140</sup> Under China’s patent law:

Where any entity which is qualified to exploit the invention or utility model has made requests for authorization from the patentee of an invention or utility model to exploit its or his patent on reasonable terms and such efforts have not been successful within a reasonable period of time, the patent administrative organ under the State Council may, upon the

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<sup>133</sup> CPL, *supra* note 47, art. 60.

<sup>134</sup> *Id.*

<sup>135</sup> *Id.* art. 58.

<sup>136</sup> *Id.*

<sup>137</sup> *Id.*

<sup>138</sup> *Id.*

<sup>139</sup> *Id.* art. 59.

<sup>140</sup> For example, in the interest of public health a court may deny injunctive relief in a patent case to protect the public interest. *See Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1547-48 (Fed. Cir. 1995).

application of that entity, grant a compulsory license to exploit the patent for invention or utility model.<sup>141</sup>

The party seeking the compulsory license bears the burden of proving that it has been unable to obtain a license from the patentee on reasonable terms.<sup>142</sup> The agency granting the compulsory license must limit the duration and scope of the license based upon the contents of the application.<sup>143</sup> The license may be terminated by the agency upon the request of the patentee if the circumstances justifying the compulsory license cease to exist and are unlikely to recur.<sup>144</sup> The compulsory licensee is not entitled to an exclusive license, and may not sub-license the compulsory license to others.<sup>145</sup> The patentee is entitled to a "reasonable exploitation fee" from the compulsory licensee, which is to be arrived at by consultation between the patentee and compulsory licensee.<sup>146</sup> If the parties cannot reach agreement regarding the fee, the patent administrative organ will determine the fee.<sup>147</sup> If the patentee is dissatisfied with either: (i) the granting of a compulsory license; or (ii) the adjudicated fee, the patentee may institute proceedings in the Beijing First Intermediate People's Court.<sup>148</sup> A compulsory license may also be granted by the administrative patent organ "[w]here a national emergency or any extraordinary state of affairs occurs, or where the public interest so requires . . . ."<sup>149</sup>

As a practical matter, American patentees in China cannot avoid compulsory licenses. As one commentator has noted with respect to China's compulsory licensing provisions, "foreign investors holding patent rights should remain wary of obtaining patent rights in China solely for the purpose of suppressing the use of the patented product or process,"<sup>150</sup> because such suppression is likely to bolster the position of an entity seeking a compulsory license.

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<sup>141</sup> CPL, *supra* note 47, art. 48.

<sup>142</sup> *Id.* art. 51.

<sup>143</sup> *Id.* art. 52.

<sup>144</sup> *Id.*

<sup>145</sup> *Id.* art. 53.

<sup>146</sup> *Id.* art. 54.

<sup>147</sup> *Id.*

<sup>148</sup> *Id.* art. 55.

<sup>149</sup> *Id.* art. 49. Similarly, 28 U.S.C. § 1498(a) (Supp. V 1999) permits the U.S. government to "take" a patented invention where warranted by public interest concerns and provide adequate compensation to the patentee. *See King Instruments Corp. v. Perego*, 65 F.3d 941, 950 (Fed. Cir. 1995).

<sup>150</sup> Harrington, *supra* note 2, at 369.

## V. CONCLUSION

China's patent law is generally compatible with its American counterpart. However, there are differences such as China's compulsory licensing scheme and its lack of case law. The latter is particularly troubling, because a lack of precedent invariably leads to inconsistent application of legal principles and a concomitant lack of predictability. Without such predictability, lawyers will continue to have trouble advising their clients regarding patent law matters in China. One possible solution might be to have the major state-sanctioned patent law firms in China prepare a collective "reporter" of patent case law on an ongoing basis. This would greatly aid practicing patent lawyers both in China and abroad.