

# Application of Doctrine of Equivalents and Estoppel Doctrine in Patent Infringement Lawsuits

Sun Hailong & Yao Jianjun

## Brief of the case

The Beijing Shiyi Tuozhan Science & Technology Co., Ltd. (Shiyi) is the patentee of the patent (ZL200420003941.2) granted on 23 February 2005 for the utility model of automatic fire pressure release valve. The granted patent had eight claims. It was concluded in the patent search report produced by the State Intellectual Property Office (SIPO) on 18 August 2006 that claims 1 and 2 of the patent for the automatic fire pressure release valve were contrary to the provision of the Patent Law on novelty or inventiveness. In February 2007, Shiyi sued the Shaanxi San'an Science & Technology Development Co., Ltd. (San'an) in the Beijing No. 1 Intermediate People's Court on the ground that the automatic pressure release port San'an manufactured and marketed had infringed its patent, and later withdrew the suit after San-

'an initiated the invalidation proceedings. During the invalidation proceedings, the Patent Reexamination Board (PRB) declared the automatic fire pressure release valve patent partially invalid on 19 December 2007, and concluded that claim 1 kept valid after amendment was a combination of the original claims 1 - 3: 1) an automatic fire pressure release valve, comprising a valve body and blades placed inside the cavity of said valve body, characterised in that said blades were connected to a drive means; said drive means is a differential pressure control means; said differential pressure control drive means comprising electromagnetic puller and manometric means controlling the movement of said electromagnetic puller, and the connecting bar for pulling of said electromagnetic puller is connected to said blades. The amended claims 2 - 6, the original claims 4 - 8, were dependent claims of claim 1.

On 4 May -2008, San'an sued Shiyi in the Xi'an City Intermediate People's Court, requesting the court to establish that the automatic pressure release port it manufactured did not infringe Shiyi's patent right. Shiyi argued that San'an infringed its patent right, and made counterclaim against San'an, requesting the court to hold San'an liable for ceasing the infringement immediately, making an apology, and paying for the damages at the amount of RMB 500,000 yuan.

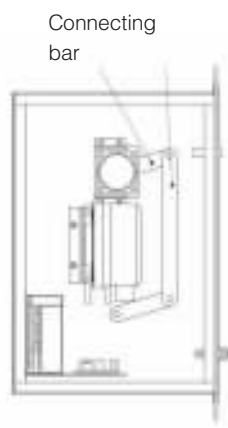
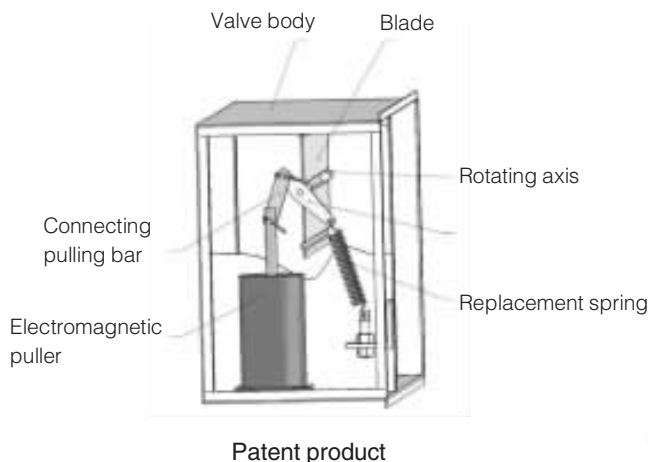
What were at issue in the establishment of infringement in the present case is whether the electromagnetic puller in the patent is a equivalent substitution, with feature, for the electric motor in San'an's product, and whether the connecting bar for pulling in the patent and the synchronous connecting bar in San'an's product are identical or equivalent technical feature.

### Court's judgment

Upon hearing the case, the Xi'an City Intermediate People's Court concluded that Shiyi claimed that San'an infringed its patent right and, according to the same fact, requested San'an to cease the infringement after San'an instituting a suit for declaratory judgment, and Shiyi's claim, conforming to the elements of counterclaim, was acceptable. The literal description of the technical features 3 and 4 of the automatic pressure release port San'an manufactured and marketed were different from the corresponding patented ones of Shiyi; therefore, the automatic pressure release port San'an manufactured did not infringe Shiyi's patent (ZL200420003941.2). Besides, San'an argued for application of the estoppel doctrine in the present case. However,

according to the principles underlying the Patent Law, only in the presence of infringement by equivalents is application of the estoppel doctrine considered. In the absence of infringement with equivalents in the presence case, it was unnecessary to consider applying the estoppel doctrine. To take a step back, even if the technical feature of the electric motor in the allegedly infringing product was indeed equivalent to the technical feature of the patent, treating the electromagnetic puller as equivalent to electric motor was contrary to the estoppel doctrine. That is, Shiyi was not in a position to claim constitution of the patent infringement on the ground of equivalents, and its counterclaim was not supported by the court. As for Shiyi's request for judicial appraisal to decide whether San'an's product constituted an infringement, the court took the view that since whether the allegedly infringing product constituted an infringement was a matter of law, and the technical matters involved in the case were not so complicated, the court was fully capable of independently deciding the matter on the basis of the two parties' views presented in the debate and cross-examination, so it did not support Shiyi's request for appraisal. Accordingly, the court made the decision that the product, the SAXD-type automatic pressure release port San'an manufactured and marketed, did not infringe Shiyi's utility model patent (ZL200420003941.2) for the automatic fire pressure release valve, and rejected Shiyi's litigant claims.

After the first-instance judgment was rendered, Shiyi appealed out of dissatisfaction. The Shaanxi Province Higher People's Court decided, in the second-instance judgment, to have rejected the appeal and upheld the original judgment.



**Accused infringing product**

## Judges' comments

### (I) Patentee is entitled to making counterclaim in litigation for declamatory judgment

In its Notification on Designated Jurisdiction over the Honda v. Shijiazhuang Shuanghuan Auto Co., Ltd and Beijing Xuyang Hengxing Trade Co., Ltd., the Supreme People's Court pointed out that "litigation for declamatory judgment and patent infringement litigation involving the same facts are separate lawsuits two interested parties institute respectively in different stages in the course of dispute for the purpose of protecting their own rights and interests under the Civil Procedure Law. One party's litigation for declamatory judgment should not be absorbed in the other because the opposite party has separately sued against patent infringement<sup>1</sup>. This shows that litigation for declamatory judgment and that against infringement are independent of each other. After the accused infringer brings an action for declamatory judgment, the rightholder is entitled to instituting an infringement action. But it is worth noting that no express direction is given in the laws on whether it is possible to make counterclaim against litigation for declamatory judgment. It may be concluded from the above explanation and the condition for making counterclaim that the defendant (patentee) should be allowed to make counterclaim on the ground of patent infringement after an accused infringer brings an action for declamatory judgment for the following reasons. First, in an action for declamatory judgment, the plaintiff makes a declamatory claim, and the defendant makes an infringement counterclaim for establishment of infringement and damages; the defendant also claims damages after its claim is set off with the plaintiff's claim. This shows that the principal claim and counterclaim are mutually involved as required, which differs from the patent infringement litigation in which, if the defendant makes counterclaim on the ground of non-infringement, given that such litigation is not acceptable in which counterclaiming plaintiff's claims for damages from the defendant, this makes it impossible for the counterclaiming plaintiff's claim to fully set off the claim made by the defendant who also makes counterclaim. Next, if the plaintiff institutes an action against a defendant in Court A for declamatory judgment, and later the latter sues the plaintiff in Court B for patent infringement, it is necessary, according to the Supreme People's Court's provision, to transfer the case accepted by Court B to Court A for it to hear the cases together since the latter has placed the case on docket for trial first to

avoid contradictory judgments. The transfer of the case accepted by Court B to Court A is equal to the defendant's counterclaim against the plaintiff. Besides, allowing a defendant to make counterclaim on the ground of patent infringement will save judicial resources and reduce repeated suits, and avoid different judgments in one case. Besides, this practice would make trial convenient to proceed for both parties. For one court to hear the principal claim and counterclaim together will improve the efficiency of court trial, reduce repeated judgments and prevent misjudgment. For the above reasons, the writers take the view that it is in line with the requirement of counterclaim, in litigation for declamatory judgment, for a defendant to make counterclaim, and there exist no legal obstacles in terms of jurisprudence and procedure law for the rightholder to make counterclaim. Therefore, after the accused infringer sues for declamatory judgment, where the rightholder makes counterclaim based on the same fact or brings infringement litigation in another court, the court should accept the suit according to the law. Specifically, in the present case, Shiyi brought a patent infringement suit on the basis of the same facts, requesting San'an to cease infringement and pay damages after San'an sued for declamatory judgment, which complied with the elements of counterclaim. Therefore, the court should accept the counterclaim Shiyi made during the court trial of the present case under the law.

### (II) Method of finding patent infringement

Finding patent infringement involves comparison of the claims of a patent with allegedly infringing article. The claims of patent are the benchmark central to finding patent infringement; the features of the claims are broken down to determine the number and meaning of the technical features contained in the claims; the technical features and the allegedly infringing article are analysed and compared with each other to find out whether the allegedly infringing article contains identical or corresponding, though non-identical, technical features; a conclusion is drawn upon comparison of each and every technical feature according to the principles underlying claim construction and the law provisions; and finally, presence of exception to law is looked into, so as to establish the infringement. The present case involves the application of the doctrine of equivalents and estoppel doctrine, and the issue of the relation between claim construction and estoppel doctrine. Therefore, this article will be presenting an analysis of these issues.

1. Whether the doctrine of equivalents applies to the

present case

By the doctrine of equivalents is meant that, one or more technical features in an allegedly infringing article seem literally different from the claimed technical features of the independent claim of the patent involved, but, an analysis makes it possible to find them equivalent technical features<sup>2</sup>. The Supreme People's Court has made the regulatory framework concerning application of the doctrine of equivalents in its pertinent judicial interpretation<sup>3</sup>. The provision of Article 59, paragraph one, of the new Patent Law that "the extent of protection of the patent right for invention or utility model shall be determined by the terms of the claims" means that the extent of protection of the patent right should be determined by the scope specified by the essential technical features the claim expressly presents, including the extent as determined with the feature equivalent to said essential technical feature<sup>4</sup>. By equivalent feature is meant that, while by comparison a certain technical feature of the technology the accused infringer exploits is different from the corresponding technical feature as presented in the claims of the invention or utility model patent at issue, one skilled in the art can realise, without undue burden, that the corresponding feature uses substantially the same means, performs substantially the same function, and produces substantially the same effect through reading the description, appended drawings and claims of the patent when infringement occurs. In applying the doctrine of equivalents, it should be noted that the equivalents refer to equivalents between each specific technical feature, and determination thereof should not be made by putting together several technical features; the doctrine of equivalents, being a supplementary one in respect to literal infringement, is generally applicable to substitution of equivalent feature resulting from technological progress; an altered feature of the technical features of the claims are obvious to one skilled in the art on the date of filing of the patent. Where an applicant does not put the altered feature in the claim, and the patentee argues

for application of the doctrine of equivalents to said altered feature for finding equivalent feature, his argument should not be supported; it is impossible to accurately present the substitution of equivalent feature because of the language limitation *per se*; neither the patentee, nor one skilled in the art, can objectively predict the substitution on the date of filing. Specifically, in the present case, the technical features of the independent claim of the patent for the automatic fire pressure release valve are identical with the corresponding features 1 and 2 of the automatic pressure release port means San'an manufactured and marketed; features 3 and 4 are literally different; hence, it is necessary to analyse whether the doctrine of equivalents is applicable thereto. Table 1 below and Table 2 on the next page present a comparison between and analysis of, respectively, the electromagnetic puller of the patent in suit and the electric motor, and the connecting bar for pulling and synchronous connecting bar.

Table 1 and Table 2 show that the electromagnetic puller and electric motor, and the connecting bar for pulling and synchronous connecting bar are not equivalently substituted, and the doctrine of equivalents does not apply.

## 2. Relationship between application of estoppel doctrine and claim construction

By the estoppel doctrine is meant that in the patent examination or invalidation proceedings, an applicant or patentee limits or partially abandons the extent of protection of claims to secure patentability by virtue of written statement or amendment of the patent documents, and to consequently obtain the patent right or have its patent right kept valid. In patent infringement litigation, when the doctrine of equivalents applies to the determination of the scope of protection of the patent, the court should prohibit the patentee from re-incorporate in the scope of protection of the patent what has been limited, removed or abandoned<sup>5</sup>. It is thus shown that the estoppel doctrine limits the application of the doctrine of equivalents, or in other words, the two may be said to closely

**Table 1 Analysis of whether the electromagnetic puller is equivalent to the electric motor**

Title	Means	Function	Effect
Electro-magnetic puller	Output linear motion	Performing linear motion	Converting linear motion into rotary motion with the connecting bar for pulling and poking bar
Electric motor	Output rotary motion	Performing rotary motion	Directly achieving effect of rotary motion
Substantially identical or not	Not	Not	Not

follow each other: if the doctrine of equivalents is tenable, the presence of estoppel must be considered. For this reason, when the Patent Law was under amendment for the third time, both the doctrine of equivalents and estoppel doctrine are incorporated in the Amendment, and it was in the end that the legislators did not agree to put the former in the Patent Law. Since the two are mutually complementary, it is unnecessary to incorporate the estoppel doctrine alone in the Patent Law.

In this article, since the court found no constitution of the doctrine of equivalents, there exists no precondition for the application of estoppel doctrine. But how to deal with amendments a patentee makes in the invalidation proceedings and on what ground the PRB keep the patent right valid are issues worth looking into.

While the estoppel doctrine limits the doctrine of equivalents, it has another important value in construing the claims. We know that the patent infringement lawsuit is actually “a game of the claims”. Claim construction is a matter of law in such lawsuits, and must proceed under the auspice of the court in accordance with the relevant provisions of, and principles underlying, the Patent Law. In Article 3 of the Interpretation of Several Issues Relating to Application of Law to Trial of Cases of Dispute over Patent Rights Infringement, the Supreme People’s Court provides that the people’s court may construe the claims according to the description and appended drawings, relevant claims of the claims and the patent prosecution history. This provision regards the “patent prosecution history” as a source for claim construction and further supplement to the provision of Article 59 of the Patent Law that the description and drawings may be used for claim construction. The Supreme People’s Court’s provision is of great significance in guiding the trial of patent

cases.

In the present case, while the precondition for direct application of the estoppel doctrine is not met, the patentee’s amendment made in the patent invalidation proceedings and the PRB’s decision based on it are of great significance to the claim construction. The patent in suit went through the patent invalidation proceedings in 2007. Shiyi amended the claims, in the proceedings, by deleting the original claims 1 and 2 and keeping the other claims, taking the original claim 3 as new independent claim 1. In the amended claim 1, the “driving means”, being of a generic concept, was changed into “electromagnetic puller”, a specific concept. The generic concept “driving means” clearly includes “electric motor”, but the specific concept of “electromagnetic puller” is not on a par with “electric motor”. The former moves up and down while the latter rotates; hence it was impossible for the patentee to construe the former as the latter based on the amendment made. It is also worth noting that in its Decision No. 10846, the PRB pointed out, as the main points, that if analysis of the technical solution of the product claim of a utility model shows that the parts of said solution are known and the technical solution combines them with each other in a way not disclosed in the prior art, it produces a new function and technical effect, said product claim possesses inventiveness.”

While “the parts of the claims are known”, they are combined with each other in a way not disclosed in the prior art”. This shows that the point of the invention of the patent in suit lies in a “new connection”. In other words, any solution of a different composition and connection does not constitute an infringement of the patent in suit.

Thus, as the above claim construction with the patent prosecution history shows, the patent prosecution history has

**Table 2 Analysis of whether the connecting bar for pulling is equivalent to the synchronous connecting bar**

Title	Means	Function	Effect
Connecting bar for pulling	Connecting electromagnetic puller with blades; transmitting power and motion to blades together with poking bar	Conversion from linear motion to rotary motion can be achieved only by connecting the two ends of synchronous connecting bar with the output shaft of electromagnetic puller and blades	It must be through the connecting bar for pulling for electromagnetic puller to drive the blades
Synchronous connecting bar	Having no function to connect electric motor with blades; no transmitting power and motion to blades	Driving the first blade and the second blade to rotate synchronously; the first blade may rotate without synchronous connecting bar	Electric motor may drive blades without synchronous connecting bar
Substantially identical or not	Not	Not	Not

a function to specify the technical solution of the claims. This shows that the patent prosecution history serves as a reference for application of the estoppel doctrine, and, more importantly, an important documentation for claim construction. While the present case did not involve determination of whether to apply the estoppel doctrine, as the role of the patent prosecution history in claim construction shows, the conclusion finding no patent infringement has stood a variety of tests.

Thus, we should attach more importance to the role of patent prosecution history in claim construction to better read the extent of the protection claimed. Any other technical solution obviously falling outside the extent of protection may be directly determined as not constituting an patent infringement.

It is even worth pointing out that as for the estoppel doctrine, when a party's duty and ability to adduce evidence are involved, the court generally does not make examination on its own. With an accused infringer having poor ability to adduce evidence, the court needs to explain this to the other party lest he or it would believe that the court was biased. By contrast, claim construction with patent prosecution history is a determination of a matter of law, and it is where the court's trial responsibility resides. Therefore, the writers believe that, in its judicial practice, the court's requiring a party to meet his burden of proof, ascertaining the patent prosecution history, and correctly constructing the claim will help make correct conclusion, improve the efficiency of court trial, and enhance public trust in the court.

### (III) Issue of judicial appraisal

Ascertainment of facts and application of law are two fundamental issues in trial of patent lawsuits. It is a judge's duty to address the matter of application of law, and any matter of law should not be addressed by anyone other than the judge himself. Judicial appraisal should be limited to addressing "matter of facts" in the course of trial, and does not involve any determination of application of law. This is a conventional rule for judicial appraisal in the civil law countries. For the writers, examining evidence and proofs, developing intuitive determination, ascertaining facts of law, identifying applicable laws and regulations and making a decision are a full logical process for a judge to exercise his judicial adjudicative power. Confusion of the "matter of facts" with the "matter of law" during appraisal entrusted and outsource of the work on facts ascertainment and application of law that should be done by the court are equal to leaving the entire

judicial trial reasoning process from facts ascertainment and application of law to an appraisal organisation. Only when a judge is incapable of ascertaining the matter of facts, and he can understand the matter with the help of science and technology and other special knowledge, would the matter be left to be addressed by an appraisal organization. In the practice, the legal matter of whether the allegedly infringing product constitutes an infringement should not be appraised by an appraisal organisation. Meanwhile, Shiyi expressly said, in the second-instance trial, that it would not apply for appraisal, and it was right for the first-instance court not to have entrusted the appraisal. ■

The authors:

Sun Hailong, full-time member of the Adjudication Board of the Chongqing Municipal Higher People's Court;

Yao Jianjun, Director of the Research Office of the Xi'an City Intermediate People's Court

<sup>1</sup> See the Intellectual Property Code, the Publishing House of Law, 2008, P. 609.

<sup>2</sup> He Zhonglin, Several Fundamental Issues of Application of Law in Patent Infringement Establishment, the Patent Law Research, 2007, P. 352.

<sup>3</sup> See Article 7 of the Interpretation of Several Issues Relating to Application of Law to Trial of Cases of Dispute over Patent Rights passed by the Supreme People's Court on 21 December 2009.

<sup>4</sup> See Article 17 of the Supreme People's Court's the Interpretation of Several Issues Relating to Application of Law to Trial of Cases of Dispute over Patent Rights the first paragraph "the extent of protection of the patent right for invention or utility model shall be determined by the terms of the claims. The description and the appended drawings may be used to interpret the claims" of Article 56 of the Patent Law means that the extent of protection of the patent right should be determined by the essential technical features expressly stated in the claims, including the extent as determined by the features equivalent to the essential technical features.

The equivalent features refer to the features which use substantially the same means, perform substantially the same function, and produce substantially the same effect as the stated technical features and which can be contemplated by an ordinarily skilled artisan in the art without undue burden.

<sup>5</sup> It is pointed out in the Supreme People's Court's Opinions on Several Issues Relating to Trial of IP cases in the Current Economic Situation issued on 24 April 2009 that as for any substantive surrender or limitation by a rightholder in the patent grant and affirmation procedure, the estoppel doctrine shall apply in an infringement litigation, and the relevant technical information shall not be incorporated in the claims.