Equivalent Doctrine in China

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In China in which the statutory laws are adopted, the Patent Law and the Implementing Regulations of the Patent Law do not provide for the equivalent doctrine from 1985 when the patent system was instituted. Only the Supreme People's Court has provided for, and interpreted, the equivalent doctrine and its application in the form of judicial interpretation in 2001. In spite of all these, the courts in China have never ceased applying the equivalent doctrine in their judicial practice, which has made the application of the equivalent doctrine always controversial and uncertain.

In this article an overview of the development of the equivalent doctrine in China is presented with reference to some significant events and classic cases.

On the whole, the equivalent doctrine has undergone these stages of development:

I. 1985 -1995: Introduction of the equivalent doctrine

The provision on the extent of protection of patent in the first Patent Law as of 1985 was that "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", and this provision remained literally unchanged in the amended Patent Laws as of 1993 and 2001.

In the first seven to eight years after the Patent Law entered into force, the Patent Office received and granted tens and thousands of patent applications, and the courts heard some patent-related cases, which were not numerically many, nor difficult to deal with since most of these enforced patents were patents for utility model and designs; and few of them were cases involving application of the equivalent doctrine. In addition, most theoretic treatises were focused on research of the substantive requirements for patent grant, examination proceedings and patent system, and those on the equivalent doctrine were rare.

1. Blue Book No.7

For the first time ever, the equivalent doctrine was mentioned in an official document, namely in the Intellectual Property System in China (also known as Blue Book No.7 on Science and Technology in China)[1], in which the provision of the Patent Law "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" was interpreted as follows:

(1) The claims should be construed on the basis of the terms of the claims, not on the wording of the claims. The substantial terms of the claims should be identified with reference to the description and appended drawings with full account taken of the object, function and effect of the invention or utility model;

(2) The extent of protection of a patent should not be determined on the basis of the description and appended drawings. The description and appended drawings are important to claim construction, but the extent of protection of a patent should not be determined on the basis thereof. If the technical conception of a patent is fully disclosed, described or embodied in the description and appended drawings, but not stated in the claims, it does not fall within the extent of protection of the patent, nor is it permissible to incorporate it in the extent of protection of the patent when the claims are construed. If the technical information in the claims is not exactly identical with what is described or embodied in the description or appended drawings, then the claims prevail. What is stated in the description or appended drawings should not be used to "correct" what the claims recite. When the technical content of the description or appended drawings is broad and the extent of protection of the claims is narrow, the extent of protection of the patent should, in principle, be determined by the relatively narrow technical content contained in the claims.

(3) To make the substantial terms of the claims clearly understood, the description and appended drawings should be referred to and studied, so as to identify the object, function and effect of the invention or utility model. This reference and understanding should not be passive, that is, the description is referred to only in the presence of places of

unclarity in the claims. Rather, they should be active in that reference to the description and appended drawings is made from the very start to understand the substantial terms of the claims. Besides, to make clear the substantial terms of the claims, if necessary, the communications between the applicant and the Patent Office in the course of the application for the patent may also be referred to, particularly those the patentee accepted, recognised, confirmed or surrender in the documents, and the patentee should not be allowed to recapture what he/it surrendered so as to accuse another party of infringement.

In claim construction, the legislators in China eventually choose the equitable "compromise" when faced with the choice between the central determinism in favour of patentees and the peripheral determinism in favour of the public at large. Without any doubt, this has paved the way for the application of the equivalent doctrine in China. According to the compromise doctrine, the extent of protection of an invention or a utility model patent essentially consists of two parts: 1) that as determined literally by the claims (namely the extent of protection of the patent as determined according to the peripheral determinism); and 2) that as determined according to the equivalent doctrine.

As for the equivalent doctrine, it is stated in the section of the Blue Book on the Judicial Protection of Intellectual Property that "under the patent system in China, the equivalent doctrine is adopted, which is a common practice worldwide to determine whether a technology in suit falls within the extent of protection of a patented technology. By the equivalent doctrine is meant that to achieve the same object of invention, the technical means adopted are substantially the same, so are the function performed and effect achieved, and that the technical means are that an ordinarily skilled artisan can contemplate upon reading the description and appended drawings without undue intellectual burden should be deemed to have fallen within the extent of protection of the patent". The tripartite test of "means-function-effect" are something we have learned from the principle as established by the US Supreme Court in the "Graver Tank" case in 1950.

In the Blue Book No.7 are presented the main circumstances to be considered in establishment of infringement in the light of the equivalent doctrine in the judicial practice as follows:

(1) re-location of the parts of a product or change in the order of steps of a process;

(2) equivalent substitution;

(3) deletion of non-essential technical features; and

(4) disintegration or integration of technical features.

2. Case of infringement of Zhou Lin's patent for frequency spectrograph instrument

A typical case of the kind in the period is Zhou Lin v. the Beijing Huaao Electronic Medical Instruments Co., Ltd. (Huaao for short) and Beijing Aomei Optico-mechanic-electric Union Development Corporation (Aomei for short). During the infringement procedure, the defendants requested the Patent Reexamination Board (PRB) to invalidate the patent for frequency spectrograph in suit. During the patent invalidation proceedings, the following were determined as the claimed subject matter of the new instrument of frequency spectrograph:

A therapeutic apparatus of human frequency spectrograph matching effect field, comprising effect field generator base body (13) made of ordinary heat-resistant and insulating material, on said effect field generator base body (13) are deposited the material energy-replacement layer (12) made of material made in a given ratio in the high-temperature solution method, energy-replacement circuit and mechanic support and protective system of the heating parts, and the movable fixed connection between the mechanic parts of specific structure used in conjunction with the effect field and the whole set of the apparatus, characterised in that:

a. on said energy-replacement layer (12) is deposited the simulated human frequency spectrograph generating layer (11) of thick film layer made of "magnesium oxide", "iron oxide", "molybdenum oxide", "zinc oxide", "lithium oxide", "cuprous oxide", "titanium oxide", "strontium oxide", "chromium hemitrioxide", "cobaltous oxide", "vanadium oxide", "metal chromium", "lanthanum and other mixed rare earth element material", in the ratio of "magnesium oxide": "iron oxide": "molybdenum oxide": "molybdenum oxide": "lithium oxide": "cuprous oxide": "titanium oxide": "strontium oxide": "chromium hemitrioxide": "cobaltous oxide": "vanadium oxide": "metal chromium", "lanthana and other mixed rare earth element material"= (0.5-8):(7-30):(0-6):(0.6-5):(1-17):(0-4):(1-7):(0-7):(0-5.5):(25-85):(0-5):(0-10):(0.5-4):(0-40), and

b. the stereo play system and music current acupuncture point stimulator and their circuit are installed inside the frequency spectrograph set.

The defendants argue that the alleged infringing frequency spectrograph instrument is not an infringing product

since the content and ingredients of the metal oxides therein are different from feature (a) of the claim and it lacks the feature (b) of the claim, while the patentee stresses during the patent invalidation proceedings that said feature is an essential technical feature distinguishing the patent from the prior art, has the substantial, indispensable function and use for the invention, and contributes to the effect of the invention.

After the trial of the case of first and second instances, the second-instance court upheld the ruling by the first-instance court. The second-instance court, the Beijing Higher People's Court, takes the view that:

Zhou Lin's patent is a combination invention. Its second independent claim comprises seven technical features, namely (1) effect field generating base body; (2) the energy-replacement layer on the base body; (3) energy replacement control circuit; (4) mechanic support and protective system of the heating parts; (5) mechanic parts; (6) the simulated human frequency spectrograph generating layer on the energy replacement layer made of 14 ingredients and their content, including the metal oxides, metal chromium and lanthanum and other mixed rare earth element material; (7) the stereo play system and music current acupuncture point stimulator and their control circuit. Technical features (1) to (6) have determined the extent of protection of the patent for the frequency spectrograph therapeutic instrument. Technical feature (7), though recited in the independent claim, indeed does not have the substantial, indispensable function and use as is shown in the description of the patent and by the nature of the whole technical solution of the patent. The feature obviously results from the wrong understanding of the applicant and his lack of experience in drafting the patent application documents, and should be deemed to be an non-essential technical feature. The alleged infringing product "wave spectrograph therapeutic instrument" comprises technical features (1) to (5), not technical feature (7), and light filter layer, the kernel part of the "wave spectrograph therapeutic instrument" is different from the technical feature (6).

The "wave spectrograph therapeutic instrument" contains the chromium hemitrioxide, iron oxide and magnesium oxide of the seven essential components of Zhou Lin's patent, wherein it contains 39.9% chromium hemitrioxide, falling within the range of content (25-85%) of the Zhou Lin's patent; 4.9% iron oxide, close to content range (7-30%) of Zhou Lin's patent; 0.1% of magnesium oxide, falling outside of the content range (0.5-8%) of Zhou Lin's patent. Obviously, only in terms of ingredients, both the light filter layer of the "wave spectrograph therapeutic instrument" and Zhou Lin's patented simulated human frequency spectrograph generating layer have chromium hemitrioxide and iron oxide as the main elements, with the same or substantially the same content, and, meanwhile, with the some but not substantial difference, which can be achieved by an ordinarily skilled artisan without undue burden. For this reason, the difference of the "wave spectrograph therapeutic instrument" from the patented frequency spectrograph therapeutic apparatus in the components of the ingredients in the simulated human frequency spectrograph generating layer and in the content of these ingredients, in essence, is a substitution of means that are of equivalent effect technically. Since the alleged infringing product, the "wave spectrograph therapeutic instrument", is identical or consistent with the technical solution defined by the second independent claim of Zhou Lin's patent for the frequency spectrograph therapeutic instrument in the object of invention and in technical effect, and there exists substitution of equivalent effect between some technical features of the former and those of the latter, the two are equivalent technical solutions, that is, the former falls within the extent of protection of the second independent claim of Zhou Lin's patent 87103603, and it constitutes an infringement.

In the ruling, not only the difference in the ingredients and contents of distinctive feature (a) is deemed to be equivalent, but also the distinctive feature (b) is determined as an non-essential (extra-designated) feature, so the alleged infringing product as a whole is held equivalent to the claims, and falls within the extent of protection of the claims of the patent in suit.

This case marks the beginning of the application the equivalent doctrine in patent lawsuit, and the court ruling is encouraging to patentees.

II. 1996-2000: See the equivalent doctrine in a new light

In this period, two influential events took place.

First, the Supreme People's Court set up, in October 1996, the Intellectual Property Tribunal (the present Third Civil Tribunal) devoted to the second-instance trial and re-trial of important IP-related cases and to the provision of guidance to the IP trial nationwide. This measure indicated that the work on IP trial in China has embarked on a route of pro-

fessionalism.

Second, a series of important patent trial doctrines were established in the trial of the case Warner-Jankinson by the US Supreme Court, which had had impact on the patent court trial in China.

If we say that the equivalent doctrine was used more or less in favour of the patentees in the judicial practice in the early years, the judges in China seriously thought about the restricted application of the equivalent doctrine in this period.

The case of infringement of patent for Chuangge Computer

The plaintiffs, the Shezhen Chuangge Science and Technology Industrial Co., Ltd. (Chuangge for short) and Ma Xiguan, v. US Compaq Computer Inc. (Compaq), a case of dispute arising from infringement of a patent for utility model, was accepted by the court in June 1998. After that, the defendant filed a request for invalidation. In April 2000, the Patent Reexamination Board (PRB) made its decision on the request for invalidation, keeping the claims of the patent valid, and in December 2000, the Beijing Higher People's Court rendered the final ruling.

The independent claim of the plaintiff's patent goes like this:

A computer having replacable batteries and extension card plug-in groove, comprising a main computer part, one or more sets of batteries and one or more extension card sets, wherein on the edge of the back of the computer are deposited two plug-in grooves of the size fit for the battery set or sets and extension card set or sets to plug in; inside the plug-in grooves are provided points of connection in the places matching the points for connecting the battery sets for the conduction of the circuit; also inside the plug-in grooves is fixed a circuit connection socket connecting to the main line for coupling to the part of connection with the PC board of the particular line stretching out of the battery sets.

During the invalidation proceedings, Chuangge and Ma Xiguan argued that for the inventiveness of the patent, since the patent in suit has two plug-in grooves of exactly the same structure and the battery sets and extension card sets are of exactly the same size, said prior art is different from said technical solution of claim 1 in that the plug-in grooves of the former are not interchangeable, and those in the technical solution of the patent in suit are. It is this distinctive feature that has given the patent in suit the advantageous effect of interchangeability; hence, the patent complies with the provision on inventiveness of the Patent Law. The PRB agreed with them, decided that the claim possessed inventiveness, and upheld the validity of claim 1.

Since a floppy driver and another battery set can be installed in the plug-in groove on the left side of the alleged infringing product Compaq notebook computer ARMADA 1550T and since the floppy driver is generally not taken as extension card, the two are not mutually interchangeable. "In determining the extent of protection of a patent right for utility model, account should be taken of the statement the patentee made to limit the extent of protection of the claims and prevent him/it from recapturing what he/it surrendered in the patent invalidation proceedings"; hence it is decided that the plug-in groove in the alleged infringing product is different from that of claim 1 in function and property, Changge and Ma Xiguan's accusation of infringement is not tenable. The alleged infringing product ARMADA 1550T is neither identical with, nor equivalent to, the technical solution of claim 1, and does not fall within the extent of protection of claim 1 of the patent in suit.

It is worth noting that in the case of Zhou Lin's frequency spectrograph instrument, in its application of the equivalent doctrine to the decision on the patent infringement, the court in Beijing seemed not to have substantially considered the observations the patentee made for the patentability, nor applied the estoppel doctrine to limit the application of the equivalent doctrine. Unlike that case, the court in Beijing expressly referred to, in the present case, the observations the patentee made to argue for the patentability in the patent examination and approval proceedings to have limited the the patentee's claim for equivalents, and applied the estoppel doctrine to limit the application of the equivalent doctrine. It is also worth noting that the court in Beijing made its final ruling 21 days earlier than the US Federal Circuit of Appeals made its ruling in the case of Festo. For that reason, this ruling sends out a clear message that the courts in China are able to impartially hear cases of patent infringement in the light of the internationally prevalent doctrine.

III. From 2001 to the present: Amplification of laws on the basis of practice

From 2001 on, the equivalent doctrine has been even widely applied in the judicial practice, and the relevant laws

and regulations amplified and improved.

1. The Supreme People's Court's judicial interpretation related to equivalent doctrine

In 2001, the Patent Law and the Implementing Regulations of the Patent Law amended for the second time were put into full implementation. In June of the same year, the Supreme People's Court issued the judicial interpretation of Several Provisions on Issues of Application of Law to the Trial of Patent Dispute Cases,[2] in which Article 17 provides that the extent of protection of the 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" as provided for in Article 56, paragraph one of the Patent Law means that the extent of protection of the patent right should be determined by the essential technical features expressly recorded 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 perform a function and have an effect substantially identical with those of the recorded technical features by substantially identical means and which can be contemplated by an ordinarily skilled artisan in the art without undue burden.

It is alright to say that this marks the acceptance of the equivalent doctrine, for the first time in the statutory law system in China.

2. The Beijing Higher People's Court's guiding opinions on the equivalent doctrine

In September 2001, the Beijing Higher People's Court issued the Opinions on Several Issues Relating to Adjudication of Patent Infringement (Tentative), in which 15 Articles in a whole section set forth relatively comprehensive provisions on the equivalent doctrine and its application. The main points of the Opinions are:

1) inherit the tripartite "means-function-effect" test;

2) state, for the first time, that "an equivalent shall be that of a claimed technical feature, rather than that of the claimed technical solution as a whole", that is, the "all elements rule"; and

3) explicate that the determination is made mainly on the basis of a person ordinarily skilled in the art and the time when an infringement happens.

Besides, in the Opinions a separate section is devoted to the application of the "estoppel" doctrine to limit the equivalent doctrine.

3. Cases reviewed by the Supreme People's Court by applying the equivalent doctrine

In 2001 and 2005, the Supreme People's Court respectively reviewed two patent infringement cases to which the equivalent doctrine was applied.

Case 1: the Ningbo City Dongfang General Apparatus Core Plant (Dongfang) v. Jiangyin Jinling Hardware Co., Ltd. (Jinling)[3]

This case involves the patent for the invention of "a method for forming keys with the tuning board of mechanical resonant apparatus and its device". There are five essential technical features of the key-formation processing device of claim 1 of the patent in suit: 1. a device for forming keys with the tuning board of mechanical resonant apparatus, comprising cutting knife with comb-like seams cut out of flat metal blind board and fixing means for clapping the processed metal blind board; 2. said cutting knife is a cutting knife set in the shape of pagoda formed of a plurality of thin round grinding wheels in the sequence from small to large semi-diametre in a parallel and concentric manner; 3. said blind plate fixing means is a direction plate with comb-like seams, a solid, wear-resistant plate, with each comb-like seam as the direction groove being mutually parallel, evenly distributed and of the same width; 4. said gap between the adjacent knifes of the pagoda-shaped cutting-knife set is more or less the same as the thickness of the direction plate in between the adjacent seams of said direction plate; and 5. the gradient of the grinding wheel of the pagoda-shaped cutting knife set placed according to their semi-diametre is equal to that of the tuning keys of the tuning plate arranged according to their length.

The alleged infringing equipment is of the same subject matter as that of the patented invention in that both are device for forming keys with the tuning board of mechanical resonant apparatus, and all grinding wheels of the pagoda cutting knife set are always imbedded in the direction plate or in the comb-like seam grooves of the shake-proof, position-limiting plate that are mutually parallel, evenly distributed and of the same width to move to and fro to process the blind plate into tuning keys of the specified cutting depth. As for the alleged infringing key-forming device, compared with the five corresponding technical features of the claim of the patent in suit, its technical features 1, 2, 4 and 5 are exactly identical and its technical features 3 is different in that the blind plate of the alleged infringing device is not fixed on the shake-proof, position-limiting plate, (i.e. said direction plate of the claim), but on an additional workpiece towing plate. As

for the alleged infringing key-forming method, compared with the three technical features, its features 1 and 2 are exactly identical and its technical features 3 is different in that the alleged infringing key-forming method is not fixed by being clapped on the shake-proof, position-limiting plate, but on the workpiece towing plate.

After hearing the case in the first instance, the Nanjing Intermediate People's Court held that the turning plate equipment made by Jinling had no direction plate device, so lacked the essential technical feature of the extent of protection of the patent in suit, hence no infringement was constituted.

The second-instance Jiangsu Province Higher People's Court held the following view that:

1) as for the form and structure, the direction plate as stated in the claim of the patent in suit was identical with the position-limiting means of the alleged infringing product;

2) the position-limiting means of the alleged infringing product, though identical with the direction plate of the patented technology in form and structure, was different in the cutting method since in the position-limiting means is missing the essential technical feature of the patented technology that the direction plate could have the blind plate fixed, it changed its position in, and relations with, the other parts of the apparatus, and was thus different in the object, function and effect. Accordingly, the position-limiting means of the alleged infringing product and the direction plate of the patent technology were not substitution of equivalent technology. In addition, the description of the patent had expressly precluded, from the claim, the blind plate's not being fixed on the direction plate, but like a suspended arm in the air being cut in, and processed by, rotating knife; hence, the alleged infringing product did not fall into the extent of protection of the patent. As a result, the appeal was rejected, and initial ruling upheld.

The Supreme People's Court takes the view that the alleged infringing product is identical with the patent in the operational principle and method, and the two important parts of direction plate and shake-proof position-limiting plate are similar in the structural shape of the operational surface; the aspect of difference between the technical features of the two can be made by those ordinarily skilled in the art of mechanics without any undue burden. Thus, the two can be determined as substantially identical in technical means. The two important parts of direction plate of the patent in suit and the shake-proof position-limiting plate of the alleged infringing product are substantially the same in the main function and are presumably substantially the same in the function to be realised. In particular, if viewed as a whole, the shake-proof, position-limiting plate and workpiece towing plate of the alleged infringing product are not substantially different from the direction plate of the patent in function. Relatively to fixing the workpiece towing plate on the direction plate of the patent, fixing it on the towing plate, not on the shake-proof position-limiting plate in the alleged infringing product is not good to reduce the shake from the processing of the workpiece towing plate. But the direction plate of the patent can do so and improve the quality since it supports the workpiece towing plate (blind plate), but it is not that the shake-proof, position-limiting plate in the alleged infringing product does not have the shake-reducing effect or has an entirely different shake-reducing effect. Accordingly, it may be determined that the two are substantially identical in technical effect. Besides, as the consultation of the application documents of the patent shows, the essential technical feature of fixing the blind plate on the shake-proof position-limiting means does not result from the particular amendment made by the patentee in response to the examiner's recommendation in order to be granted the patent right, so it is not a circumstance of estoppel. Therefore, in the alleged infringing product, separating one technical feature of the direction plate of the patent to fix the blind plate and direction plate together into two technical features of the shake-proof position-limiting plate and workpiece towing plate respectively for fixing the blind plate and for direction plate and replacing the former by the latter are an equivalent of using an means substantially identical with the essential technical feature of the claims of the patent used to perform substantially identical function and to achieve substantially identical effect; hence the alleged infringing product falls within the extent of protection of the patent right in suit, and constitutes an infringement.

The Supreme People's Court points out in its ruling that the courts of first and second instance are erroneous in that it is necessary to compare the effect of the alleged infringing product and method with that of the patent when determining acts of patent infringement by equivalent substitution, but the stress should not be placed on their being exactly equivalent in the effect of the two. It suffices if the two are substantially identical. Sometimes the effect of the patent is a bit better than that of the alleged infringing product and method; sometimes the opposite is true. All these have no impact on

the establishment of act of patent infringement. The circumstance may even arise in which the effect of the alleged infringing product and method is a bit worse than that of the patent. This is a deteriorating exploitation, which is one of the forms of substitution of equivalents. These courts ignore the circumstance of deteriorating exploitation, and overemphasise the equivalence between the alleged infringing product and method and the patent in their effect. This practice is contrary to the equivalent doctrine.

Case 2: Dalian Renda New-type Wall Material Plant (Renda) v. Dalian Xinyi Building Material Co., Ltd. (Xinyi)

The claims of the utility model patent in suit go as the follwing:

A concrete thin wall tube member, comprising the tube and the tube bottom sealing the tube orifices at two ends of the tube, wherein said tube bottom is made by folding at least two layers of glass fibre cloth, between each layer of the glass fibre cloth is glued with a layer of the inorganic gelling material of sulpho-aluminous cement or iron-aluminous cement, and the plate surface of the two sides of the tube bottom is also respectively covered with a layer of the inorganic gelling material of sulpho-aluminous cement or iron-aluminous cement. Likewise, said tube is made by telescoping at least two or more layers of glass fibre cloth tube, between the layers of the glass fibre cloth tubes is glued with a layer of the inorganic gelling material of sulpho-aluminous cement or iron-aluminous cement, and the inner and the utter surfaces of the tube are also covered with a layer of the inorganic gelling material of sulpho-aluminous cement or iron-aluminous cement.

The alleged infringing product also comprises the tube and the tube bottom sealing the two ends of the tube, which is the same as the preamble portion of the patent. The inner structure of tube wall of the tube of the alleged infringing product is that there is a layer of glass fibre cloth between the two layers of the cement inorganic gelling material, and there is not any of the glass fibre layer in the wall of the tube bottom.

The Dalian Intermediate People's Court takes the view that as the means shows, the two have glass fibre cloth added between the two layers of the cement inorganic gelling material. In essence, the glass fibre cloth structure has been added between the cement layers. The two are different only in the number of layers, and this difference will not result in qualitative change. For this reason, the two are substantially the same in the means used. Functionally, for both of them, the added glass fibre cloth layers have the function to strengthen the thin wall, in particular to increase the tensile strength of the thin wall when a force is acted on it. As for the effect, both are substantially the same in that both have effectively reduced the weight of the tube body and the floor of building. The comparison shows that those ordinarily skilled in the art, without undue burden, can choose the number of the layers of glass fibre as needed and the structure without substantial change in the essence of function and achieve substantially the same effect. Accordingly, the alleged infringing product is substantially the same as the patent in suit in means, function and effect; hence, it constitutes an infringement.

The Liaoning Higher People's Court holds that both the alleged infringing product and the patented product are products with increased strength and reduced weight to be used in the same industry. They are substantially the same in technological conception, and comprise the tube and the tube bottom sealing the two orifices of the tube, which is the same as stated in the preamble portion of the claim of the patent in suit. Although the alleged infringing product is different from the patent in suit in the number of layers of the glass fibre cloth stated as an essential technical feature in the claims of the patent, unlike the defined numerical range of the chemical compound and composition, this difference is nothing but a numerical substitution, without causing any quantitative change in the product. It is not undue for the first-instance court to have decided on the infringement by equivalents. The court made the ruling to have rejected the appeal, and upheld the initial ruling.

The Supreme People's Court takes the view that since the definite quantifier of "at least two or more" are used to indicate the number of the layers of the glass fibre cloth in the claim of the patent in suit, and it is also stated in the description of the patent that the number of the telescoped glass fibre cloth tube "may be as few as merely two", the claim construction should not exceed this express definition. It should be held that those ordinarily skilled in the art cannot contemplate that the object of the patent in suit can be achieved with merely one, or without any, layer of glass fibre cloth after reading the claims and description of the patent in suit; hence any structure containing only one, or no, layer of glass fibre cloth should be excluded from the extent of protection of the patent right, otherwise, it is equal to deleting "at least two or more layers" from the independent claim, thus resulting in undue extended extent of protection of the

patent right, and impairing the public interests. Next, the difference in the number of the layers of the glass fibre cloth should not simply be deemed to be a numerical difference. Rather, it has a different function in the sense of physical mechanics in terms of compression strength, inner volume and floor number of the tube member. The technical effect of the tube part having "at least two or more layers" of glass fibre cloth is better than that having "one layer" of glass fibre cloth in terms of compression strength, inner volume and floor number of the tube member. It should be held that only "one layer" of glass fibre cloth cannot achieve an effect substantially the same as that of "at least two or more layers" of glass fibre cloth; hence, the feature of the tube of the alleged infringing product having one layer of glass fibre cloth between the cement inorganic gelling material is not are equivalent to, or less possibly a feature identical with, the corresponding technical feature of the patent in suit. Accordingly, the alleged infringing product does not fall within the extent of protection of the patent right in suit.

Additionally, as for the issue of alkaline-resistant glass fibre cloth, since it was there before the date of filing of the patent in suit, the patent applicant should have anticipated this. Nonetheless, it used the wording of "at least two or more layers of glass fibre cloth" in the claim; hence, the patentee's claim that the technological progress in the field of glass fibre cloth results in the constitution of the infringement by equivalents is not tenable.

The Third Civil Tribunal of the Supreme People's Court is very strict in choosing cases for its review, and its review of the two cases involving application of the equivalent doctrine as its first case respectively in 2001 and 2005 shows the importance the Supreme People's Court attaches to the matter of the equivalent doctrine.

What is interesting about the two cases is that in the first case (Dongfeng v. Jinling), when the two local courts think the equivalent doctrine inapplicable, the Supreme People's Court holds it is after review; in the second case (Renda v. Xinyi), by contrast, when the two local courts think the equivalent doctrine applicable, the Supreme People's Court holds it is not. On the surface, it appears that the two cases have sent out contradictory signals. However, after close examination, we find that the first case arose just before the Supreme People's Court issued the judicial interpretation in 2001 to grant the equivalent doctrine its statutory identity, and the ruling was intended to encourage the court of the various levels to apply the equivalent doctrine; while the second case was after the possible abuse of the equivalent doctrine was found, and its review stressed the prudent application of the equivalent doctrine. Besides, we have also noted the fact that Judge Wang Yongchang was the chief judge of the first case of review and the presiding judge of the second, which reminds us that we should look at the two cases in continuity, and rules out the possibility of any substantial policy turn-around by the Supreme People's Court. This has also supported these writers view from another perspective.

4. The Supreme People's Court's judicial interpretation of equivalent doctrine issued for comments

In 2003 in between the above two cases, the Supreme People's Court issued the Provisions Regarding Several Issues Relating to Trial of Cases of Patent Infringement Dispute issued for comments, in which Article 11, related to the equivalent doctrine, provides as follows:

"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 recorded in the claims, including the extent as determined by the features identical with the essential technical features

The features equivalent to those recorded in the claims refer to the features which perform substantially the same function in substantially the same way to achieve substantially the same result and which can be contemplated by a ordinarily skilled artisan in the art after reading the description, appended drawings and claims without undue burden when an act of infringement takes place.

If a substitute of a technical feature recorded in the claims is obvious to those skilled in the art before the date of filing of the patent, and the applicant did not recite this substitute in the claim, the People's Court should not support the patentee's claim that the substitute of the feature be established as an equivalent feature under the equivalent doctrine.

When applying the equivalent doctrine, the People's Court should determine whether the technical features of an alleged infringing product are equivalent to the corresponding technical features of the claims of the patent in suit, and should not decide on whether the alleged infringing product is equivalent to the technical solution of the patent as a whole".

It is thus shown that the Supreme People's Court has incorporated, in the Provisions, the view of the Beijing Higher People's Court presented in its Guiding Opinions on the issues, such as the tripartite test of "means-function-effect", "all elements rule doctrine", and subject matter and time point of equivalent judgement. What is different is that an applicant's obligation of attention at the time of application is highlighted in the former. The Supreme People's Court's Provisions are still under revision due to the considerable debate on the other parts thereof.

5. Recommended draft Amendment to the Patent Law for the third time in connection with the equivalent doctrine

Recently, the State Intellectual Property Office issued the recommended draft of Amendment to the Patent Law for the third time, which contains the most comprehensive information relating to the definition, application, and restriction in connection with the equivalent doctrine to the Patent Law for the third time:

Infringement of the patent right for invention or utility model shall means that the technology exploited by an alleged infringer contains the technical features identical with, or equivalent to, all the technical features of one technical solution as stated in one claim of the patent for invention or utility model.

The equivalent feature shall mean that, although some technical feature of technology exploited by an alleged infringer is different from the corresponding technical feature as stated in one claim of the patent for invention or utility model, an ordinarily skilled artisan in the art may gather that the corresponding feature uses substantially the identical means, performs substantially the identical function, and achieves substantially the identical effect after reading the description, appended drawings and claims without undue burden when an act of infringement takes place.

A patentee makes, in writing, amendments or observations limiting the extent of protection of the patent in the patent examination or invalidation proceedings in order to bring the patent application in compliance with the requirement for the grant of the patent right under this law. The amendments and observations are binding on the patentee, and the patentee should not recapture what he/it surrendered.

Where the people's court or patent administrative authority hearing or handling a case of patent infringement dispute establishes that the technology or design exploited by the alleged infringer is a prior art or design on the basis of the evidence furnished by an interested party, it should establish that the act of exploitation is not an infringement of the patent right.

To conclude, the preceding sections present an overview of the stages of application of the equivalent doctrine with reference to the legal practice in the past. It shows that the application of the equivalent doctrine has undergone an up-and-down process from the wider-scope equivalents in the direction of central determination towards the need for due limitation on the equivalent doctrine in the direction of peripheral determinism. It is predicted that due limitation on the application of equivalent doctrine will improve the proficiency of the judicial trial, the certainty of the extent of protection of the claims, and predictability and consistence of judicial judgements. ■

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[1] This document issued in the name of the then Commission of Science and Technology (now the Ministry of Science and Technology) is intended, as it is stated in the Preface, that the IP System in China issued in the form of a blue book on the science and technology in China, to make clear the attitude, position, policy and measures of the Chinese Government in the Protection of intellectual property, and to give an overview of the legal system in this regard."

[2] Owing to the special practical situation in China, the Supreme People's Court's judicial interpretations always have the legal effect equal to the that of the laws passed by the legislative body within the court system in China.

[3] The Supreme People's Court's Ruling No. Minsantizi 1/2001.

[4] The Supreme People's Court's Ruling No. Minsantizi 1/2005.

[5] For the comments on the information of the draft, those interested in the matter may refer to the article entitled Claim Construction and Establishment of Equivalents: Comment on the Supreme People's Court's Draft Opinions Relating to Cases of Dispute from Patent Infringement carried in the China Patents and Trademarks 2004 Issue No.1, Pp.32-39 .