



Featured Article

Does Foreseeability Bar the Doctrine of Equivalents in China?

—Case Studies and Takeaway Lessons for Patent Drafters

The “Foreseeability Rule” outlined in Article 60 of the “Beijing High Court’s Guidelines for Patent Infringement Determination (2017)” states that foreseeable equivalents are not considered patent infringement under the doctrine of equivalents. Specifically, for technical features that do not represent inventive steps or that are added through amendments or utility model claims, if the patentee is aware of or can anticipate the existence of alternative technical features when filing or amending the patent application but does not include them in the scope of protection, the claim for incorporation of those alternative technical features under equivalent infringement will not be supported by a people’s court in the infringement determination. The Foreseeability Rule was added to the guidelines during their revision and is used to restrict the scope of equivalent infringement. Compared to other restrictive provisions on equivalent infringement such as prosecution history estoppel and dedication to the public rules, the Foreseeability Rule has received less attention and there are only few cases in judicial practice. This article aims to explore the scope of application of the Foreseeability Rule and its implications for drafting patent application documents in light of judicial cases from the courts.

I. Application of Foreseeability Rule

In the domestic patent field, there are certain concerns about the application of the Foreseeability Rule, whether it unduly restricts the application of the equivalent rule, thereby violating the original intention of setting up the equivalent infringement system. As we know, equivalent infringement is an appropriate extension of literal infringement, and by using the equivalent infringement, it can prevent infringers from circumventing the infringement by simply replacing certain technical features in the claim with new technical features after the patent application date. The equivalent infringement aims to fully protect the patentee's rights.

However, according to the Foreseeability Rule, if the patentee clearly knows or is able to foresee the existence of alternative technical features at the filing date but did not incorporate them into the protection scope, then the allegation of equivalent infringement will not be supported. Therefore, in order to achieve a balance between the predictability rule and the equivalent rule in application, the “Guidelines for Patent Infringement Determination of Beijing High Court (2017)” carefully limited the technical features applicable to the Foreseeability Rule to the following three situations:

1. Non-inventive technical features in claims of invention

A claim includes both inventive technical features that contribute to the invention, as well as necessary non-inventive technical features that, together, form a complete technical solution to be protected.

Non-inventive technical features are auxiliary features that, in themselves, belong to routine or common knowledge in the art. Patentee can know or foresee the alternative technical features for these non-inventive technical features easily when filing a patent application, so non-inventive technical features are subject to the predictability rule.

Inventive technical features, which reflect the creative work of the inventor, are not subject to the Foreseeability Rule.

2. Technical features formed through amendments in the claim of the invention

The substantive examination procedure of an invention provides the patentee with opportunities to perfect the application. Therefore, the patentee should have a higher duty of caution and attention when modifying or improving the application. Therefore, technical features that added to the claims for further limitation, whether they are inventive or non-inventive technical features, are all subject to the Foreseeability Rule.

3. Technical features in claims of the utility model

The technical solutions in utility model are relatively simple, and have not been undergone substantive examination and no examination files. Therefore, compared to invention patents, the claims are interpreted more flexibility, which has led to an over-application of the equivalent rule in utility model patents. It is necessary to tighten the applicable scale of the equivalent rule. Therefore, in utility model patent claims, both the inventive and non-inventive technical features are subject to the Foreseeability Rule.

In order to apply the Foreseeability Rule, the alleged infringer also needs to prove the following matter: during the patent application or modification, the patentee either knew of the existence of alternative technical features but did not incorporate them in the scope of protection, or could have foreseen the existence of alternative technical features but did not incorporate them in the scope of protection. For the situation where the patentee “knew of the existence of alternative technical features” evidence such as the patentee's related patents or promotional materials for related patented products can be used. For the situation where the patentee “could have foreseen the existence of alternative technical features” evidence such as textbooks, reference books, technical manuals, and common knowledge in the art can be used as evidence.

II. Typical Cases

Three typical cases are taken as examples to illustrate the application of the Foreseeability Rule in judicial practice. In order to enhance pertinence and readability, these cases have been simplified, retaining only the disputed focus related to the foreseeability rule, and omitting other disputed issues.

The First Case: (2015) Min Shen No. 740

(2015) Min Shen No. 740 is a civil ruling on the utility model patent infringement dispute between Sun Junyi and Renqiu Bocheng Plumbing Equipment Co., Ltd., which is the guiding case of the Supreme People's Court related to the Foreseeability Rule.

The patent involved is a utility model patent No. ZL200320112523.2, titled “Anti-adhesion Automatic Exhaust Valve” , and the patentee is Sun Junyi. The claims are as follows:

Anti-adhesion automatic exhaust valve, including a housing, a float ball, and a valve seat, a bottom of the housing has a water inlet, and there is a water inlet sleeve above the water inlet, characterized in that the water inlet sleeve is higher than the bottom of the housing, and the upper surface of the water inlet sleeve is conical, the lower part of the float ball falls on the water inlet sleeve without contacting the housing.

The disputed focus of this case is whether the technical feature of the accused infringing product “the upper surface of the water inlet sleeve is flat” is equivalent to the technical feature in claim of the patent involved “the upper surface of the water inlet sleeve is conical” .

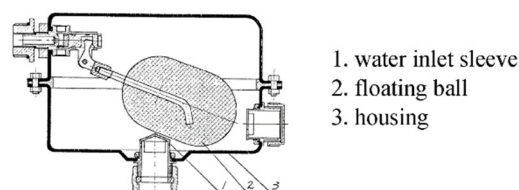
Court Opinions: Both the claim and the specification of the patent involved record that the upper surface of the water inlet sleeve is conical. This indicates that when Sun Junyi applied for the claimed patent, the technical solution he sought to protect was limited to the case where the upper surface of the water inlet sleeve was conical, and did not include cases where it was flat or other non-conical shapes. At the time of filing the patent application, the conical or flat technical solutions were commonly known to ordinary skilled persons in the field, therefore, limiting the upper surface of the water inlet sleeve to conical in the claim of the patent excludes the technical solution with the upper surface of the water inlet sleeve being flat from the protection scope of the patent involved.

Therefore, it is inappropriate to expand the technical feature “the upper surface of the water inlet sleeve is conical” to include “the upper surface of the water inlet sleeve is flat” when determining whether there is infringement. Otherwise, it will undermine the public's trust in the certainty and predictability of the scope of patent protection, thereby harming the interests of the public. Therefore, the

technical feature of the accused infringing product “the upper surface of the water inlet sleeve is flat” is not equivalent to the technical feature recorded in the claim of the patent involved “the upper surface of the water inlet sleeve is conical” .

Lessons Learned: when drafting an application document, it is necessary to extend features based on key technical features and layout all simple deformed technical features in the claims.

According to the description of the patent specification, it can be determined that the technical problem that the patent is to solve the adhesion caused by the contact between the float ball and the housing.



The inventive concept to solve this problem is to avoid the contact between the float ball and the housing. Based on the key technical feature “the water inlet sleeve is higher than the bottom of the housing, and the lower part of the float ball falls on the water inlet sleeve” already defined in the claims, various technical features can be expanded to achieve this purpose. For example, designing the upper surface of the water inlet sleeve as a cone to increase the distance between the top of the water inlet sleeve and the housing; or designing the upper surface of the water inlet sleeve as a plane when the water inlet sleeve is high enough above the bottom of the

housing; or adding a float ball support structure extending upward from the upper surface of the water inlet sleeve, and so on.

All of the various simple deformed technical features mentioned above, combined with the key technical feature “the water inlet sleeve is higher than the bottom of the housing, and the lower part of the float ball falls on the water inlet sleeve”, can achieve the inventive purpose of avoiding the contact between the float ball and the housing. Therefore, all of these features and other foreseeable simple deformed features should be laid out in the claims, so as to avoid being restricted by the Foreseeability Rule in infringement determination.

The Second Case: zui gao fa zhi min zhong No. 2482

Zui gao fa zhi min zhong No. 2482 is a civil judgment on the utility model patent infringement dispute between Xiamen Renhe Sports Equipment Co., Ltd. and Yongkang Saihan Electronic Technology Co., Ltd., etc.

The patent involved is a utility model patent No. ZL201920187089.5, titled “Emergency Stop Switch Device Used for Treadmills” and the patentee is Renhe Sports Equipment Co., Ltd. Claim 1 of the patent involved is as follows:

An emergency stop switch device used for treadmills, comprising a reset plate, a base, a PCB support, a PCB, and a button shell

arranged from bottom to top..., top pillars extends downward from the bottom of the button shell, and the PCB is provided with third escape holes for the top pillars to pass through, The PCB bracket is provided with guiding holes for sliding cooperation with the top pillar, and the base is provided with a fourth escape holes for the top pillars to pass through, an elastic mechanism is provided between the button shell and the PCB to reset the button shell.

The disputed focus of this case is whether the technical feature “guiding holes for sliding cooperation with the top pillars are provided on the PCB” of the accused infringing product is equivalent to the technical feature “guiding holes for sliding cooperation with the top pillars are provided on the PCB support” in claim 1 of the patent involved.

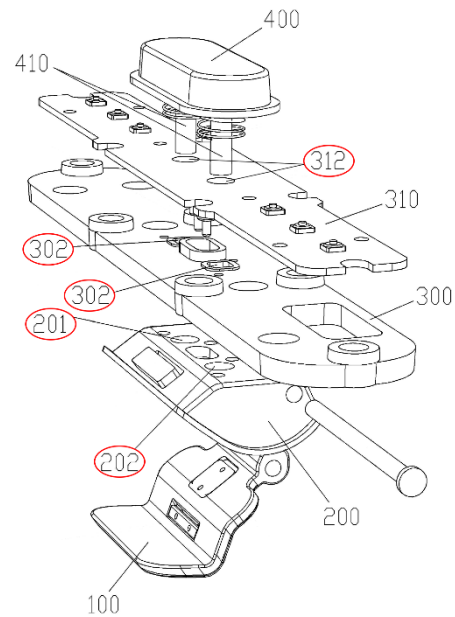
Court Opinions: Those skilled in the art are aware that selecting different through holes as guiding holes among these through-holes provided on the PCB board, PCB bracket, and base for the top pillars to pass through is a technical solution commonly known to those skilled in the art at the filing date of the patent involved, although the effect of “stable lifting and lowering of the button shell” may vary, there have been no substantial changes in the technical means.

The claim 1 of the patent involved limits “guiding holes for sliding cooperation with the top pillars are provided on the PCB support”, which excludes “guiding holes

for sliding cooperation with the top pillars are provided on the PCB or base” from the protection scope of the patent. Therefore, in infringement determination, the scope of protection is extended to include “opening guiding holes on the PCB board or opening guiding holes on the base” will undermine the public's trust in the certainty and predictability of the scope of patent protection, thereby harming the interests of the public. So the technical feature of the accused infringing product “guiding holes for sliding cooperation with the top pillars are provided on the PCB” is not equivalent to the technical feature “guiding holes for sliding cooperation with the top pillars are provided on the PCB support” in claim 1 of the patent involved.

Lessons Learned: When drafting claims, not only should the optimal technical features be written in the claims, but also all simple replacement technical features based on the optimal technical features should be laid out in the claims.

As shown in Figure 3 (attached below) of the patent involved, the emergency stop switch device for a treadmill includes a reset plate 100, a base 200, a PCB support 300, a PCB 310, and a button shell 400 arranged from bottom to top. The bottom of the button shell 400 is provided with top columns 410, and the PCB 310, the PCB support 300, and the base 200 are provided with through-holes respectively for the top columns 410 passing through.



These through-holes include avoidance holes only for the top columns 410 to pass through and guiding holes with guiding effect. The guiding holes are relatively complex because guiding structures need to be provided therein. Setting the guiding holes on the PCB 310 board is troublesome due to the need to avoid structures such as metal wires embedded in the PCB board; Setting a guiding holes on the base 200 may lead to poor stability in the movement of the button shell 400, due to the relatively long distance between the base 200 and the button shell 400. The guiding holes are set on the PCB bracket 300 in the patent involved, which not only can provide stable guidance, but also is very convenient to set, which is the most preferred setting method.

However, from the perspective of achieving the basic purpose of the invention, whether the guiding holes are set on the PCB 310, the PCB support 300, or the base 200, it can all achieve the function of guiding the movement of the button

shell 400. Therefore, when drafting claims, not only should the optimal technical features be included, but also all simple replacement features that can replace the optimal features, appropriately expanded, should be laid out in the claims so as to avoid the Foreseeability Rule, and apply the equivalent rule in infringement determination.

The Third Case: (2011) Hu Gao Min San (Zhi) Zhong Zi No. 90

(2011) Hu Gao Min San (Zhi) Zhong Zi No. 90 is a civil judgment on the invention infringement dispute between Chugai Seiki Co., Ltd. and Zhejiang Baoshi Sewing Machine Co., Ltd., etc.

The patent involved is an invention patent No. ZL98124654.0, titled “for a needle swing pattern transformation for sewing machines” and the patentee is Chugai Seiki Co., Ltd.

The disputed focus of this case is the determination of the disputed feature “the guide shaft is set on the needle swing driving arm, and the guiding hole is formed on the cam (on the cam arm of the cam)” (hereinafter referred to as the disputed feature) in the accused infringing product and the technical feature “the guide shaft is supported on one of the needle swing driving shaft and the cam, and the guiding hole is formed on the other of the needle swing driving shaft and the cam” in claim 1 (hereinafter referred to as the claimed feature).

Court Opinions: Even if the disputed feature and the claimed feature can constitute equivalent features, it cannot be determined that equivalent infringement is established based on the equivalence of technical features, because the claimed feature was not originally submitted in the original claims, but was added during the substantive examination in response to the examination opinions.

The patent specification records the technical feature “the guide shaft is set on the cam arm of the cam, and the guiding hole is formed on the needle swing driving arm”. Compared with the disputed feature mentioned above, the difference is only that the positions of the guide shaft and the guide hole are exchanged, which is enough to show that the disputed feature is foreseeable by those skilled in the art when modifying the claim 1. For the restrictive technical features added in the patent authorization examination procedure, if the equivalent features that can be foreseen but not written into the claims, it is deemed that the technical solution containing these equivalent features has been abandoned by the patentee.

Lessons Learned: When modifying the claims by adding technical features during the patent authorization process, caution should be exercised. All features equivalent to the features added and its replaceable technical features that can be foreseen should be added to the claims.

The patent specification records multiple technical features, which can all achieve the guiding function. The commonality of these technical features is that they are achieved through the mutual cooperation of the guide shaft and guiding hole, and they are strongly related. Specifically, these technical features include technical feature ① the guide shaft is supported on one of the needle swing driving shaft and the cam, and the guiding hole is formed on the other of the needle swing driving shaft and the cam, and technical feature ② the guide shaft is set on the cam arm of the cam, and the guiding hole is formed on the needle swing driving arm.

The disputed feature “the guide shaft is set on the needle swing driving arm, and the guiding hole is formed on the cam (on the cam arm of the cam)” is only a position exchange of the shaft and hole compared with technical feature ②. Based on the technical feature ②, it can be determined that the disputed feature is foreseeable by those skilled in the art. The best way for a patentee to modify the claims in response to an examination opinion is to add all the technical feature ①, technical feature ②, technical features equivalent to technical feature ②, and foreseeable technical features based on technical features ① and ②, such as the disputed feature mentioned above, to the claims and form multiple parallel technical solutions.

It should be noted that when modifying the claims in response to an examination opinion, it is subject to the restriction of

Article 33 of the Patent Law that the modification cannot go beyond the scope of the original disclosure. Adding technical features that are not explicitly recorded in the original specification to the claims may lead to the problem of exceeding the scope of modification. Therefore, to ensure that the claims have sufficient space for modification in subsequent procedures, it is best to write all replaceable and foreseeable features in the application document in the original drafting stage.

Conclusion

Based on the three typical cases above, it is evident that the “alternative technical features that are known or can be foreseen” required in the Foreseeability Rule is closely related to the key technical features in the patent claims involved. These features are simple deformation or replacement features that expand upon the key technical features. As these simple deformation features or simple replacement features themselves are generally known to those skilled in the art, the author believes that the proper application of the Foreseeability Rule does not excessively limit the doctrine of equivalents.

At the same time, the Foreseeability Rule, after all, objectively limits the application of the doctrine of equivalents, which requires the patentee or agent to have a considerable ability to expand technical

solutions and laying out claims. At the drafting stage of the patent application document, it is essential not only to include the specific technical features in the technical disclosure, but also to expand upon relevant simple deformation features and simple replacement features as much as possible, and incorporate them all into

the claims. By doing so, the patentee can apply the doctrine of equivalents in future infringement determinations without being constrained by the Foreseeability Rule.

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Ms. Candy Kan has expertise in patent prosecution, patent invalidity, patent administrative litigation, patent strategy design, portfolio development, and patent infringement analysis, patent analysis, etc., and she is very experienced in patent cases in technical areas of vehicles, containers, ocean platforms, pressure vessels, heavy machinery, power electronics, micro-electromechanical devices, new energy equipment, environmentally friendly processes, aircraft components, semiconductor, etc.. Since October 2000, Ms. Kan has represented many Fortune 500 companies in over 2,000 patent prosecution and litigation cases, and has provided long-term intellectual property training and patent strategy design services for large enterprises and multinational companies.