

## Chinese Invalidation Proceedings: Strategies for Challenging a Patent on Multiple Grounds

In China, it has become almost a common practice for an alleged patent infringer to challenge the validity of patent(s)-in-suit as a counter measure in a patent infringement action before the Patent Reexamination Board (the "PRB") via an invalidation proceeding. While various grounds for filing a request to invalidate a patent with the PRB may be available, the way of presenting the grounds and utilizing the supporting evidence is strategic. The short article provides some practical insights into the strategies.

### I. Considering all available grounds for invalidation

Rule 65<sup>1</sup> of the Implementing Regulations of Chinese Patent Law ("Rule 65") sets forth grounds for invalidation available in an invalidation case. In addition to grounds of lack of novelty (A22.2) and/or inventiveness (A22.3), a petitioner may raise additional auxiliary ones, such as lack of support (A26.4), lack of clarity (A26.4), insufficient disclosure (A26.3), lack of essential technical features (R20.2), addition of new matter (A33), etc. Although, statistically, more than 80% of invalidated patent claims were held non-patentable relying on the ground of lack of novelty/inventiveness, those auxiliary ones can be flexibly used in combination with lack of novelty/inventiveness arguments so as to place the patentee in a difficult position to argue in favor of novelty/inventiveness.

Effective use of various invalidation grounds by a petitioner is based on an objective analysis of a patent in dispute and relevant evidences at hand. To this end, the petitioner needs to conduct a detailed analysis to understand all favorable and unfavorable aspects of the evidences and inherent connections among relevant legal provisions, and thus choose appropriate invalidation grounds to present and come up with an effective offense and defense strategy.

When multiple grounds for invalidation are available, the petitioner should be mindful of potential pitfalls of arguments presented and of logic of reasoning organized, especially when there exists a concurrent infringement lawsuit. In an invalidation proceeding, the petitioner's understanding of the patent and of

the evidences may change, for example, after locating a common sense reference or receiving counter-arguments from the patentee. Furthermore, claim amendments may also lead to some uncertainty. Therefore, a petitioner needs to predict possible future development and thus present and organize appropriate arguments at the very beginning when filing a request for invalidation.

To draft the request, the petitioner needs to consider:

In what order should the invalidation grounds be arranged?

To what extent should each ground be argued?

Will the patentee likely amend claims, and if yes, how?

How to avoid possible negative impact on the infringement cases? and

How to lead the patentee to respond in a way favorable to the petitioner?

With the answers to the above in mind, the petitioner should draft his written submission in a convincing and concise way, while leaving certain room for arguments in a future reply (if any) and oral hearing.

More, when presenting multiple grounds to challenge patentability, the petitioner needs to consider possible counter-arguments portrayed by the patentee and potential outcome reached by each asserted ground, and accordingly organize all reasoning logically.

### II. A typical case

We discuss below an exemplary invalidation case to demonstrate how to challenge a patent on multiple grounds and to provide some guidance for future cases.

#### 1. A brief introduction of the patent involved

The patent in dispute is a Chinese national phase patent originated from a PCT that is in

<sup>1</sup> Rule 65.2: "The grounds on which the request for invalidation is based, referred to in the preceding paragraph, means that the invention-creation for which the patent right is granted does not comply with the provisions of Article 2, Article 20, paragraph one, Article 22, Article 23, Article 26, paragraph three or four, Article 27, paragraph two, or Article 33 of the Patent Law, or of Rule 20, paragraph two or Rule 43, paragraph one of these Implementing Regulations; or the invention-creation falls under the provisions of Article 5 or 25 of the Patent Law; or the applicant is not entitled to be granted the patent right in accordance with the provisions of Article 9 of the Patent Law".

French. Since the original application was poorly drafted and there exist translation errors, the patent is difficult to understand, in particular, the inventive concept described therein. With experts' help, we have reviewed the patent document and relevant art, made a distinction between the portions that are difficult to understand due to translation errors and the portions that are difficult to understand due to omissions in the original application, and tried to arrive at the technical solutions in such a way that the patentee would like to originally protect.

The patent involved described the disadvantages of the prior art as follows:

“The prior art describes an imaging process for observing the propagation of an impulsive wave of low-frequency shearing at the same time in a multitude of points of a viscoelastic diffusing environment. To this end ultrasonic compression waves are emitted in this device at an ultra-rapid cadence that allow the obtention of a succession of images of the environment. Then, the images obtained in this manner are processed in non-real time by intercorrelation in order to determine at each point of each image the movements of the environment during the propagation of the shearing wave. This invention does not satisfy because it requires envisaging two hypotheses:

The second derivative of the displacement is considered to be zero in the direction orthogonal to the plane (A known hypothesis consists in posing:  $(\partial^2 v) / [\partial z]^2 = 0$ ), and

The environment is assumed to be perfectly incompressible.”

In short, one of the drawbacks of the prior art is that the elastic model obtained is not accurate enough because the influence of the vertical component perpendicular to the image plane (i.e., the Z-direction component) is not taken into account.

In order to solve the above drawback, the description of present patent specifically describes three solutions:

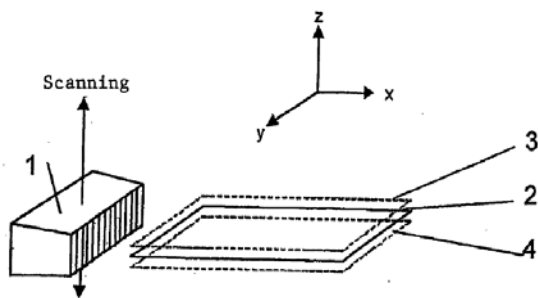


FIG. 1

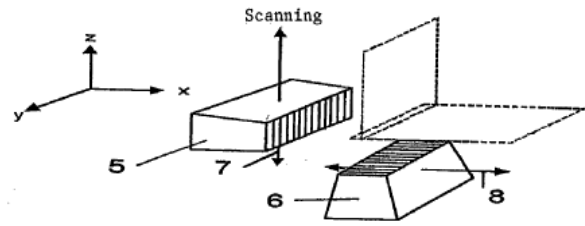


FIG. 2

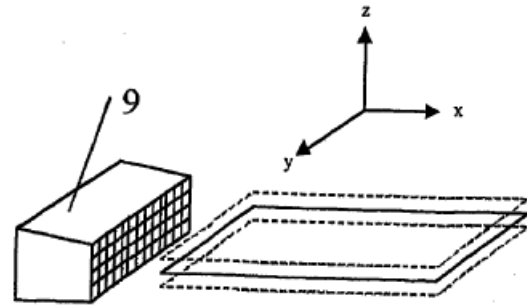


FIG. 3

Solution ①: “In the case of a single ultrasonic, unidirectional bar 1, represented in FIG. 1, echographic bar 1 is moved by a distance comprised between  $10 \mu\text{m}$  and  $10 \text{mm}$ . At least one scan in one direction is carried out. For example, a scan is made in direction  $z$ , constituted by plane 2 while moving from  $\Delta z$ , constituted in the figure by the two planes 3, 4. (As shown in the left).”

Solution ②: “In the case of two ultrasonic bars 5, 6 represented in FIG. 2 or equivalent to one bar moved in two axes 7, 8, two bars 5, 6 are used (or one successively). This scanning allows all the components of the tissular speed vector to be accessed.”

Solution ③: “In the case of an ultrasonic bar 9 of type 1.5D, represented in FIG. 3, a mechanical scanning is avoided and the result is the same with a wye transducer. These two elements allow a focalizing in three different points of elevation. In the case of a 1.5D bar 9 the shift along  $z$  is obtained by modifying the laws of focalization in such a manner as to change the elevation of the image plane.”

As can be deduced from what is described elsewhere in the description, unlike the prior art, this patent does not assume that the second derivative normal to the image plane is zero, but establish a two-dimensional/three-dimensional elastic measurement model by focusing the ultrasonic bar at three different elevations (i.e. scanning in the Z direction). In this patent, since the influence of the vertical component

perpendicular to the image plane (i.e. Z direction) is taken into consideration, it is possible to obtain a more accurate elastic model and parameters than the prior art.

The patent has two sets of claims, in which independent claim 1 is an apparatus claim, claiming a device for measuring elasticity of viscoelastic environments presenting an ultrasonic signal after ultrasonic illumination and consecutively establishing a representation in two or three dimensions of the elasticity, and independent claim 27 is a method claim, claiming a process for measuring elasticity of viscoelastic environments presenting an ultrasonic signal after ultrasonic illumination and consecutively establishing a representation in two or three dimensions of the elasticity. Specifically, claim 1 of the patent reads as follows:

“1. A device for measuring elasticity of viscoelastic environments presenting an ultrasonic signal after ultrasonic illumination and consecutively establishing a representation in two or three dimensions of the elasticity, comprising:

at least one ultrasonic bar comprising a plurality of transducers (12),

an excitor that generates and delivers a low-frequency, direct or indirect applied force,

a receiver that acquires ultrasonic signals,

a controller that commands and processes data, and

a scanner that carries out scanning with the bar in one dimension or in two dimensions in two perpendicular directions, respectively, to allow a focalizing in three different points of elevation, to obtain a representation of the measure of the elasticity in two or three dimensions”.

## 2. Goals of multiple grounds for invalidation

By analyzing and thus understanding the technical solutions of the invention, we came up with strategies to challenge the patent. More, we need to make a comprehensive assessment of all available evidences, analyze the objective technical disclosures of those evidences, identify the differences between the technical solutions of the patent and those evidences, and make it clear what content needs further explanation from the patentee or which can be considered as commonly known in the art.

Furthermore, as far as an infringement case is concerned, the apparatus claim 1 becomes the focus of this invalidation case. The independent claim 1 recites only a few simple components together with a scanner defined by functional features, resulting in a very broad protection. Thus, claim 1 is the most important claim for

determining infringement and needs to be focused on in the invalidation case.

Based on the above analysis, we believe that, in this case, the goals to be achieved by use of multiple grounds for invalidation are:

Invalidating some dependent claims by asserting lack of clarity based on typographical errors in the patent, which may force the patentee to amend the independent claims;

Making the patentee to construe the claims clearly to one skilled in the art (especially the inventive concept of the patent) so that we can have a clear claim construction in a subsequent proceeding;

Making the patentee to construe the term scanner broadly in view of the various forms of scanner disclosed in the evidences; and

While the inventiveness of the claims mainly lies in ability of the scanner to allow the ultrasonic bar focalizing in three different points of elevation, leading the patentee to interpret unfavorably how to focalize in three different points of elevation.

## 3. Strategy for use of multiple grounds for invalidation

Accordingly, we came up with grounds for invalidation: introduction of new matter, lack of essential technical features in the independent claims, insufficient disclosure, lack of support of the claims by the description, lack of inventiveness. By use of these invalidation grounds in combination, the patentee was forced to narrow the independent claim significantly before the oral argument, resulting in the claims would not be infringed. In addition, the patentee's defense of the inventiveness of the claims was prejudiced by the patentee's arguments in response to other invalidation grounds. At the end, all device claims were found unpatentable.

Specifically, in order to achieve the above-mentioned goals, we first submitted that the description has insufficient disclosures (A26.3) and the independent claims do not possess essential technical features (R21.2). We noted that the definition of the scanner in claim 1 is very broad, and claim 5 has further definitions of the means for focusing the scanner in three different points of elevation (corresponding to the solutions ①-③). It would be desirable for the petitioner if the patentee incorporates the features of claim 5 into independent claim 1.

Therefore, when stating the reasons for insufficient disclosure and lack of essential technical features, we pointed out that the main improvement of the invention over the prior art lies in that the scanner carries out scanning with

the bar in one dimension or in two dimensions in two perpendicular directions, respectively, to allow a focalizing in three different points of elevation. However, claim 1 does not have any definition of the specific structure of the scanner, in particular the structural relationship between the scanner and the ultrasonic bar and the structural relationship of them with respect to other components; nor does claim 1 provide any definition of how to perform the functional steps of the scanner or any definition of the specific steps for obtaining a representation of the measure of the elasticity. Moreover, the description does not sufficiently disclose any of the above-mentioned matter.

As expected, in order to overcome the above-mentioned defects, the patentee proactively limited claim 1 by incorporating the additional technical features of claim 5. As such, even if the new independent claim 1 could not be invalidated, the amended claim would not be infringed.

With respect to the method independent claim, it recites, in addition to the limitations of structural elements contained in the apparatus independent claim, the steps of generating ultrasonic images, calculating tissular speeds, inverting the data by recovering parameters describing the viscoelastic environment, and measuring spatial derivatives of the three components of the tissular speed along three directions in space during the calculation of the tissular speeds. Those step features have not been disclosed in the existing evidences. Although one skilled person in the art would have known about them, there is no written document to support the common knowledge.

When asserting the ground of lack of essential technical features, we pointed out that the above-mentioned method steps in the method independent claim are conventional means used in the art because the technical problems to be solved by the two independent claims are basically the same, and, otherwise, the features of the method steps should be considered as essential technical features to realize the solution of the device claim and should be added into the device independent claim. In this respect, the patentee acknowledged that those method steps in question are the common knowledge in the art and thus do not contribute to inventiveness. In this way, we made the patentee admitted the method steps described above are common knowledge, by using the invalidation cause for lacking essential technical features, without any evidentiary proof.

Also, we submitted that the amendment made by the patentee go beyond the scope of the initially filed application (A33). Through reviewing the file wrapper of the patent involved,

we found that the technical feature "to allow a focalizing in three different points of elevation" was added into independent claim 1 in response to the first Office Action, while the description only describes that in the case of a 1.5D ultrasonic rod, the scanner can focalize in three different points of elevation (i.e., solution ③), and figure 1 shows a one dimensional ultrasonic rod moves in three different points of elevation (i.e., solution ①). The independent claim 1 covers all the three solutions disclosed in this patent. Although the first and third solutions are disclosed in the evidences, but none of the evidences has clearly disclosed the second solution (i.e. solution ②). In other words, the second solution ② may be unfavorable for our assertion of lack of inventiveness.

In this regard, we argued that the technical feature "to allow a focalizing in three different points of elevation" is generalized by the patentee from the original disclosure. The description of the patent only describes an embodiment in which, in the case of a 1.5D ultrasonic rod, the scanner can focalize in three different points of elevation, and it can not be seen from figure (solution ②) that the ultrasonic rod can be allowed to focalize in three different points of elevation. The description states that "in the case of a double mechanical scan, ... all the components of the tissular speed vector are known". Of course, the component in the Z-axis is naturally known and thus it is not necessary to focalize in three different points of elevation.

The patentee alleged in the response that the feature "allow focalizing in three different points of elevation" can be derived directly and unambiguously therefrom by one skilled in the art from the aforementioned solutions ①-③. Figure 1 shows the case of a single ultrasonic rod (i.e. solution ①), although Figure 2 does not show three different points of elevation, the dual mechanical scanning of Figure 2 is actually using two ultrasonic rods of Figure 1 to scan in two directions or continuously scan in two directions using the ultrasonic rod of Figure 1, which differs from FIG. 1 primarily in the number of rods. As a result, by use of new matter cause, we forced the patentee to make observations unfavorable for the inventiveness of claim 1: since solution ② differs from solution ① in the number of rods, solution ② is not inventive if solution ① does not possess inventiveness.

Furthermore, we stated that the claims are not supported by the description because: 1) the claims have inconsistencies with the description; and 2) the functional definition of the scanner is not supported by the description. There are some inconsistencies between some claims of the involved patent and the description. Some of the technical solutions defined in the claims are

inconsistent with the solutions described in the description, and some have inconsistent technical terms. The main purpose of raising support issue is to clarify the technical solution or to directly invalidate some of the claims.

As for the functional definition of the scanner, we consider that the scanner is simply defined by the functional steps in the independent claim, and, any person skilled in the art, based on the present definition, can see that it covers scanner that carries out scanning with the bar in one dimension or in two dimensions in two perpendicular directions, respectively, to allow a focalizing in three different points of elevation, to obtain a representation of the measure of the elasticity in two or three dimensions. Since the description does not have an embodiment describing the specific structure of the scanner for support, this broad functional generalization is apparently not supported by the description. This invalidation ground was proposed to force the patentee to construe the term scanner broadly, who stated that the independent claim is not intended to protect the specific structure of the scanner, but to protect all embodiments of scanner allowing a focalizing in three different points of elevation.

By the above statement from the patentee, it

is not necessary to consider the specific structure of the scanner and to consider the movement of the ultrasonic rod when evaluating the inventiveness of the independent claim. As such, if any scanner defined by the above functional definition has been disclosed allowing a focalizing in more than one points of elevation (in Z direction), as several evidences do, the independent claim does not possess an inventive step.

### III. Conclusion

It can be seen from the above example case that, although one ground for invalidation alone may not be enough to invalidate the corresponding claims, multiple grounds can be used in combination, so as to force the patentee to limit the independent claims and to make the patentee to propose observations that are unfavorable for his inventiveness defense.

In summary, when handling invalidation cases, the attorneys need to comprehensively analyze the advantages and disadvantages of the patent involved and the available evidences and thus can make use of multiple invalidation grounds in combination to win the cases.

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