Rules for Claim Construction (II)

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3. The non-recitation of a technical feature in a claim, except closed-ended claims for chemical compositions, only means that the technical feature is not defined, but does not exclude said technical feature.

(1) Non-recitation of a technical feature means the feature is not defined.

Although the patent law specifies that a claim shall delimit a clear scope of protection, it does not require that all the technical features of a final product or method must be recited. For instance, a claim is directed to "a bicycle characterized by comprising wheels and handlebars", which is an acceptable claim having a clear scope of protection under the patent law. However, in addition to the above components, a bicycle surely comprises other components (like pedals or chains) that are not recited in the claim, or otherwise, it cannot be used. Under such circumstances, the question is whether the components not recited in the claim are excluded.

The answer to this question is negative. A technical feature not mentioned in a claim merely means that the technical feature is not defined in the claim, but does not imply that it is excluded from the claim. In the sense of determining the scope of protection, a literally undefined technical feature does not need to be taken into account in comparison with prior art or with an allegedly infringing product unless it is implicitly defined. For instance, as for the claim directed to "a bicycle characterized by comprising wheels and handlebars" as mentioned above, it can be deemed that all the technical features of the claim are disclosed as long as a prior art bicycle has wheels and handlebars, and therefore the claim lacks novelty. It does not matter whether other technical features, like pedals or chains, are dis-

張。法院這一做法除了考慮到權利要求中未記載這一因素外，另一原因則在於相關實施例的劑量已超出現藥學上可接受量，可見，即便依據説明書中的記載，同樣無法將雷諾嗪的劑量理解爲藥學上可接受的量。[19]

結語

權利要求的解釋涉及文字含義及文字範圍兩個考慮角度。就文字含義而言，除非説明書中有明確定義，否則以本領域技術人員的通常理解爲準。就文字範圍而言，則不應超出權利要求記載的範圍，除非存在隱含限定的情形。權利要求記載的內容並非均具有限定作用，只有對於權利要求的主題産生影響的內容才需考慮。通常情況下，非技術特徵、整體技術效果特徵、機理特徵等均不具有限定作用，而功能性特徵、製備方法、安裝方法、用藥特徵等則需要視情況而定。專利侵權案件與專利授權確權案件中，對於同一權利要求的解釋規則雖大致相同，但在功能性特徵的解釋規則與發明目的的使用上存在區別。■

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[9] (2020)京73行初13839號行政判決書。

[10] (2016)京73行初771號行政判決書。

[11] (2016)京73行初5740號行政判決書。

[12] (2020)京73行初17056號行政判決書。

[13] (2005)高民終字第172號民事判決書。

[14] (2014)京知民初字第46號民事判決書。

[15] (2017)京73行初1683號行政判決書。

[16] (2016)京73行初254號行政判決書。

[17] (2015)京知行初字第944號行政判決書。

[18] (2017)京73行初8021號行政判決書。

[19] (2019)京73行初10670號行政判決書。

closed in the prior art. Similarly, in an infringement case, whether an allegedly infringing product has other components does not affect the establishment of infringement provided that it has the two components defined in the claim.

Here is an example. "1. A wireless transmit/receive unit, WTRU, comprising: means for receiving a first allocation of resources for uplink communications; means for communicating the uplink communications according to the first allocation of resources; means for receiving control information indicating a second allocation of resources for uplink communications, wherein the control information does not specify a time duration; and means for communicating uplink communications according to the second allocation of resources for a predetermined duration and communicating the uplink communications according to the first allocation of resources after the predetermined duration".

This case involves whether the claim to priority is valid, so the comparison between the priority documents and patent application is a must. The key to determine whether claim 1 enjoys priority lies in whether the feature "control information indicating a second allocation of resources for uplink communications, wherein the control information does not specify a time duration" is the same as the following features in the priority documents: one is the feature in item 1) of paragraph 33 of the description, i.e., "only the amount of changes in radio resources is signaled, in order to reduce signaling overhead", and the other is the feature in claim 48, i.e., "characterized by further comprising signaling the amount of changes in radio resources so as to reduce signaling overhead".

The court held that as for the issue, account shall be taken of not only the contents explicitly defined in the claim, but also those that are associated thereto and therefore may be implicitly defined. Although the technical solutions both relate to signaling (corresponding to the control information in the application documents), since not only the described information, such as the amount of radio resources in the priority documents and the duration in the application, but also those not recited, such as the repetition period and sequence pattern, can be signaled, the contents related to the signaling, even not clearly recited, shall not be omitted, in order to facilitate understanding of claim 1, as well as the priority documents.

The above-mentioned claim 1 differs from the item 1) of paragraph 33 of the priority documents in at least the following aspect: claim 1 only defines that the duration is not signaled, without mentioning whether other information except the duration will be signaled. This means that there are two likelihoods, namely, to signal or not to signal. However, it is clearly recited in the item 1) of paragraph 33 that the duration and other information are not signaled.

Claim 1 in suit differs from claim 48 of the priority documents in at least the following aspect: claim 48 does not define whether to signal the duration, which means there are also two possibilities, namely, to signal or not to signal. However, claim 1 clearly defines that the duration is not specified.

As known from the above comparison, the above technical feature in claim 1 in suit is not the same as the aforementioned disclosure in the priority documents. Therefore, the patentee's claim for priority cannot be established. [9]

(2) The non-recitation of a technical feature in a closed-ended claim for chemical composition means the feature is excluded.

There is an exception to the above rule, that is, it is not applicable to the closed-ended claims for chemical compositions. The non-recitation of a technical feature in such a closed-ended claim for chemical composition means exclusion. If a prior art reference includes not only the component recited in the technical solution in suit, but also the one not recited therein, the latter shall be considered as a distinguishing feature at the time of comparison. For similar reasons, in the determination of infringement, if an allegedly infringing product includes other component, it does not constitute infringement.

For instance, a claim is drafted as "a composition composed of glycerin and water". Said claim is a closed-ended claim and shall be understood as that the composition "only" contains the above two components. This means that if a composition disclosed in the prior art comprises other component(s) in addition to the above two, the patented technical solution and the prior-art technical solution are not the same and the prior art cannot spoil the novelty of the patent claim. For similar reasons, if an allegedly infringing product contains extra component(s), it does not fall within the scope of protection of the patent claim.

However, if the claim is drafted as "a composition comprising glycerin and water", it is an open-ended claim and shall be construed as that the claim does not define but includes components other than the above two. If a prior art composition comprises other component(s) in addition to the above two, the prior art can spoil the novelty of the pat-

ent claim. For similar reasons, if an allegedly infringing product contains extra component(s), it falls within the scope of protection of the patent claim.

4. The ordinary and customary meaning of a word shall prevail unless otherwise specified in the description.

As for the meaning of claim terms, Article 2 of the Provisions (I) of the Supreme People's Court on Several Issues Concerning the Application of Law in the Trial of Administrative Cases Involving Patent Grant and Invalidation (Fa Shi No.8 [2020]) reads that "the court shall define the term of a claim based on the plain meaning understood by those skilled in the art after they read the claims, description and drawings. Where the term of a claim is clearly defined or explained in the description and drawings, the definition or explanation shall apply."

Claims function as public notices. Although, objectively speaking, there may appear coined terms which are unknown to those skilled in the art or the meaning of which cannot be unambiguously determined and therefore need to be specifically defined in the description, these terms should not make up the major part of the claims and the conventional expressions in the art should be mostly employed. Otherwise, the difficulty in understanding claims may be unnecessarily increased. Accordingly, the term of a claim shall be given its ordinary and customary meaning unless otherwise specified in the description. Even though the meaning of a term may vary from patent to patent in the same art, it should not deviate from the ordinary and customary understanding of those skilled in the art.

The following example relates to an image projector, which claims "an optical polarizing device (3) for a stereoscopic image projector, characterized in that the device comprises: a polarizer optical element (304) capable of decomposing an incident beam (22) emitted by the stereoscopic image projector into: ...; a control circuit (31) for the polarization modulator programmed to deliver a control signal, at a given instant, controlling each of the first and second reflected light beams or the switching of the polarization of the transmitted beam, such that the reflected and transmitted light beams all exhibit exactly one and the same optical polarization state."

This case involves the understanding of the term "programmed". The patentee asserted that "a control circuit …… programmed to deliver a control signal, at a given instant" shall be understood as a control circuit delivering a control signal successively and sequentially by means of both software and hardware. In the absence of a specific definition in the description, the court did not accept the argument, holding that the term shall be given its ordinary meaning as understood by those skilled in the art. Where the term "programmed" itself usually means software programming and the control circuit in the art can deliver a control signal by means of software, those skilled in the art when seeing the term will understand it as using software, instead of hardware, and will not conceive of "successively and sequentially" as asserted by the patentee. In consideration that the patentee also stated in the court hearing that such a product currently delivers the control signal mainly by means of software, the term "programmed" in the patent in suit shall be understood as software programming. [10]

II. What does it mean by "the description and the appended drawings may be used to interpret the claims, but shall not limit the claims"?

Although the scope of protection of a patent shall be determined by the claims, it may be difficult in most cases for those skilled in the art to truly and accurately understand the specific meaning of the claims merely by reading them. Accordingly, it is necessary to understand the claims with reference to the description and the appended drawings. However, it should be noted that the description and the appended drawings only function to interpret the claims, and cannot further define the claims.

1. If the definition of a term is provided in the description, such definition shall prevail. This is what is meant by "may be used to interpret the claims".

A claim can generally be understood as a technical solution composed of a plurality of terms, and the interpretation of the claim is basically the combination of the interpretations of all the terms. Generally speaking, if a claim term is clearly defined in the description, such definition, in principle, shall prevail no matter whether it is a self-coined word or an existing term. For this reason, the description is also known as the dictionary of claims.

The following example relates to a diamond slurry, wherein the claim is drafted as "a slurry comprising: a. a plurality of monocrystalline diamond particles, wherein the average surface roughness of said particles is greater than 0 to about 0.84; b. a vehicle selected from the group con-

sisting of water-based vehicles, glycol-based vehicles, oil-based vehicles or hydrocarbon-based vehicles and combinations thereof; and c. one or more optional additives."

As for the term "surface roughness" in the claim, the description specifically defines that "the term 'surface roughness', as used herein, refers to the measurement of a two-dimensional image that quantifies the extent or degree of pits and spikes of an object's edges or boundaries as stated in the CLEMEX image analyzer, Clemex Vision User's Guide PE 3.5 ©2001. Surface roughness is determined by the ratio of the convex perimeter divided by the perimeter. Surface Roughness=ConvexPerimeter/Perimeter". Accordingly, the above content was followed for interpreting the surface roughness in this case. [11]

The following example relates to a casting device, wherein claim 1 is drafted as "a casting device (10) for low-pressure casting, wherein the casting device (10) comprises at least one lower chamber (3) for at least one furnace (4) and at least one upper chamber (5) for at least one ingot mold, the lower chamber (3) being separated from the upper chamber (5) by at least one lower platen (15) for fastening a lower part (22) of the at least one ingot mold, and characterized in that the upper chamber (5) has an upper platen (12), mounted so as to be movable in the vertical direction, for an upper part of the at least one ingot mold ……"Although the word "chamber" in this claim is commonly used and those skilled in the art know its ordinary meaning, the description clearly defines that "the term 'chamber' herein shall be understood as a structure having a partially or fully opened sidewall". Therefore, the word "chamber" in this case shall be understood as the description recited. The "lower chamber" in Reference 1 does not show a partially or fully opened structure. Although Reference 1 discloses a lower chamber, it is structurally different from the one in the patent in suit and therefore the lower chamber can be regarded as a distinguishing technical feature. [12]

2. Those other than the definition of the term in the description shall not be incorporated into the claim. This is what is meant by "not limit the claims".

Although the description can be used to interpret the claims, it cannot limit the claims. The difference between "interpret" and "limit" lies in that "interpret" is to explain the meaning of the technical feature *per se*, whereas "limit" is to add an extra feature or content.

For instance, "a metal material" is defined in the claims, but what is used in an embodiment in the description is a metal material with a melting point of 500 degrees. If the metal material in the claims is interpreted as the one having a melting point of 500 degrees, it is to limit the claims by the description, which is not allowed. However, if the description recites "the metal material herein refers to the one with a melting point of 500 degrees", it pertains to claim construction, and the claims in suit should be interpreted accordingly.

Here is another example. If the description does not define the "chamber" as mentioned above, but only describes a chamber with a partially or fully opened side wall in an embodiment, such a technical feature in the embodiment cannot be incorporated into the claims when interpreting the word "chamber".

The difference between "interpret" and "limit" superficially lies in literal expression, but essentially in the dissimilar expectations of the public. If the former expression is used, those skilled in the art generally think that it is only one of the possibilities, not the sole one, within the scope of protection of a claim. If the latter expression is used, those skilled in the art will believe that the claim is merely directed to the sole implementation. Since claim construction fundamentally depends on the understanding of those skilled in the art, the different expressions will lead to different expectations thereof, which surely has an impact on the determination of the scope of protection of claims.

When distinguishing "interpret" from "limit", people shall in particular attach importance to the function of the object of invention, as well as embodiments and drawings, in the specification.

(1) Object of invention

In practice, some patentees try to interpret the claims in a narrow sense in view of the object of an invention, as well as the description and drawings. For example, "a metal material" is recited in the claim. Although the description does not define the metal material as "a metal material with a melting point of 500 degrees", it is mentioned in the Background Art that the problems to be solved are those of the metal material with a melting point of 500 degrees. Under such circumstances, the patentee may argue that the claims shall be construed on the basis of the object of the invention.

Based on the ordinary ability in understanding words, those skilled in the art will not consider the metal material in the claim as the one with a melting point of 500 degrees only, but take the later as an example instead. Therefore, the

metal material in the claim should not be construed as the one with a melting point of 500 degrees for the same reason as mentioned above.

Furthermore, if it is allowed to narrow down a claim in view of the description, such as the object of invention, it means that whenever the generalization of the claim "exceeds" the scope of the description, the patentee or applicant only needs to restrictively construe the scope of the claim according to the disclosure of the description. This will render the scope of protection of claims substantially the same as the scope of the description. In such an event, generalized limitations in the claims will never go beyond the description and therefore always be supported thereby, which means the provisions of the Patent Law on the claims being supported by the description exist in name only and the amendments to claims are somewhat unnecessary.

The "metal material" is still taken as an example. The claim defines "a metal material"; however, the description only provides a single example of the "metal material having a melting point of 500 degrees" and recites that only the metal material meeting such a requirement can achieve the object of invention as stated in the description. In this case, since other metal materials cannot exert a substantially identical effect, the generalization of the "metal material" in the claim extends beyond the scope of disclosure in the description and cannot be supported by the description.

However, if it was allowed to interpret the claim in conjunction with the object of invention, the result would be that the metal material in the claim can only be "a metal material with a melting point of 500 degrees", the scope of which would be the same as that defined in the description. Therefore, the claim would be supported by the description. It can be seen that such an interpretation manner objectively eliminates the possibility that a claim may not be supported by the description. As a matter of fact, if the patent applicant desires to have the metal material understood as the metal material having a melting point of 500 degrees, such a feature must be recited in the claim or the term "metal material" must be defined in the description accordingly, and there is no need to resort to claim construction.

The following example is related to "lens". A claim is drafted as "a driving mask with a wide field of vision, characterized by comprising a secondary frame, a lens surface, a mask and a main frame; the secondary frame with a frame edge matching the frame edge of the lens surface and clamping the lens surface and the mask such that it is integrally combined with the main frame; the lens surface formed by a front lens and lateral lenses at both sides stuck together by adhesive; the mask having a frame edge that fittingly matches the outer edge of the lens surface and is placed into a frame slot of the main frame; and the main frame having the frame slot that is combined with the mask, the outer edge of the lens surface and the frame edge of the secondary frame and is integrated with the secondary frame as one piece."

The claim does not define "lens" at all. Flat lenses and curved lenses in the prior art are mentioned in the Background Art of the description. But the objective of invention of the patent in suit is to overcome the defects in relation to the curved lenses in the prior art. Other sections of the description all revolve around technical solutions of the flat lenses. Notwithstanding, where the description fails to specifically define the lenses as the flat lenses, the "lenses" in the claim should still be understood as including both flat and curved lenses, and cannot be narrowed down to the flat lenses just on account of the objective of invention in the description.

What's more, it should be noted that the role of the objective of invention in civil patent infringement cases is quite different from that in patentability cases. As mentioned above, claims are usually not interpreted in consideration of the objective of invention in patent grant and invalidation cases. But in infringement cases, if it can be clearly determined according to the description that the scope of protection of the claim is greater than the technical contributions made by the patentee, the description can be used to narrow down the scope of the claim to make it compliant with the patentee's technical contributions, so as to prevent the patentee from obtaining excessive protection than the technical contributions the patentee made.

Different rules on claim construction in these two types of cases stem from their different value orientations and the role of technical contributions in different procedures. The patent grant and invalidation proceedings are aimed to push patent applicants or patentees to draft claims which are understandable by those skilled in the art and compatible with their technical contributions. In contrast, the patent infringement proceedings intend to prohibit others from exploiting the technical contributions made by patentees without authorization. In an ideal state, claims are a reasonable generalization made by the patentee on the basis of the description. Therefore, determining the scope of protection ac-

cording to the claims is equivalent to protecting the technical contributions made by the patent applicant or patentee, and the description is not necessary to be considered in such a situation. In practice, however, it is impossible to achieve such an ideal state at all times, and the granted claims do not necessarily match the technical contributions made. An invention patent has to go through the substantive examination during which examiners will consider whether the claims match the technical contributions. However, the prosecution procedure is unavoidably subjective and different examiners may come to different conclusions on similar issues, such that a granted invention patent may claim a scope not matching the contributions made by the patentee. This is true for invention patents, not to say utility model patents granted without substantive examination. Under such circumstances, if the scope of protection is still determined solely according to the claims without taking into account the technical contributions recited in the description, the patentees are likely to obtain protection more than their technical contributions. This will impair the legitimate rights and interests of defendants in individual cases, and the public interest in the context of the overall system. Because of the above considerations, it is necessary to interpret the claims with reference to the technical contributions mentioned in the description in patent infringement proceedings to further limit the claim to a scope narrower than that in patent grant and invalidation proceedings.

Thus, in judicial practice, the court may narrow down the claim in view of the technical contributions recited in the description, rather than extend it to all the technical solutions literally covered by the claims.

The following example is related to a modular floor, which is drafted as "a modular floor, comprising modular floorboards, the modular floorboard referring to a single wood piece that has been processed and has a certain specification, characterized in that a modular floor block (10, 19, 26, 28) is formed by connecting a plurality of modular floorboards (1, 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 20, 23, 25, 30)".

In this case, the claim in suit does not define the specification and shape of the floorboard, and the allegedly infringing product has a uniformed specification and a square front view. According to the literal expression of the claim, the allegedly infringing product falls within the scope of protection of the claim. However, the description of the patent in suit recites: "the present invention relates to a floor formed by connecting a plurality of, especially small, wooden pieces. The prior art floor has the following disadvantages: 1. A large piece of wood is required, and a wood piece smaller than 100 cm^2 cannot be utilized, resulting in resource waste ... 3. Strict requirements, such as identical wood grain and substantially identical size, are set for wood, which is not conducive to the use of leftovers and small wood pieces ... The object of the invention is to provide a modular floor ..., by using scrap wood ..., which may be in a square, circular, polygonal or irregular shape."

According to the above recitation, the court held that the technical effect to be achieved by the patent in suit is to discard the strict requirements on materials and specification for conventional floorboards, and the object of the invention is to make full use of scrap wood and save resources. This is the major difference, notable progress and inventive point of the invention over the prior art. Since the allegedly infringing product has a uniform specification and a relatively large area, and is not made of leftovers, branches and twigs, it does not fall within the scope of protection of the patent in suit.[13]

This example also involves using the objective of the invention for claim construction. Claim 1 is drafted as "an illumination device for providing multicolor light comprising: a light source for generating excitation light, the excitation light being blue light; a plate including two or more segments, wherein one or more of the segments each contain a wavelength conversion material capable of absorbing the excitation light and emitting light having wavelengths different from that of the excitation light, wherein the first segment contains a first wavelength conversion material, and the second segment contains no wavelength conversion material, wherein a part of the plate is disposed on an optical path of the excitation light, and wherein the plate and the excitation light are moveable relative to each other so that different segments are exposed to the excitation light at different times; and a dichroic element disposed between the wavelength conversion material and the light source, the dichroic element transmitting the excitation light and reflecting light emitted by the wavelength conversion materials".

This case involves the understanding of the angle between the dichroic element and the wavelength conversion material. Said angle is not defined in the claim, but set as 45° in the allegedly infringing product. Thus, according to the claim, said feature falls within the scope of protection of

the claim. But the court drew an opposite conclusion after analyzing the technical contributions made by the patentee.

The court held that the function of the "dichroic element disposed between the wavelength conversion material and the light source" in the patent in suit was to increase the utilization rate and brightness of light, which was recognized by the patentee. The working principle of the dichroic element is that the light source emits the excitation light to the dichroic element, the dichroic element transmits the excitation light, the transmitted excitation light acts on the wavelength conversion material, and the wavelength conversion material converts the wavelength of the received light and then sends it to the exit aperture. Because the light emitted by the wavelength conversion material after receiving the excitation light may travel in different directions, only a part of the emitted light can reach the exit aperture, and the light in other directions is wasted. For this reason, it is necessary to dispose a corresponding structure so that the excitation light in various directions will eventually reach the exit aperture, thereby enhancing the utilization rate and brightness of light. The technical means in the patent is to arrange a dichroic element at a proper position and angle in such a way to reflect the excitation light, which is emitted from the wavelength conversion material to the dichroic element, to the wavelength conversion material and then to the exit aperture as much as possible, in a bid to increase the utilization rate of light.

Where the wavelength conversion material and the dichroic element are disposed at different angles, they have dissimilar effects on the utilization rate and brightness of light. Where they are arranged in parallel, the excitation light emitted to the dichroic element can be reflected to the wavelength conversion material to the maximum and then to the exit aperture, which best facilitates the improvement of the utilization rate and brightness of light. As such, a parallel arrangement is shown in the drawings of the patent in suit, which proves that the arrangement of the wavelength conversion material and the dichroic element in a substantially parallel manner is the preferred embodiment for enhancing the utilization rate and brightness of light.

While the substantially parallel arrangement is considered as the preferred embodiment, within a certain range of angles, the larger the angle between the wavelength conversion material and the dichroic element, the less effective the arrangement is in improving the utilization rate and brightness of light. When, as in the allegedly infringing product, the angle is set to 45°, the excitation light emitted to the dichroic element can hardly be reflected to the exit aperture. Therefore, such an angle arrangement in the allegedly infringing product can hardly improve the utilization rate and brightness of light.

Although the patent in suit does not define the dichroic element by the angle between the dichroic element and the wavelength conversion material, the angle therebetween should be set within a range capable of achieving the above technical effect, that is, to increase the utilization rate and brightness of light. The allegedly infringing product adopts the 45° angle arrangement, which is the worst choice because the utilization rate and brightness of light cannot be improved. Therefore, said feature of the allegedly infringing product is neither identical nor equivalent to that of claim 1 of the patent in suit. [14]

(2) Examples and drawings

In addition to the above, it is more often in practice to see that the patent applicants or patentees try to construe claims as one of the embodiments or specific examples shown in the drawings.

In the slurry case as mentioned above, the patentee asserted that the "surface roughness" in the claim shall be understood as a particular surface appearance of the diamond shown in the drawings, that is to say, the roughness corresponds to the number of the spikes on the surface of a diamond particle, and the more spikes it has, the smaller the roughness, and *vice versa*. The court did not accept this argument on the grounds that the description should not be used to further limit the claim.

Whether the description can be used to limit the claims can be further analyzed from another perspective. If the patent applicant or patentee desires to read a specific technical feature mentioned in the description into the claims, said feature could be defined in the claims during drafting. The reason why it was not recited is very likely that a broader scope of protection is desired, though a drafting error is possible. As is known to all, in civil cases, a broader scope of protection of claims means a greater likelihood that an infringing product falls with the scope of protection of claims, which is more favorable to the patentee. A broader scope of protection is, however, a double-edged sword, as a patent with a broader scope is more likely to be found as being disclosed in a prior art reference in patent grant and invalidation cases.

Let us still take for example the metal material as men-

tioned above. Where the metal material is given its customary meaning, if an allegedly infringing product uses any metal material, it will fall within the scope of protection of the patent. However, as to inventive step, it is disclosed as long as the prior art discloses any metal material. If the metal material is defined as the one having the melting point higher than 500 degrees, this technical feature is less likely to be disclosed compared with the metal material. Under such circumstances, patent applicants or patentees are motivated to incorporate the specific limitation in the description into the claim in the patent grant or invalidation cases to make it easier for an application to be granted or less possible for a patent to be invalidated. However, they are not willing to amend the claim in order to keep a broader scope of protection for future patent infringement cases.

In practice, there is a relatively simple judging method. If, in substantive examination and reexamination procedures, a patent applicant refuses to amend the corresponding claim when filing amended documents, especially when the examiner has rejected the claim on obviousness grounds, the applicant still refuses to add the feature in the description to the claim but insists on reading the feature in during claim construction, it can be determined that the patentee tries to limit the claim by the description, rather than interpret the claim, which shall not be accepted.

Here is a patent reexamination case, in which the court took prosecution history into account. The claim is drafted as "a microRNA detection reagent kit, characterized by comprising a capture molecule and a capture bridge molecule, wherein the capture molecule is an oligonucleotide coated on a solid phase, and the capture bridge molecule is DNA, one end of which can partially hybridize with the capture molecule and the other end of which can partially hybridize with the microRNA to be tested; further comprising an amplifying bridge molecule and an amplifying molecule, ... wherein the partial sequence of the capture bridge molecule and the partial sequence of the amplifying bridge molecule complement and match the whole sequence of the microRNA molecule to be tested, and the complementary and matching areas between the two and the microRNA molecule to be tested do not overlap."

The patent applicant asserted that although claim 1 literally includes both mesh amplification and linear amplification, the claim should be interpreted according to the description and drawings, such that it only includes the mesh amplification as stated in the description.

Given that the patent applicant has amended the application twice during reexamination stage, the court pointed out that, reexamination procedures are different from invalidation proceedings as the former does not prohibit the patent applicant from amending claims by adding features in the description to the claim. For this reason, if the patent applicant deems that claim 1 only includes the mesh amplification as specified in the description, he can certainly narrow down the scope of claim 1 to such a specific manner. However, the applicant did not make such an amendment, which implied that the applicant intended to obtain a broader scope of protection if granted and meanwhile confine the scope in the assessment of inventive step by means of interpreting the claim in a narrow sense. This is not acceptable under patent law. [15]

This case is about means-plus-function claim. Claim 1 is drafted as "a method for processing low-twist single-strand ring-spun yarns, which is used for industrial production of the low-twist single-strand ring-spun yarns, characterized in that the method comprises the steps of: providing a false twister disposed between a pair of front rolls and a yarn guide groove of a ring spinning machine; feeding an original sliver into the false twister so as to twine and twist the sliver under the action of the false twister; twisting the yarn outputted from the false twister reversely in a direction opposite to the twisting direction of the false twister to thereby form a single-strand yarn under the joint action of the rotation of the ring spinning machine's traveller and the false twister; and eventually winding the single-strand yarn on a ring-spun spindle through the yarn guide groove via the traveller;

wherein the transmission ratio between the false twister and the spindle of the ring spinning machine is controllable in real time, in such a way to realize the particular transmission action between the spindle of the ring spinning machine and the false twister, reduce the end breakage rate in the over-spinning stage and improve the spinnability of the single yarn, and the false twister can control and adjust the arrangement and stress distribution of fiber bundles in the single-strand yarn, so that the processed single-strand yarn has a controllable residual torque, including no residual torque."

In this case, besides the issue of whether the functional feature has a limiting effect, the patentee's interpretation of "controllable in real time" is untenable. With reference to the examples of the description, the patentee argued that

"controllable in real time" means "the false twister and the spindle operate at different speeds". In contrast, the court held that "since there is no necessary connection between the term 'controllable in real time' and the speeds of the false twister and the spindle, (the transmission ratio therebetween) is still 'controllable in real time' even though they operate at the same speed. Hence, it cannot be unambiguously derived from said feature that 'the false twister and the spindle operate at different speeds'. Although the patentee argued that the meaning of the term 'controllable in real time' can be inferred from the embodiments of the description, the specific limitation found in the embodiments should not be used to confine the claim in administrative procedures. In fact, it is the setting relationship between the false twister and the spindle that renders the present patent inventive. If it is necessary to incorporate the technical feature that 'the false twister and the spindle operate at different speeds' into claim 1 of the present patent, the patentee shall clearly recite this feature in the claim. There is no difficulty in expressing this technical feature in words, so it is not necessary to derive it from other parts of the specification. For these reasons, in the absence of clear recitation in the claims, the court held that the distinguishing feature 2 cannot be construed as the defendant understood." [16]

3. Reference can be made to the description where the understandings of a claim term diverge.

A claim is composed of words, which are, however, characterized by having multiple meanings. Although those skilled in the art are expected to understand the claims and the Guidelines for Patent Examination set forth corresponding provisions on the knowledge and level of skills thereof, it is examiners and judges who actually interpret the claims in specific cases and it is not rare in practice to see those actual interpreters have diversified understandings of specific terms. Under such circumstances, the description and the drawings are conducive to unify the divided views.

The following example is related to a supporting assembly for use in a wheel hub. The claim is drafted as "the supporting assembly installed in an integrated wheel hub groove surrounding a rim according to claim 1, characterized in that the circular supporting bodies are made of a rigid material, and the circumference of each circular supporting body is not more than half of the circumference of the whole circular ring".

This case involves the interpretation of the term "rigid material", which determines whether the additional technical feature of said claim has been disclosed. The patentee asserted that the rigid material refers to a material that is hard and "less prone to deformation". Though not being the sole reasonable interpretation, the patentee's assertion is one of the reasonable interpretations. However, the description of the patent in suit recites as follows: "the supporting assembly uses circular supporting bodies made of a rigid material, which may be the one with the same or similar characteristics as the material of the hub, so as to have the same or similar coefficient of thermal expansion as that of the hub". These sentences showed that the rigid material in the patent in suit has a coefficient of thermal expansion, which means the rigid material isn't only the one that is hard and non-deformable as asserted by the patentee. Hence, the patentee's argument cannot be established.[17]

The specific disclosure in the description is also considered in the following example. The claim is drafted as "a bouillon and/or seasoning powder, which comprises, in total powder weight %, from 1-20% of an oil, up to 95% of a miller filler and/or non-milled filler, and, in total oil and fat weight %, up to 20% fat, as well as optionally spices, flavors and/or plant extracts, wherein the oil means oil or mixture of oils which is liquid at room temperature and which has a solid fat content of less than 5% at 20℃, and wherein the milled filler is a milled crystalline ingredient and has a mean diameter of from 5 to 80 μm, and wherein the milled filler is 4-95% in total powder weight %".

The patentee asserted that the subject matter of the patent in suit, "a bouillon and/or seasoning powder", refers to a clear broth, excluding starch. It cannot be known from the subject matter alone whether starch is included or not. Nor is it possible to make such a determination from other features of the claims. However, the description recites as follows: "especially for the bouillon in single particle form, it may also be a fine powder of a porous ingredient such as maltodextrin, starch and/or flour, which adsorbs the oil, for example". It can be seen that the bouillon and/or seasoning powder in claim 1 of the patent in suit should not be understood as excluding starch. [18]

Here is another example, which claims "use of ranolazine for preparing a drug for reducing or preventing metastatic behaviour of cancer cells in voltage gated sodium channel (VGSC) expressing cancer by the effect of at least reducing the persistent part of the VGSC current without eliminating the transient part, wherein the dosage of ranolazine has said effect in the cancer cells in VGSC expressing

cancer without killing the cancer cells."

This case was mentioned above in relation to dosage features. In this case, the patentee claimed not only that the dosage had a limiting effect, but also that the "dosage of ranolazine" in the claim shall be construed as a "pharmaceutically acceptable amount". Although the court agreed that the dosage had a limiting effect, it did not accept the patentee's argument that the "dosage of ranolazine" means a "pharmaceutically acceptable amount", because it was not recited in the claim, and, furthermore, the dosage mentioned in an embodiment exceeded the pharmaceutically acceptable amount. It can be seen that the dosage of ranolazine shall not be construed as the pharmaceutically acceptable amount even based on the recitation of the description. [19]

Conclusion

Claim construction is the process of consideration from two perspectives: the meaning and scope of claim terms. As for the meaning, claim terms shall be generally given their ordinary and customary meaning understood by those skilled in the art unless clearly specified in the description. As for the scope of terms, it shall not extend beyond the scope of claims unless implicitly defined. Not every word in the claims is limiting and only those that limit the subject matter of the claims need to be taken into consideration. Generally speaking, non-technical features, features on overall technical effect and mechanism and the like do not have a limiting effect, whereas functional features, preparation methods, installation methods, features on medication administration and the like shall be analyzed on a case-by-case basis. Although the rules for claim construction are substantially the same in patent infringement cases and patent grant and invalidation cases, there are still differences in the rules for interpreting functional features and the function of the object of invention. ■

The author: Judge of the Beijing Intellectual Property Court

[9] The Administrative Judgment No. Jing73xingchu 13839/2020.

[10] The Administrative Judgment No. Jing73xingchu 771/2016.

[11] The Administrative Judgment No. Jing73xingchu 5740/2016.

[12] The Administrative Judgment No. Jing73xingchu 17056/2020.

[13] The Civil Judgment No. Gaominzhongzi 172/2005.

[14] The Civil Judgment No. Jingzhiminchuzi 46/2014.

[15] The Administrative Judgment No. Jing73xingchu 1683/2017.

[16] The Administrative Judgment No. Jing73xingchu 254/2016.

[17] The Administrative Judgment No. Jingzhixingchuzi 944/2015.

[18] The Administrative Judgment No. Jing73xingchu 8021/2017.

[19] The Administrative Judgment No. Jing73xingchu 10670/2019.

International Patent Applications Defy 2022 Challenges, Continue Upward Trend

Demand for patent protection continued to grow in 2022, with innovators in China, the United States, Japan, the Republic of Korea and Germany leading in filings under WIPO's Patent Cooperation Treaty (PCT) which simplifies the process of seeking patent protection in multiple countries.

In 2022, PCT filings rose slightly by 0.3%, totaling 278,100 — the highest number ever recorded in a single year. The overall modest growth rate reflects the challenging economic conditions prevailing in 2022. Notwithstanding these conditions, firms continued to invest in innovation and intellectual property.

Demand for design protection saw double-digit growth, with China's 2022 accession to WIPO's international design registration system fueling a surge in international design applications.

In 2022, China continued to be the top origin of PCT applications filed with 70,015 — a modest growth of 0.6% from the previous year. The US came in second with 59,056 applications, (–0.6% drop on 2021). Japan followed with 50,345 applications (+0.1%). The Republic of Korea and Germany rounded out the top five, with 22,012 applications and 17,530 applications respectively, both experiencing growth with 6.2% and 1.5% respectively.

Source: WIPO