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WORLD INTELLECTUAL  
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## WIPO-MOST INTERMEDIATE TRAINING COURSE ON PRACTICAL INTELLECTUAL PROPERTY ISSUES IN BUSINESS

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PATENTABILITY AND CLAIM INTERPRETATION

*prepared by the International Bureau*

## I. WHAT ARE CLAIMS?

1. A patent application contains, in general, a description, a claim or claims, an abstract and drawings (if any). The claim (or the claims) is (are) the most important part of the patent application. Once a patent is granted, it is the heart of any granted patent.

2. This is because, in the patent application, the applicant should define the subject matter for which the applicant seeks patent protection in the claims.<sup>1</sup> Consequently, the patentability of the invention is determined on the basis of the invention described and defined in the claims. Whether the invention is novel or not, involves an inventive step or not, is capable of industrial application or not and is sufficiently disclosed or not are examined vis-à-vis the claimed invention.

3. Once patented, the scope of patent protection should be determined by the claims.<sup>2</sup> Therefore, the exclusive rights conferred by a patent can be enforced in relation to the invention defined in the claims. Whether a third party is infringing a patent or not is determined on the basis of the claimed invention in a patent. Further, where a third party requests the revocation of a patent after its grant, whether a patent is valid or not is decided by answering the question as to patentability of the patented invention defined in the claims.

## II. How do the claims look like?

4. As an invention may be a product or a process, in principle, there are two basic types of claim, that is, claims to a product or apparatus (product claim) and claims to an activity such as a process or use (process claim). The product claims define a substance or composition (for example, chemical compound or a mixture of compounds) as well as any physical entity (for example, object, article, apparatus or system of cooperating apparatus). As regards process claims, the process may be exercised upon material products, upon energy or upon other processes such as control processes. The following are examples of product and process claims:

[Example 1]

An insecticide composition comprising compound A, consisting of a1, a2 and a3, and a carrier.

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<sup>1</sup> See, for example, Article 26, paragraph 4 of the Patent Law of the People's Republic of China (hereinafter referred to as the "Chinese Patent Law").

<sup>2</sup> See, for example, Article 56, paragraph 1 of the Chinese Patent Law.

[Example 2]

Steering mechanism incorporating an automatic feedback circuit characterized by feature X, Y and Z.

[Example 3]

1. A process for treating textiles comprising spraying the material with a liquid coating under ultraviolet light irradiation.

2. A process according to claim 1 comprising the step of coating at 200 - 210°C.

3. A process according to claim 1 or 2 characterized by the coating composition X.

5. Typically, an application contains more than one claim (see Example 3). As in Claim 1 of Example 3, a claim may be written in two parts, the first part consisting of a statement indicating those technical features of the invention which are necessary in connection with the definition of the claimed subject matter and which, in combination, appear to be part of the prior art, the second part (“characterized portion”), introduced by the words such as “characterized by”, “characterized in that” and “comprising”, consisting of a statement indicating those technical features which, in combination with the technical features stated in the first part, define the matter for which protection is sought. Because of the nature of the claimed invention, in some cases, it is more appropriate to draft a claim in a single part containing a recitation or a combination of several technical features, or a single technical feature, which defines the matter for which protection is sought.

6. As in the Examples above, an invention should have one “independent claim” directed to the essential features of the invention (for example, Example 3, Claim 1). Any such independent claim may be followed by one or more “dependent claims” and “multiple dependent claims” (for example, Example 3, Claims 2 and 3, respectively). A dependent claim or a multiple dependent claim includes all the features of one or more other claims, respectively, and further defines the claim(s) to which it refers by additional technical features. Drafting claims in a dependent or multiple dependent form makes it possible to avoid repeating all the features that are already defined in the preceding claims. An excessive use of multiple dependent claims, however, may create confusion in determining the scope of the claims.

### *III. Requirements concerning claims*

7. Since the claims define the scope of protection, from the viewpoint of the applicant and patentee, it is important to draft the broadest claims possible and to obtain a patent with the broadest claims possible. To draft a broad claim, it is essential to identify the critical features and to give an explanation of why they contribute to an effective solution to the problem. Then, having identified the critical features and their effect, it is necessary to ask how else this effect may be achieved, that is, can the specific features be substituted or altered while still achieving the end result. The broadest claim is the one restricted by the least number of features. Also, those features should be expressed in a way that all the possible substitutes or

alternatives are covered by the general expression. For example, a claim to an “amplifier” in the field of electronic circuits covers any amplifier in general, while a claim to a specific amplifier circuit identified by the connections of transistors and other devices covers only that specific amplifier.

8. In some countries, to be patentable, inventions should have a technical character. Consequently, the claims should be defined by the technical features of the invention, and not by, for example, commercial advantages or other non-technical features.

## Clear and concise claims

9. For third parties, the claims have the function of identifying the boundaries of protection. In order to avoid infringing a patent unintentionally, it is important for third parties to know the exact scope of the patented claims. Without knowing the scope of patent protection, third parties would have great difficulty in pursuing their daily business, since they would never be sure about whether they are infringing a patent or not. Therefore, the claims cannot be obscure and ambiguous. They should be “clear” and “concise”.<sup>3</sup>

10. In general, the claims should be considered to be clear if a person skilled in the art can determine the boundaries of the claimed invention with a reasonable degree of certainty.<sup>4</sup> The claims should be clear both individually and in their totality.<sup>5</sup> Since the interpretation of the claims should be made on the basis of the wording of the claims, the meaning of the terms of a claim should, as far as possible, be clear for a person skilled in the art on the basis of the wording of the claim alone. A claim should not include vague or equivocal forms or wording which leave the reader in doubt as to the scope of the claim. For example, inconsistency between the terms of a claim and the description or prior art teaching, the use of terms such as “essentially”, “relatively”, or “similar” in the claim, or the absence of the basis of reference, where a word or a phrase refers to an earlier citation, could be considered as not complying with the clarity requirement. Similarly, in general, relative terms, such as “thin”, “wide” or “strong” should not be used in a claim unless the term has a well-recognized meaning in the particular art, e.g., “high-frequency” in relation to an amplifier, and this is the meaning intended.

11. The requirement that the claims should be concise also applies to the individual claims as well as the claims in their entirety. For example, undue repetition of words or a multiplicity of claims of a trivial nature which render it unduly burdensome to determine the matter for which protection is sought, could be considered as not complying with this requirement.

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<sup>3</sup> See, for example, Rule 20, paragraph 1 of the Implementing Regulations of the Patent Law of the People’s Republic of China (hereinafter referred to as the “Chinese Patent Regulation”).

<sup>4</sup> See, for example, draft Rule 12 of the draft Regulations under the Substantive Patent Law Treaty (SPLT), which has been discussed by the Standing Committee on the Law of Patents (SCP) under the auspice of WIPO. The SCP is a committee consisting of the member States of WIPO as well as other member States of the United Nations and certain Intergovernmental and non-governmental organizations.

<sup>5</sup> See, for example, draft SPLT Article 11(1).

*Support*

12. In addition to the requirement that the claims should be clear and concise, the claims should be supported by the description (or disclosure).<sup>6</sup> The underlying legal principle is that the exclusive rights conferred by a patent should be justified by the contribution to the art through the disclosure to the public of what the inventor had invented. Therefore, the protection conferred by the patent should not extend to subject matter which was not recognized and not described by the inventor as of the filing date. One example where the claims are not supported by the description (or disclosure) could be that the claimed invention is not consistent with the description (or disclosure), for example, due to contradictions between the claims and the description. Another example could be that, having regard to the description (or disclosure), the claimed invention covers an area which was not recognized by the inventor at the time he filed the application, for example, mere speculation of possibilities that have not been explored yet.

## IV. Interpretation of claims

13. Even at the international level, there is a general understanding that the extent of patent protection should be defined by the wording of the claims.<sup>7</sup> However, the practices regarding to what extent the description and drawings could be taken into account differ among the States.

14. Historically, it is not until the 19th century that claims were required in a patent application. Due to the historic predominance of the description, patent claims were first interpreted on the central claiming theory, according to which claims were simply the core of the protection and the scope of protection could be extended to those features which, in view of the description and drawings, a person skilled in the art could understand from the wording of the claims. In the 20th century, however, a peripheral claiming theory emerged, according to which what can be read from the claims alone set forth the boundary of the maximum scope of protection, and the description and drawings could be referred to only for the purpose of clarifying the ambiguous part of the claims.

15. In practice, many countries take a middle road. That is, the scope of the claims should be determined by their wording, and the description and the drawings (as they are understood by a person skilled in the art) should be taken into account for the interpretation of the claims.<sup>8</sup> Claims create a border around an idea using words. In reality, words, however, sometimes fail to convey what they want to say. In particular, it may not be easy to describe the same idea in different languages where an application in one language needs to be translated in other languages. Therefore, the middle road somehow takes into account the legal certainty for third parties as well as the practical impossibility of defining the invention through words.

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<sup>6</sup> See, for example, Article 26, paragraph 4 of the Chinese Patent Law.

<sup>7</sup> See, for example, draft SPLT Article 11(4) and Article 56, paragraph 1 of the Chinese Patent Law.

<sup>8</sup> See, for example, Article 56, paragraph 1 of the Chinese Patent Law, Article 69 of the European Patent Convention and draft SPLT Article 11(4).

16. According to Article 69 of the European Patent Convention (EPC), “The extent of protection conferred by a European patent or a European patent application shall be determined by the claims. Nevertheless, the description and drawings shall be used to interpret the claims.” The Protocol on the Interpretation of Article 69 EPC states that:

“Article 69 should not be interpreted as meaning that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Nor should it be taken to mean that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patent proprietor has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patent proprietor with a reasonable degree of legal certainty for third parties.”

17. In accordance with the principle above, many countries apply the following practice as regards the interpretation of claims. First, the words used in the claims should be interpreted in accordance with the ordinary meaning and scope which would be attributed to them by a person skilled in the art, unless the description provides a special meaning, and should not be interpreted as being necessarily confined to their strict literal meaning. Where the description provides a special meaning by way of, for example, defining a term appearing in the claim, the description should be used for the interpretation of the claim.

18. Second, the claims should not be interpreted in a limited manner by what is explicitly disclosed in the description and drawings, except where the applicant introduces or agrees to a specific limitation (‘disclaimer’). In particular, the interpretation of the claims should by no means be limited by the scope of the examples of the claimed invention contained in the description. Similarly, the examples should not eliminate from the scope of a claimed invention any additional objective or advantages not cited or inherent in the examples.

## V. Equivalents

19. In principle, the wording of the claims should determine the scope of protection conferred by a patent. If this rule were strictly applied, a patentee may not be able to prevent third parties from making unimportant and insubstantial changes and substitutions to the patented invention, which, though adding nothing substantial, are outside of the scope of the patented claim. Therefore, under certain circumstances, the scope of a patent may embrace so-called equivalent means to the claims described. On the other hand, third parties should be able to rely on the definitional and public notice function of the claims so that they could recognize the clear boundaries of the scope of the patent. In this regard, the interpretation of the claims should take account of the public’s need for clarity of the patent coverage on the one hand and the patentee’s need for fair protection from infringement on the other.

20. For this purpose, in order to determine the scope of the patented claims, two basic principles are found in many jurisdictions. The first widely accepted principle is that due account shall be taken of equivalents when determining the scope of the claims. This is called the “doctrine of equivalents”. Even if the specific tests applied to define the equivalents vary from one jurisdiction to the other, the principal objective is that non-substantial changes to the patented invention should not be allowed in order to by-pass the possible infringement of the

patented invention. This would be the case where it is reasonably possible for a person skilled in the art to change or substitute the claimed element with the equivalent element so that the modification would be outside the literal scope of the patented claim. The difference between the claimed element and the equivalent elements may not be substantial, if it constitutes, for example, a mere substitution of an element or mere change of form, proportions, size, location, arrangement or material. In order to determine what constitutes “non-substantial,” several factors are relied upon in various jurisdictions. Many of them provide that the same (or substantially the same) result or effect shall be produced by the claimed element and the equivalent element. Other factors that are considered under certain jurisdictions are the predictability of the substitution by a person skilled in the art, and the same (or substantially the same) function, and/or the way the invention works, performed by the claimed element and the equivalent element.

21. Another issue involved is the timing for the determination of equivalents. Depending on the jurisdiction, the relevant timing may be the filing (or priority) date of the application, the publication date of the patent or the date of the alleged infringement. The first option is based on the consideration that the scope of the protection defined by the claims could not go beyond what was disclosed as of the filing (or priority) date, and therefore, the patentee would be protected against insubstantial modifications to his patented invention as of the filing (or priority) date. The second option focuses on the time at which the public was able to know the boundaries of the claims, that is, the date of publication of the patent. The third option would provide the possibility for the patent owner to prevent third parties from substituting the claimed element with an equivalent element which was developed after the filing (or priority) date or the publication date of the patent. For example, a patent owner may prevent third parties from substituting the claimed element with the equivalent element based on the general common knowledge at the time of the alleged infringement, i.e., it would not require any inventive ability for such a substitution. This may be particularly important in areas that develop rapidly.

22. One other issue is whether the equivalents shall be determined by a comparison between the claimed invention as a whole and the alleged infringement or by a comparison between the claimed invention and the alleged infringement on an element-by element basis. Although the scope of protection is defined by the claimed subject matter as a whole, many jurisdictions take the position that the test of equivalents should be determined by considering the nature of the change or substitution made to the claimed element, i.e., whether the difference between what was claimed and the alleged infringement were substantial or insubstantial.

23. The second principle which is recognized in many countries is that, if a person skilled in the art has a reason to assume that an element had been excluded from the scope of the claims, that element would not be considered as an equivalent element. It takes into account the policy consideration that the patented claims should allow third parties to clearly identify the boundaries of the scope of protection. Many jurisdictions provide that items which fall under the prior art or are obvious from the prior art may not be considered as equivalents. The consideration behind is that, when reading the claims, third parties would naturally anticipate that elements that fall under the prior art or elements that are obvious from the prior art would not, and should not, be covered by the patented claims. Similarly, prosecution history may limit the scope of equivalents, since third parties may reasonably presume that certain elements would not fall within the scope of the claims on the basis of the historical records in relation to the claims. For example, claimed subject matter amended or surrendered, and statements made by an applicant or an owner of a patent before the Office or a court may

trigger a reasonable presumption by third parties that certain elements are excluded from the scope of the claims.

## VI. Need for international harmonization?

24. Since the claims define the boundary of an idea by words, it appears hardly possible to achieve complete harmonization with respect to claim interpretation. Although many patent Offices establish Examination Guidelines that provide guidance to their examiners, a claim with a certain wording may not always be construed in the same manner among examiners. No harmonization through case law has been achieved so far. In Europe, diverging decisions by the national courts of different EPC member States can be found regarding the validity and infringement of the same European patent. On top of those differences, national/regional practices concerning claim interpretation differ significantly.

25. For example, so-called “product-by process claims” are construed differently among different States. A product-by-process claim is a claim that defines a product by its manufacturing process. An example of such a claim can be: “protein Z which is obtained by process P comprising steps P1, P2, P3... and Pn.” In some countries, such a claim is construed as the final product *per se* that possesses the characteristics derived from the manufacturing process stated in the claim. Therefore, regarding the above example, if protein Z manufactured by a different process Q is identical to the claimed protein and possesses the same characteristics derived from the process P, and if it is part of the prior art, the claimed protein Z is not considered novel whether or not the process P has been publicly known as of the filing date (priority date). In other countries, the same type of claims is construed narrowly, that is, where a claim defines a product in terms of the process by which the product is made, the claim relates to, and would be anticipated by, only a product which has been actually produced by the process.

26. Another example of different interpretation of the same claim among different countries could be the so-called “use claims”. In some countries, a claim to a substance or composition for a particular use is construed as meaning any substance or composition which is in fact suitable for the stated use. For example, a claim to a known substance X for the first use as an insecticide would be regarded as restricted to the substance X presented for the insecticide. In some other countries, a use claim of the form such as “the use of substance X as an insecticide” or “substance X when used as an insecticide” would be regarded as equivalent to a process claim of the form “a process of killing insects using substance X.” In certain other countries, such “use claims” are considered as lacking clarity, and are not accepted.

27. The Patent Cooperation Treaty (PCT) makes it possible for an applicant to prepare and file one international application which has the same effect as filing a national application in each Contracting State. However, since substantive requirements as well as a number of requirements concerning claim formats are governed by national/regional laws, the applicant should “customize” the application in view of different national/regional requirements during the national/regional phase. Taking into account the differences in acceptable claim formats, claim interpretation and applicability of equivalents among the designated/elected States, the applicant may need to amend the international application in each designated/elected State during the limited time period for the amendments as prescribed in the national/regional law.

28. Within the context of the Substantive Patent Law Treaty (SPLT) currently discussed by the Standing Committee on the Law of Patent (SCP), member States of WIPO are



discussing a harmonized approach regarding, among other matters, claim interpretation and acceptable claim formats. Such an initiative would be beneficial for applicants, since they would need to prepare only one set of claims which would be accepted, and interpreted in the same manner, in all Contracting Parties. It would also be beneficial for the patent Offices, as search and examination results obtained from other Offices could be better utilized for the same set of claims. One of the speakers at the WIPO Conference on the International Patent Conference in 2002 stated: “Claim drafting mixes understanding of law with understanding of invention with understanding of prior art with understanding of business.” This statement precisely depicts the difficulties surrounding claim drafting and claim interpretation not only at the national, but also at the international level.

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