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Patent Drafting Method of Forward-looking Layout Based on Examination Opinions

The core of the patent system lies in "publicity in exchange for protection", and the scope and stability of this "protection" fundamentally depend on the quality of patent application documents. High-quality application documents are not only the carrier of technical information, but also the legal weapon to define the scope of exclusive rights and deal with various challenges in the right grant and affirmation procedures. However, a common dilemma in practice is that the "drafting" of patent applications and the "response" of examination opinions are often separated. When drafting, patent attorneys mostly focus on the logical elaboration and formal specification of the technology, and lack forward-looking prediction and strategic layout around the core provisions such as Articles 22 (novelty, inventive step, and practicability) and 26 (clarity, and claims being supported by description) of the Patent Law that may cause disputes. This separation between the "drafting" and "response" stages may lead to the passivity of the examination stage due to the "congenital deficiency" of documents. To this end, this article proposes and defines the core concept of "response ability" for patent agency, aiming to study how to improve the "passing examination" ability of application documents in the drafting stage through forward-looking layout, so as to lay a solid foundation for efficient right acquisition and right stability.

I. Preamble: From Passive Response to Active Construction

In the practice of patent agency, the patent attorneys often face such a dilemma: in the face of examination opinions, they find that the application documents lack strong evidence to respond effectively. This dilemma is no accident, but its root lies in the serious separation between the "drafting" and "response" stages of patent applications that are widespread at present.

The traditional patent agency service model often regards the submission of application documents as the main completion node of a project. Under this mode, the drafting work focuses more on meeting the formal requirements of the Patent Law and the Guidelines for Patent Examination, and strives to "explain clearly and completely" the technical solutions in the technical disclosure document. However, this model ignores a key fact: the core goal of a patent application is to obtain a granted patent with stable rights and reasonable protection scope, rather than just completing a text that conforms to the format and includes the entire contents of the technical disclosure document. Substantive examination is the key stage to achieve this goal. In the substantive examination stage, omissions in the drafting process, such as the technical effect is not fully confirmed, the support

of embodiments is weak, and the claim level is lacking, may constitute the main obstacles to grant. This separation not only leads to the passive lengthening of the response cycle, but also may make valuable inventions and creations ultimately fail to get the protection they deserve.

In order to solve this problem, this paper puts forward the core concept of "response ability", which refers to the intrinsic attribute and ability endowed with patent application documents at the drafting stage, and can provide efficient, powerful and multi-level support for the response to subsequent examination opinions. It marks the transformation of application documents from pure technical information disclosure documents to a solid foundation for future legal procedure games.

Improving "response ability" has multiple values: significantly shortening the response time by preparing well-prepared arguments in advance; with a solid logical line of defense and evidence chain, effectively improving the grant probability; enhancing the stability of rights through multi-level layout; ultimately, effectively reducing customer costs by improving efficiency and quality.

An application document with high "response ability" generally shows the following three core characteristics:

First, forward-looking layout: predicting key points of examination, and reserving argument materials. That is to say, in the drafting stage of the document, the possible key controversial points in the examination process are predicted, and empirical and logical materials beyond conventional disclosure obligations are prepared in advance for core phase such as inventiveness arguments.

Second, structural toughness: building a gradient protection architecture to provide diversified response paths. That is, through the collaborative design of claims and specifications, the gradient protection architecture is constructed in the document. Such an architecture ensures that when faced with different examination conclusions, it can provide diversified and hierarchical response paths from active arguments to security modifications.

Third, the depth of argumentation: constructing a multi-dimensional and multi-level three-dimensional argumentation structure. That is to say, aiming at the core invention concept, a multi-dimensional and multi-level three-dimensional argumentation structure is constructed. This system ensures that when a certain argumentation path is challenged, other argumentation angles can be quickly switched or superimposed to form continuous and strengthened persuasiveness.

Based on this concept, this paper constructs a strategic framework that runs through the entire patent application process: before drafting, a forward-looking layout is realized through a structured communication process, and key information to support subsequent argumentation is systematically obtained; during drafting, structural toughness is ensured by constructing multi-level claims, and argumentation depth is constructed through an all-round supporting specification structure; after drafting, the implementation quality of the above three core characteristics is ensured through targeted verification. This system aims to promote the paradigm shift of patent agency practice from passive compliance to active construction, and provides a systematic realization path for the cultivation of high-value patents.

The above three core characteristics are described in detail in the following chapters.

II. Forward-looking Layout: Strategic Planning and Information Reserve Before Drafting

Under the concept of "response ability", communication before drafting is no longer a simple record of technical features, but a crucial strategic

information reserve. The goal of this stage is to realize the paradigm shift from "passive recording" to "active mining" and lay a solid argument foundation for the whole application document.

In the strategic communication before drafting, the patent attorneys should systematically predict the key controversial points that may arise during the examination process, that is, substantive disputes that may arise from core provisions such as Article 22 (novelty and inventiveness) and Article 26 (support of the specification and clarity) of the Patent Law. These controversial points usually focus on inventiveness judgment, confirmation of technical effects, adequacy support of the embodiments, etc. Through in-depth communication, the patent attorneys may reserve argument materials in advance to lay the foundation for the response to subsequent examination opinions.

2.1 Strategic shift in communication paradigm

The role of the patent attorneys should change from a technical recorder to a strategic digger. The core of communication is no longer "what is the technical solution", but the "why" and "what else" behind it should be deeply explored, that is, the innovation logic and expansion boundaries of the technical solution. This shift aims to systematically obtain information that is easily

overlooked in routine communication, but is crucial in the response of examination opinions.

2.2 Three core links of in-depth communication

In order to achieve effective information reserve, in-depth communication should focus on the following three links:

Tracing the invention story: by asking questions such as "how is the problem in the existing solution discovered?", "why does this problem occur in the existing solution" and "how is the present solution conceived?", the inventor is guided to reproduce the discovery of the problem in the prior art and the creation process of the technical solution of the present application. Its purpose is to dig up key evidence that can prove the non-obviousness, such as the discovery of technical problems, the breakthrough of technical bias, and the creative transformation of failure experience.

Exploring "technical cause and effect": going beyond the appearance of technical effects, the questions such as "through what mechanism does this feature bring about the effect?" and "is there synergy between multiple features?" may be put forward in depth. The purpose is to establish a solid logical chain of "feature-means-effect" and build a solid principle support for subsequent inventiveness arguments. For example, in the technical disclosure document, the inventor may

provide a range of a certain parameter. In the patent examination process of recent years, such a feature is generally regarded by the examiner as an obvious feature that can be obtained by those skilled in the art based on a limited number of experiments, and such a feature has very little contribution to inventiveness. In this regard, the patent attorneys may inquire about the effect that the range of the parameter can bring when communicating, and further, may inquire about the determination basis and determination process of the range. This may enhance the contribution of the feature to inventiveness and reduce the likelihood that the feature may be directly regarded as an obvious feature. In addition, the range of some parameters may be an empirical value considered by the inventor, but the empirical value must also have a basis for determining it. For the range of parameters related to the core features of the technical solution, the patent attorneys may try to guide the inventor to provide a basis for determining the empirical value, so as to greatly improve the contribution of the range of parameters to inventiveness.

In addition, combined with the idea of exploring "technical cause and effect" as described above, the patent attorneys may also try to analyze the logical relationship between the numerical range and other related parameters from the determination process of the numerical range or the scientific principle of its effect through

communication with the inventor, so as to obtain the relationship satisfied by different parameters according to the simple numerical range. For example, the numerical range given in the technical disclosure document is: $5 < a < 10$, which may be a range obtained by the inventor in a specific application scenario, rather than the logical relationship satisfied by parameter a in various scenarios. Such scope is generally considered to be an obvious feature based on a limited number of trials in the patent examination process. However, if the logical relationship actually satisfied by parameter a can be obtained based on the determination process of this numerical range, for example, the relationship satisfied by parameter a : $a < (x+5) * b$ (where a is the parameter to be protected, b is another associated parameter, and x is a constant from 0 to 5), the role of this feature in inventiveness response can be greatly improved.

Building a "solution set": the patent attorneys may systematically sort out various possible technical paths, including but not limited to: different technical means to achieve the same function, equivalent alternatives to core components, and the like. This aims to draw a complete pedigree of technical solutions and provide sufficient technical alternatives for building a multi-level claim system and preparing "response anchors" for subsequent modifications. For example, in the solution provided by the inventor, the method of providing a

plurality of circular convex structures in a certain area of a display panel is adopted to prevent some structures on the display panel from being scratched by a mask during the manufacturing process. The patent attorneys may determine whether the plurality of circular convex structures may be replaced with strip-shaped convex structures or other shaped convex structures through communication with the inventor.

Through the above three links, the patent attorneys may complete the strategic reserve of key information before drafting, such that the application documents have a "forward-looking" vision to meet future examination challenges at the starting point.

III. Structural Toughness: Gradient Defense Layout of Claims

3.1 Strategic design of independent claims

The ideal protection scope layout should fully reflect the core invention concept, adopt appropriate generic term, and seek the maximum protection scope permitted by law. In this process, the patent attorneys may need to accurately grasp the essential characteristics of the invention, and distinguish which technical features are essential and which technical features may be reasonably summarized. When conceiving independent claims, the patent

attorneys may need to simultaneously plan the guaranteed scope. The core of the "simultaneously plan" here lies in presetting the key "retreat solutions" for the response to the opinions in the examination stage. Its application logic is that when the examiner questions the lack of inventiveness in the ideal scope of an independent claim, the patent attorneys may quickly add the features as a "guaranteed scope" described in the dependent claims and/or the specification to the independent claim to form a new independent claim. This strategy can not only make safe and compliant amendments based on the contents described in the specification, effectively avoid the legal risk of "amendments beyond the scope", but also ensure that patent applications can still be authorized efficiently and stably after adjusting the protection scope by virtue of the advantages of this new solution that are more clearly distinguished from the prior art. This guaranteed scope usually includes more specific technical features. Although the protection scope is relatively small, the grant prospect is clearer. The setting of the guaranteed scope needs to consider the following factors: the most significant distinguishing feature from the prior art, the technical solution with the most concentrated invention concept, and the specific implementation with the highest commercial value. The guaranteed scope is not a simple narrowing of the ideal scope, but a more targeted protection solution designed based on an in-depth understanding of the prior art and the

essence of inventions.

3.2 Matrix construction of dependent claims

The construction of the dependent claims should define the independent claims from multiple dimensions. These dimensions include, but are not limited to, specific implementations of structural features, preferred solutions, optimal ranges of process parameters, specific application scenarios, and the like. The specific limitations under each dimension should constitute a complete technical solution, which can not only be used as a retreat solution independently, but also be combined with other features to form a new level of protection.

In the dependent claims, "response anchors" need to be consciously arranged. The so-called response anchors refer to specific technical solutions arranged in advance in the dependent claims in order to make safe, effective and quick amendments in the response to subsequent examination opinions. These anchors are not randomly selected, but key solutions selected from technical solutions for core invention concept and potential examination risks.

When setting the response anchors, the patent attorneys should focus on predicting the examination opinions and make targeted layout based on this: for example, when the invention concept lies in a specific structural combination, the

specific structural feature of the combination may be used as an anchor; when the key point lies in a specific parameter range, the range and its endpoint values may be used as an anchor; when a certain technical feature may be recognized as the common knowledge, a specific solution that emphasizes the technical effect produced by the feature in a specific application scenario may be prepared as an anchor. The purpose of setting the response anchors is to deal with the key points of dispute that may arise in the examination. For example, when a technical feature in a generic claim is questioned as the common knowledge, the specific embodiment solution set in advance in a specific dependent claim may be used as strong evidence to argue that the feature produces beneficial effects in a specific scenario, thereby resolving the controversial point.

For example, for complex numerical ranges that are jointly defined by relationships of multiple parameters, such as $a < (x+5) * b$, such anchors can significantly increase the difficulty of being simply identified by the examiner as "common technical means" because of their non-obvious parametric correlation. When responding to the examination opinions, the patent attorneys may elaborate in depth on the synergistic effect produced by this specific relationship, and provide evidence to show that it is not publicly known.

In contrast, for direct numerical range

anchor, for example, $5 < a < 10$, the key to its setting is that the technical basis for selecting this range must be described. For example, the experimental data described in the specification proves that this specific range has produced unexpected technical effects (such as performance breakthroughs or technical problems are fundamentally solved), which cannot be easily obtained by those skilled in the art through limited experiments. In this way, a seemingly simple range of values is endowed with strong argumentative potential, thereby transforming from a possible "conventional choice" to an "invention point" for inventiveness.

IV. Depth of Argumentation: Constructing the "All-round Support" Specification Architecture

The construction of specification architecture is an important basis to ensure that patent applications have "response ability". A high-quality specification should provide multi-level and three-dimensional support for the whole patent protection system. It should not only meet the formal requirements of the legal level, but also reserve sufficient argumentation resources for the subsequent examination opinions.

4.1 Exact Correspondence between Claims and Embodiments

At the drafting level of the detailed

description, it is necessary to establish an exact correspondence between the claims and the embodiments. This correspondence should meet three levels of support requirements:

The first is the most basic direct support, which ensures that each claim can find at least one explicit corresponding embodiment in the specification. This supporting relationship should be intuitive and need not be overly inferred.

The second is explanatory support. The specification needs to provide a clear explanation basis for the terms and scope in the claims. This may become an important tool for clarifying the protection scope in the response to subsequent examination opinions, and it may also be used as a basis for explanation when there are unclear problems in claims, so as to overcome possible unclear problems. For example, descriptions of a side of a certain component or the length direction of a certain structure may appear in the claims. Although these concepts may be briefly described in the claims, it may be difficult to ensure that the description in the claims is sufficiently perfect, and further explanatory descriptions of these concepts may be made in the specification. These explanatory descriptions may be added to the claims as supplementary descriptions when the examiner has a deviation in understanding the above "a side of a certain component or the length direction of a certain structure" to overcome this problem.

Finally, the extensibility support may include the application mode of the technical solution described in the claims in various specific application scenarios. For example, if the solution described in the claims is a display panel, the specific type thereof (such as a liquid crystal display panel or an organic light-emitting diode display panel) may be described in this section, and the structural difference when the display panel described in the claims is the above type may be described. In addition, some experimental data used to demonstrate the technical effects achieved by the technical solutions in the claims may also be described in this section, so that a rich "demonstration resource library" may be formed. When the examination opinion points out that the claims lack inventiveness, these contents may be directly used as features that can be added to the claims, or may be used as arguments to demonstrate that the technical solutions in the claims possess inventiveness, thereby providing a solid basis for multi-angle and in-depth inventiveness arguments.

4.2 Reserve Technical Demonstration Resources for Response

In the drafting of the specification, in addition to constructing the correspondence between claims and embodiments, it is necessary to strategically describe those deep technical features that may substantially support inventiveness although not written in claims. These features may constitute the

internal argumentation resources for the response of examination opinions, and their core value lies in upgrading technical solutions from "empirical discovery" to "evidence-based rational creation".

Specifically, these deep technical features may include:

Technical features that exist in the technical disclosure document but are not laid out in the claims. Such features may not be laid out in the claims because they are not practically applied technical features, are difficult to implement, or are limited by the number of claims. The patent attorneys may describe such features in the specification as a backup response point. When describing such features in the specification, the three levels of support requirements described in 4.1 above may be adopted to enable such features to have a more complete solution and characteristics that are easy to be added to the claims.

Fully extended technical features. Such features are not technical features in the technical disclosure document and claims, but may be technical features extended by the patent attorney and/or the inventor in the process of communication. The protection scope of such technical features may be relatively small, but the possibility of grant is relatively high, and it may also be used as a backup response point.

V. "Response Ability" Checklist and Execution Process

In order to ensure that patent application documents have high-quality "response ability", it is necessary to establish a standard verification process. This chapter provides a detailed checklist and corresponding execution process to help the patent attorneys conduct comprehensive self-examination before finalizing the document, and promptly discover and make up for potential defects that may affect the response to subsequent examination opinions. The checklist contains three dimensions of systematic checking items:

5.1 Forward-looking layout dimension: this dimension verification aims to ensure that the application documents reserve sufficient argumentation resources for the response to subsequent examination opinions. The focus of the verification includes: whether the main examination disputes of the application in terms of novelty, inventiveness, full disclosure, and the like, are predicted around the core provisions such as Articles 22 and 26 of the Patent Law; whether key alternatives and technical means have been dug and described; and whether there is sufficient argument evidence such as principle explanation, experimental data or equivalent solutions to deal with key controversial points (such as inventiveness arguments). This determines the initiative

and strategy choice space in the response process.

5.2 Structural toughness dimension: this dimension verification aims to ensure that the claims build a hierarchical gradient defense structure that is flexible to respond to different examination conclusions. The focus of the verification includes: whether the construction of independent claims reflects a clear gradient strategy, that is, whether the "ideal scope" that seeks the maximum protection scope and a "guaranteed scope" that contains core invention concept and clearer grant prospects are arranged, meanwhile, through accurate feature selection and generic term, the "guaranteed scope" is regarded as the core specific term or key component of the "ideal scope" for integrated design; whether the dependent claims construct a "defense matrix" covering specific embodiments, alternatives, and optimization parameters; whether explicit "response anchors" are set for all core invention concept; whether the reference relationship between the claims is clear and reasonable; and whether the dependent claims define the independent claims from multiple dimensions. This is related to the flexibility and stability of dealing with different intensities of examination opinions.

5.3 Argumentation depth dimension: this dimension verification aims to ensure that the specification provides all-round and multi-level support for claims, and reserves sufficient argumentation resources for the

response to subsequent examination opinions. The focus of the verification includes: whether all dependent claims are directly supported by the embodiments of the specification; whether the technical effect is supported by experimental data or principle analysis; whether the document logic forms a complete chain of "problem-solution-effect"; and whether the technical features that are not written into the claims but may be used as "back-up response points" are strategically described in the specification, to ensure that these features have a complete description of the solutions, so as to be used as the basis for amendments or arguments when reply to examination opinions. These elements directly affect the underlying persuasiveness of inventiveness arguments.

Through such a quality assurance system, it is possible to ensure that every application document has a high degree of "response ability", significantly improve the efficiency and success rate of the response to subsequent examination opinions, promote the paradigm transformation of patent agency practice from passive response to active construction, and provide reliable guarantee for applicants to obtain stable and valuable patent rights.

VI. Conclusion

The fundamental goal of drafting patent

application documents is to obtain a granted patent with stable rights and reasonable protection scope. The core value of the concept and methodology of "response ability" systematically expounded in this paper lies in completely reversing the traditional thinking of separating "drafting" from "response", and promoting the transformation of patent agency practice to a strategic construction model of "begin with the end in mind". By putting the potential requirements and challenges in the examination stage in advance to the drafting process, the "congenital deficiencies" of the application documents can be avoided from the source, so that it can provide efficient, powerful and multi-level support for the subsequent response of examination opinions.

To sum up, the drafting method oriented to "response ability", through the collaborative construction of forward-looking layout, structural toughness and argumentation depth, provides a clear and feasible practical path for effectively overcoming examination opinions and improving the probability of patent grant. This paradigm is not only the embodiment of the professionalism of patent agency, but also an inevitable requirement to cope with the increasingly severe examination environment and effectively protect innovative achievements. It has important practical significance for improving the service quality of patent agency and cultivating high-value patents.

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