
| RESEARCH ARTICLE

Legal, Technical, and Linguistic Nuances in Patent Translation in English-Chinese Contexts: Based on an Invalidated Patent

Guanghua Chen

School of Teachers' Education, Nantong University, No. 9, Seyuan Rd, Nantong City, Jiangsu, China

Corresponding Author: Guanghua Chen, **E-mail:** cgh8cgh@163.com

| ABSTRACT

Patent translation constitutes a highly specialized domain that necessitates a profound comprehension of both technical terminology and legal frameworks. This understanding is imperative to ensure precise technical accuracy, which is critical for maintaining the legal enforceability and scope of patents, as well as ensuring terminological consistency. The translation of patents presents multifaceted challenges requiring meticulous attention. Through a comprehensive examination of terminological consistency, legal considerations, cultural variances, and the inherent subjectivity of the translator, best practices can be identified to enhance the accuracy of patent translations. The translator's subjectivity plays a pivotal role in this process; it is not merely confined to adhering to dictionary definitions or navigating syntactical complexities. Rather, it involves a holistic and judicious interpretation of the inventor's intent, which must be effectively conveyed in the target language while simultaneously accommodating potential legal implications. This subjectivity transcends conventional principles and encompasses a broader spectrum of considerations. Furthermore, modern digital technology offers significant support in the realm of patent translation. The integration of advanced tools can facilitate the translation process, although it remains essential for translators to possess both linguistic proficiency and specialized knowledge in relevant technical fields. This dual expertise ensures that both the scientific integrity and legal validity of patent documents are preserved during translation.

| KEYWORDS

Patent translation; legal translation; translation equivalence; translator subjectivity

| ARTICLE INFORMATION

ACCEPTED: 10 November 2024

PUBLISHED: 25 December 2024

DOI: 10.32996/ijtis.2024.4.4.7

1. Introduction

Patent documents are special at least in that it requires both specialized technical terms and legal expressions that may differ in meaning from their common usage. The dual function—serving both technical and legal needs—makes patent language complex and unique, which is demonstrated in, for example, the use of precise technical terms, common words with uncommon meanings, structured and repetitive language, legal precision in descriptions, and word associations (Lin and Hsieh, 2010).

Patent translation plays a vital role in the global protection of intellectual property. Patent documents are highly structured and contain a combination of technical descriptions and legal claims, both of which must be translated accurately and consistently. Accurate translations are necessary to ensure that patents are enforceable across different legal jurisdictions, and that the inventions they describe are clearly understood by technical experts and legal professionals alike. Accurate and reliable patent translations serve to create a fair field for businesses and inventors to protect their own intellectual property rights and compete equally and globally.

Linguistic differences between Chinese and European languages, such as found in the presence or absence of articles, markers, the classifier system, tense, word order and syntax, etc. make related translation much more difficult than other language pairs. Key issues such as terminological consistency, legal implications, cultural considerations, and the role of

technology in the translation process have to be taken into full consideration. Principles to follow in this area for high-quality translations are also to be established. Examples can be found in an invalidated razor patent held by Gillette Co. in China to respond to these challenges, its application number being CN95194125, its priority number GB9414092.8 (all information used here publicly available and for research purposes only). The patent was invalidated due mainly to rigid “equivalent” translation of some terms and the vague description of the technical features both during the application process and in invalidation procedures.

2. The distinct nature of the patent document and overall consideration for its translation

Due to the purpose (Gülden TANER, 222-227) it serves, language in a patent document must ensure it is both legally sufficient and strategically effective. Specifications must strike a balance between providing enough detail to support the claims and avoiding limiting language that could restrict unreasonably the scope of the patent. It, therefore must “ensure that the scope of the claims matches any particular purpose the applicant has in mind” (Allison Mayne, 4). In addition, the highly specialized terminology (the “domain-specific” ones in particular), and complex sentence structures (as the “single extended nominal sentence” prevailing in claims) endow such documents peculiarity (Gülden TANER, 228-229)

Translating patent documents requires navigating the intersection of technical, legal, and linguistic standards. The challenge lies in ensuring that the translated text accurately reflects the original scope of the invention without unintentional narrowing or broadening, while adhering to the legal frameworks of various jurisdictions. Errors in translation, particularly in countries like China, can lead to costly disputes or even invalidate a patent. Unlike general translation, patent translation focuses not only on technical accuracy but also on precise legal terminology. Each term must be chosen meticulously to convey the same technical and legal intent, thereby safeguarding the patent’s enforceability and avoiding infringement issues.

Technical translation, in general, is demanding, as it requires not only proficiency in the language but also substantial domain expertise. As noted by Finch (1969) and Erten (1997), an in-depth understanding of the subject matter can be more crucial than linguistic skills alone for an accurate rendition of technical content. However, Byrne (2012) points out that quality in technical translation is influenced by multiple factors beyond terminology: “When combined with a knowledge of text typologies we can then produce a clearer picture of what precisely our translation will look like in terms of features such as language, terminology and content, based on what we know about comparable texts in the target language”. Patent translation, being a specialized form of technical translation, demands additional expertise to balance these elements, making it distinct from other types of technical translations.

Technical Descriptions and Legal Claims are the most important parts of a patent document. The technical portion of a patent provides detailed descriptions of how the invention works, its components, and how it can be used. These descriptions often include highly specialized terminology that must be accurately rendered in the target language. Misinterpreting a technical term can lead to ambiguities that affect the scope of the patent. For instance, in the case of razor blade technology, terms like “pockets” and “reservoir chamber” are central to describing the physical design of the blade. If these terms are mistranslated—such as translating “pockets” as “孔穴” (hole) rather than “凹陷” (dent)—the meaning of the patent could be altered, leading to possible disputes about the scope of the invention. It is therefore, of key importance to take the whole application document into consideration, including the figures. It is necessary to work out the fact that the “pocket” is simply to hold the shaving aid. The current translation sounds so awkward and even connotes terms of Chinese medicine, thus making it very confusing. Worse still, it considerably limits the scope of the patent by using a hyponym that would likely remove many reasonable embodiments, and also poses high risks for explanation in possible legal procedures as the two Chinese characters signify two different items.

The claims section in patent documents plays a critical role because it defines the legal scope of protection for an invention. Claims are known for their highly structured and formalized language, as they must meet specific legal requirements and precise terminological standards. This section includes independent claims, which define the invention in broad terms, and dependent claims, which specify additional features. Ideally, claims are written in such a way that they encompass the invention’s broadest protection without being too vague or over-generalized. This creates a linguistic challenge, as claims typically consist of long, complex sentences, often written as a single sentence, to meet legal norms. As such, their wording is legally binding and must be extremely precise to avoid ambiguity. Any imprecision in the language can affect the protection granted to the patent.

Typically, one such complex and long sentence is presented as one claim. This complexity is necessary to meet legal norms and ensure that all aspects of the invention are covered, especially so for the independent claim. The terminology must be consistent, and the frequently used expressions like “comprising” or “consisting of” each carry specific meanings that can influence the scope of the claims. Claims often include multiple nested elements, making their structure non-linear.

Also, claims must be consistent with the rest of the patent document, particularly the description and embodiments, to avoid ambiguities that could undermine the patent's enforceability.

The structure and content of claims are often non-linear and require technical expertise and knowledge of patent law to interpret and translate accurately, as any mistranslation could drastically affect the legal protections granted to the invention. This increases the difficulty in translating and interpreting them, as translators must carefully unravel the logical flow and relationships between different parts of the claims. Translating claims requires not only linguistic, technical and terminological expertise but also a deep understanding of the legal framework governing patents. The translation of claims must preserve the same level of precision and clarity as the original since inaccuracies could lead to different legal interpretations.

3. Patent translation: issues and settlements

As one particular variation of translation, patent translation shares with other areas of translation common issues such as linguistics challenges, cultural differences, etc. Yet, with patent translation, some issues deserve special discussion.

3.1 Particularity with terminology clarity: a key challenge

Patent documents are filled with highly specialized terms, which fall roughly into two categories: the ones specific to the invention and the ones specific to the domain of the patent itself. Terms specific to the invention may involve novel terminology introduced for the first time in the particular technical field, while domain-specific terms are used primarily within patent documents and are not common outside that context. One of the most significant challenges in patent translation is maintaining consistency in the use of technical terminology, which has been frequently discussed in and out of the translation community. This is particularly challenging in complex patents where technical terms are used repeatedly across multiple claims and descriptions. However, in patent translation, the point of terminology clarity does not seem to have been paid enough attention to. Translators must be cautious not to alter, broaden or narrow the meaning of terms. Translation ambiguity will potentially lead to legal uncertainty and disputes. Ambiguity in key terms results in confusion about the scope of the patent. Interpretations that differ from the original intent open the door for legal challenges regarding patent infringement or the scope of protection. Translation ambiguity can cause a patent to be unenforceable or harder to defend in court because the translated claims may not reflect the original invention accurately. What follows are likely to be loss of patent rights, economic impacts and even damage to reputation. Here are a few examples:

- (1) "Guard" vs. "护板" and "Cap" vs. "盖板": These two terms refer to different parts of the razor unit. "Guard" (护板) protects the skin from excessive contact with the blade, while "Cap" (盖板) is positioned behind the blade. Although the translations seem accurate, in some contexts, there might be confusion between the two if not properly distinguished by function in the translation. Ensuring the roles of these parts are clear will prevent errors in understanding the patent.
- (2) "Shaving enhancement product" vs. "刮面改善制品": The term "shaving enhancement product" refers to substances like gels or lubricants used during shaving. The Chinese version "刮面改善制品" partly conveys this idea because "面" in Chinese usually refers to the face, while this razor can be used on other parts of the body. The translation narrows the scope unreasonably. "剃刮润滑剂", which directly translates to "shaving lubricant," might make the intent clearer, especially in everyday use, and at the same time maintains the original scope.
- (3) "Skin engaging member" vs. "皮肤接合部件": The English term "skin engaging member" is a technical term implying the part of the razor that makes direct contact with the skin. In Chinese, it is translated as "皮肤接合部件". This is a faithful translation, but "接合" could be misinterpreted as "joining" rather than "engaging." A more fitting translation could be "皮肤接触部件," which directly translates to "skin contacting member," potentially avoiding misinterpretation.
- (4) "the parameters which determine the blade orientation and position relative to the skin during shaving" (in the "Description") vs. "在刮面期间, 这些参数确定刀片相对于皮肤的取向和位置": "Orientation" is put to "取向", an equivalence from dictionary, but it is confusing and misleading 方向. According to the context, "方向", "角度" would be much clearer, coordinating with the original better.

Translation ambiguities (or errors) identified above can introduce significant risks in patent prosecution, especially in a field where precise wording is critical. The identified issues could lead to challenges in enforcing the patent or even cause the rejection of the application if certain terms are misunderstood during the examination process. A thorough review of the translation, especially of key technical and legal terms, is essential to ensure alignment with the original English version.

3.2 Translation omission: irresponsible negligence or incomplete fidelity

Part of the translator's duty is to put faithfully the original into the target. Any omission, especially ones not allowed by the applicant or the inventor, jeopardizes the patent. Any such negligence will be likely to incur invalidation, failure in the legal procedure and other disadvantages.

- (1) Claim 8. A safety razor blade unit according to claim 1, wherein the skin engaging member comprises a resilient material to flex during shaving and exert traction force on the skin surface being shaved. This claim is put to “如权利要求8 (8 being a necessary adjustment according to the Chinese application document, not an error)所述的安全剃须刀片单元，其特征在于：皮肤接合部件由弹性材料构成，在刮面期间弯曲”。Obviously, the final section is thrown away. This section partly describes the function of the invention. Function of a technical feature is of vital importance. Omission of this will possibly lead to invalidation or other negative consequences. The whole context considered, it would be better to put it like “如权利要求8所述的安全剃须刀片组件，其特征在于：皮肤接触部件具有弹性，使用时会形变，对剃刮的皮肤表面产生作用”.
- (2) **Invention description (technical and background):** The “Description” section in English, which provides a comprehensive explanation of the razor unit’s technology, features, and the background of the invention, is missing from the Chinese version. This includes sections on:
 - The shaving geometry involving the guard and cap.
 - Specifics about the fluid release mechanism through the pockets.
 - The design rationale behind the pocket shapes and materials used.Defects like this will result in the application being rejected due to its failure to comply with Article 26 or the patent being invalidated after being granted.
- (3) **Additional Technical Details:** In the English document, there are several technical details, such as:
 - Variations in the pocket depth and arrangement.
 - Material properties of the skin engaging member (resilient, flexible, etc.).
 - Discussion of the flow metering apertures. These details are essential for understanding the functionality and patent scope but are absent from the Chinese translation.

Large portions of the technical description, claims, and explanations in the English version are missing in the Chinese translation, particularly those dealing with more advanced aspects of the invention beyond the first few claims. This could have led to incomplete understanding and potential legal issues during the life cycle of the patent for the violation of Article 26 of The Paten Law.

4. Principles to be formulated for the solution of current issues

Translating is generally taken as of secondary or minor importance. Its “professional qualities” are so fragile that it is so often invaded by savages from outside of the circle with dictionaries in their hands. However, dictionary equivalences are generally void of contexts and thus are frequently misleading. Translation errors arise out of this confidence and pose a great danger to the patent application. Translators must find out why such errors exist so that they can be avoided (and removed) to the greatest possible extent. As demonstrated in the case of patent translation, terminology difficulties, run-on sentences, and other language characteristics add to the complexity of translation. Some basic principles have to be negotiated within the circle so that a consensus can be reached and abided by.

4.1. Faithfulness:

Faithfulness, in this case means preserving the original intent and meaning (not word-to-word coordination) of the source text, without distorting or omitting essential details. In patent translation, even small deviations can lead to unintended legal consequences, such as broadening or narrowing the patent’s scope. This principle is critical because patents are legal documents that define the boundaries of an invention’s protection. Faithfulness principle can be applied on different levels of the word, of the phrase, of the sentence, of the context. Faithfulness to the original and to the target reader or to the market also plays a part for the translator. As with the patent translation, faithfulness to the technical feature, to the intention of the inventor, is worth special attention.

Example: non-rigid vs. 非刚性

This should be a very “faithful” rendition if we consult the dictionary, but technically, this Chinese equivalence sounds awkward, not matching the context very well. It leaves room for patent infringements. This “faithful” translation partly results in the loss of the law suit initiated by the patent holder. The version of “形态易变”, which applies the faithfulness principle on the technical level, might be more appropriate. The technical feature of “Shaving enhancement product” being put to “刮面改善制品” will also serve as a convincing example.

Faithfulness ensures that the translated patent matches the legal and technical specificity of the source, which is especially important in legal disputes or enforcement actions where technical precision is of key importance.

4.2. Equivalence:

Equivalence ensures that the translated text conveys **equivalent meaning** in the target language, rather than a literal word-for-word rendering. For patent translation, **functional equivalence**—achieving the same legal and technical effects across languages—is particularly important. Translators often need to find target language phrases or terms that are **functionally identical** to those in the source language, even if the words themselves differ. The principle, when closely observed, sets a clear boundary for patent protection and actually helps protect the patent in the best manner possible. Even if a product or method does not literally infringe a patent (i.e., it does not match every element of the claim), it can still be considered infringing if it incorporates an equivalent element that performs the same function as the element claimed in the patent (Intes, 2021). Also, the concept of equivalence broadens the scope of patent claims to protect against “design-around” strategies where a competitor modifies an element slightly to avoid literal infringement. Protection should not be strictly bound by the patent’s literal wording but should encompass any element that serves the same purpose (Intes, 2021). If this principle is not observed, sufficient protection is hard to be expected; when precise equivalence is pursued, accuracy (of terms and expressions) can be materialized.

Example:

English term: “longitudinally extending rows”.

Literal translation into Chinese: 纵向延伸的排列

Functional equivalent: 沿刀片长度方向延伸的排列

No problem can be found if a dictionary is consulted for “longitudinally”, but this literal translation is very confusing as the reader has no idea as to what the orientation is, but readers of the original document will not encounter a problem like this. This confusing translation comes out of the negligence of technical details of the invention. Therefore, the translator must be aware of technical details of the invention. Legal and technical language often varies between languages. A term that has legal implications in one language might not exist in the same form in another. Translators must use contextually appropriate equivalents that preserve the invention’s legal scope while respecting the norms of the target language.

4.3. Translator’s subjectivity:

Even though patent translation strives for objectivity (some even have been praised for this), translators inevitably bring some level of **subjectivity** when interpreting technical or legal terms. This subjectivity comes into play especially when no direct equivalent exists in the target language. A translator must use their knowledge of the **technical field** and **legal context** to make informed choices, determining the most appropriate way to convey concepts. To find the equivalence on the context level, the “intent” of the original document or the inventor must be identified. The translator should be granted the right to override the equivalence doctrine on the lexis level, so that the translation reads smoothly and conveys unmistakably the original meaning to ensure the patent right can be fully and most appropriately protected.

Translator subjectivity is not just an auxiliary factor in patent translation; it is at the heart of the process, particularly when navigating technical terms and legal frameworks that do not always have direct equivalents between languages. While terminology and grammatical structures are essential, it is the translator’s subjective judgment that ensures the final translation accurately reflects the inventor’s original intent.

Patent translation goes beyond the mechanical matching of words. In many cases, literal translation could either obscure the meaning or introduce legal risks. A translator’s decision to deviate from the dictionary definition of a term often reflects their understanding of both the technical nature of the invention and the legal environment in which the patent will be enforced. The translator should take himself as a member of the application team, taking part in the discussion sessions and seeking timely help from them when some technical issues arise. He should not just act as a passive agent with no reflections on the current invention. When translating, he should make meticulous efforts to make up for the language defects of the original documents, or make adjustments to the context according to the variations made by the applicant in a different country. In the case of the razor blade application, the applicant did not seek protection for all the claims in the original application. This requires that the translator make necessary adjustments to the relationship between technical features. A skilled patent translator’s subjectivity comes from their **expertise** in both the legal and technical fields. The translator must judge whether to adhere to a literal translation or adapt to the language’s natural flow, always aiming to preserve the accuracy and clarity of the original text. It is particularly so on the sentence and paragraph level. Here are a few notable examples:

(1) “每个上述孔穴在皮肤接触表面上开口，由从皮肤接触表面向内悬垂的侧壁部分限定”

English: “Each of said pockets opening at the skin contacting surface and being defined by side wall portions depending inward from the skin contacting surface (Claim 1).”

Issue: The Chinese translation strictly follows the English flow, using “向内悬垂” (hanging inward), which sounds unnatural, likely describing something dangling there. A more fluid translation could be “皮肤接触部件上设置有向内延伸的凹陷,” which uses “延伸” (extend) rather than “悬垂,” making the sentence smoother and less rigid.

- (2) “用于保持相应部分的非刚性刮面改善制品”

English: “For holding respective portions of a non-rigid shaving enhancement product.”

Issue: The Chinese translation follows the English structure word-for-word. “保持” (to hold) and “相应部分” (respective portions) can sound somewhat stilted in Chinese. A more natural way to express this might be: “用于存放一定量的可变形态剃刮保护剂” (for storing different portions of a non-rigid shaving enhancement product), making the translation more readable.

- (3) “至少一些孔穴的内端与容纳准备通过孔穴散布的剃须改善制品的一个贮存腔连通”

English: “At least some of the pockets’ inner ends communicate with a reservoir chamber containing a shaving improvement product.”

Issue: The phrase “容纳准备通过孔穴散布的剃须改善制品的一个贮存腔” is a very literal translation and sounds clunky. A better alternative could be: “组件内部设置有贮存腔，贮存腔中容纳剃刮保护剂，部分凹陷底部设置有通孔，与所述贮存腔连接” (At least some of the pockets’ inner ends are connected to the reservoir chamber containing the shaving improvement product).

- (4) “皮肤接触表面并横过其宽度分布，形成多个纵行”

English: “Distributed along the surface and across the width thereof in a plurality of generally longitudinally extending rows.”

Issue: The translation is overly rigid. “横过” (across) and “纵行” (longitudinal rows) are translated literally but sound awkward in the context of Chinese technical language. A more natural phrasing could be: “沿皮肤接触表面宽度方向分布，沿刀片长度方向排列” (arranged along the skin-contacting surface and width, forming multiple longitudinal rows).

- (5) “在刮面期间，逐渐从孔穴中排出”

English: “Discharged gradually therefrom during shaving.”

Issue: “逐渐从孔穴中排出” is a direct translation but sounds too mechanical. A more natural translation would be: “剃刮时从凹陷处缓慢释放” (gradually released from the pockets during shaving).

- (6) “本发明具有涉及剃须刀片单元的护板和/或盖板”

English: “The present invention is especially concerned with the guard and/or cap of a razor blade unit.”

Issue: Modifications to the guard and cap are the key technical features of the invention. This translation blurs these key points, unnecessarily causing inconvenience for the examination procedure and other legal risks. A more appropriate version would be: “本发明特别涉及刀片组件的上护板和下盖板”.

- (7) 如权利要求1所述的安全剃须刀片单元，其特征在于：皮肤接合部件占据护板表面在至少一个刀片前面的一个位置。

English: A safety razor blade unit according to claim 1, wherein the skin engaging member occupies a position of a guard surface in advance of the [sic] at least one blade.

This is obviously done by a passive, careless, negligent translator who is bound by the syntax and wording of the original, not caring about how the technical features are connected nor how the target reader will read his translation. A translator who knows his subjectivity (and responsibility) will give a different answer: 如权利要求1所述的安全剃刮刀片组件，其特征在于：所述皮肤接触部件设置在上护板上，位于刀片之前。

What is seemingly missing in this version, i.e. “at least”, is covered by the context, and this does not interfere with other claims as described in the original. There might be other translation options, and this could just provide some inspiration.

- (8) 刮面助剂制品最好具有润滑特性，或者具有另一种或此外还有的其它特性，例如在刮面期间认为是有利的增湿特性。

English: The shaving aid product preferably has lubricating property, but it may have, either alternatively or in addition, other, e.g. moisturizing properties considered beneficial during shaving.

The translation significantly reduces the readability of the original as the translator has no clue as to how to handle conditional flexibilities “but it may have”, “either alternatively or in addition”; or, if he is linguistically competent, he is technically ignorant of what is happening with the invention. “剃刮改善剂最好具有润滑性，也可以具有增湿性等其他特性，

以增进剃刮体验” would complete cover the original technical feature and reads very well. Linguistic vagueness does not feature in a patent applicant document.

These examples demonstrate that, despite the translations possibly being technically accurate, strict adherence to the English sentence structure or dictionary equivalence results in unnatural and awkward Chinese expressions. A more idiomatic approach, focusing on readability and natural phrasing, together with concerns for technical features of the whole text, would greatly enhance the fluidity of the translation while preserving technical accuracy. This where translator’s subjectivity plays its role.

4.4. A few concluding words about patent translation principles

Principles of faithfulness, equivalence, subjectivity, technical terminology, and respect for target language habits overlap and interact with each other, with no clear-cut boundaries between them. In practice, these principles form a continuum of considerations rather than distinct, isolated steps. Here are some points that could clarify how they overlap and influence one another:

(1) Mutual reinforcement of faithfulness and equivalence:

Faithfulness and equivalence are closely intertwined. Faithfulness focuses on preserving the original meaning, while equivalence ensures that the target text functions similarly in its new linguistic and cultural context. These two principles are not separate; achieving faithfulness often requires adapting the text for equivalence.

(2) Subjectivity informs both terminology and equivalence:

The translator’s subjectivity often dictates how to achieve equivalence (on a higher level) and which technical terminology to use. The need for translators to make judgment calls on whether to translate certain terms literally or to adapt them based on the context, which requires a subjective understanding of the technical content and the legal implications. Translator’s subjectivity is to be applied especially when the idiomatic expressions in both languages depart significantly from each other, and when the context calls on the translator to make adjustments.

(3) Terminology and faithfulness depend on context:

Choosing appropriate terminology often relies on maintaining faithfulness to the technical field. However, faithfulness doesn’t always mean sticking rigidly to the source text; it means being faithful to the intent and meaning within the context of the technical field. There is also the inventor’s scheme, the patent agency’s work flow, regulations of the target country and many other factors to consider. For example, the term “array” in a computer science patent might typically translate to “阵列”, but in the context of a biological patent, the same term might be better rendered as “排列” (arrangement). The choice of terminology must respect both the field-specific meaning and the faithfulness to the inventor’s original concept.

(4) Translator’s subjectivity in applying faithfulness and respecting language habits:

Subjectivity also plays a role in balancing faithfulness and language habits. Translators must decide when to be strictly faithful to the original structure or terminology and when to adapt it for clarity and readability in the target language.

(5) Legal and ethical responsibilities in patent translation

Patent translation is not just a linguistic task; it carries significant legal and ethical responsibilities. A poorly translated patent could lead to loss of IP protection, legal disputes, or even endanger public safety in the case of technical errors in product manuals or medical devices. There are legal and ethical factors governing translation behavior.

The legal ramifications of patent translation are far-reaching. A mistranslation of a single term in the claims section of a patent could limit the scope of the patent’s protection, allowing competitors to exploit loopholes or invalidate the patent altogether. In Chinese patent law, for example, the precise translation of terms such as “characterized by” (其特征在于) is crucial, as these terms define the core elements of the invention that are protected.

Additionally, some jurisdictions, like China, require that the translated patent document be considered the authoritative version in case of legal disputes. Any discrepancy between the original and translated versions could result in the invalidation of the patent, placing the inventor at a severe disadvantage.

Ethically, patent translators have a responsibility to ensure that their translations are accurate and faithful to the original document. In industries such as pharmaceuticals or medical devices, mistranslations could lead to dangerous outcomes. For instance, an incorrect translation of a safety mechanism in medical equipment could cause harm to users.

(6) Cultural and jurisdictional differences in patent translation

Cultural differences between the source and target languages can also influence the translation of patents. In particular, the legal frameworks governing patents in different countries may interpret technical and legal terms differently, which must be carefully considered during the translation process.

From a jurisdiction point of view, patent laws differ significantly between countries and areas. For example, the scope of patent protection in China may be interpreted differently than in the United States, especially concerning the translation of terms like “comprising” or “characterized by.” Chinese law may also place more emphasis on the precise wording of the claims, making it critical that the translation aligns with both the technical and legal requirements of Chinese patent law.

In some cases, legal disputes may arise due to discrepancies between the original and translated versions of a patent. Therefore, it is essential for translators to have a deep understanding of the legal frameworks in both the source and target countries.

(7) Translation quality safeguarding methods: CAT tools and terminology databases

In patent translation, the use of Computer-Assisted Translation (CAT) tools plays a crucial role in managing large volumes of technical vocabulary. These tools are especially relevant when dealing with the dual complexity of legal and technical terms, an area that your research on building a technical word list for patent language aims to address. CAT tools, which often incorporate translation memory systems (TMS) and glossaries, automate the management of terminology, helping translators maintain consistency throughout complex documents. By storing previously translated terms and analyzing the context in which they are used, CAT tools ensure that appropriate and accurate terminology is applied, thereby improving translation quality.

CAT tools enhance both the speed and accuracy of translations, especially when handling specialized vocabulary across multiple languages. These tools can process bilingual or multilingual corpora, identifying the correct terms within the relevant technical and legal context. By comparing the functionality of CAT tools with corpus-based word list, the translator gains insights into how technology supports the extraction and application of specialized vocabulary. This synergy between technology and human input makes patent writing and translation more accessible, as CAT tools offer relevant terminology quickly and efficiently, streamlining the translation process.

Despite the advances in translation technology, human expertise remains critical. While CAT tools and machine translation systems have significantly increased efficiency and consistency in large-scale projects, especially in patents, they cannot replace the need for human oversight. Translators must still ensure the precise translation of legal and technical terms, where nuance can dramatically impact the meaning and enforceability of a patent.

Terminology databases are equally important in maintaining consistency across patent translations. These databases store essential terms and phrases, allowing translators to ensure uniformity throughout the document. For instance, in a patent related to razor blade technology, consistently translating the term “pockets” as “凹陷” (dent) prevents confusion that could arise from alternation between other possible terms. This consistency is critical for preserving the design’s clarity and ensuring that the patent’s scope is properly understood across different jurisdictions.

By integrating CAT tools and terminology databases, patent translators can enhance both the accuracy and efficiency of their work, while human oversight ensures that legal precision and technical accuracy are upheld. Together, these tools and practices form a robust framework for safeguarding translation quality in the demanding field of patent translation.

6. Conclusion

Patent translation is a highly specialized field that demands a balance of technical knowledge, legal understanding, and linguistic expertise. This complexity is underscored when translating patents between languages like English and Chinese, where terminological inconsistencies, legal nuances, and cultural differences can significantly impact the quality and enforceability of a patent. For instance, challenges in translating razor blade technology patents illustrate how these factors can affect the protection of intellectual property. To navigate these challenges, translators must maintain consistency in terminology, adapt to jurisdictional differences, and judiciously use technology. While translation tools can enhance efficiency, human oversight remains essential for ensuring accuracy and legal precision. By adhering to best practices and collaborating with legal and technical experts, patent translators play a vital role in safeguarding innovations and ensuring robust intellectual property protection across international borders.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

ORCID : 0009-0005-8018-1343

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

- [1] Allison Mayne, Amanda Varrichione and Usha K.M. Parker (2024). Language in a Patent Application Specification: A Balanced Approach. *Intellectual Property & Technology Law Journal*, Vol. 36, Number 1, Jan 2024, 1-6.
- [2] Byrne, J (2012). *Scientific and Technical Translation Explained*. New York: Routledge.14
- [3] Gülden TANER (2019). Writing and Translation of Patent Documents: Language of Descriptions and Claims. *Journal of Translation Studies*, Issue 27, 220-241.
- [4] Intes, D. (2021). Some aspects of the doctrine of equivalents. Cabinet Beau de Loménie. <https://www.bdl-ip.com/wp-content/uploads/2021/05/Infringement-by-equivalent-means-in-france.pdf>, accessed October 10, 2024.
- [5] Lin, D.H., & Hsieh, S.C. (2010). The Specialized Vocabulary of Modern Patent Language: Semantic Associations in Patent Lexis. Pacific Asia Conference on Language, Information and Computation.