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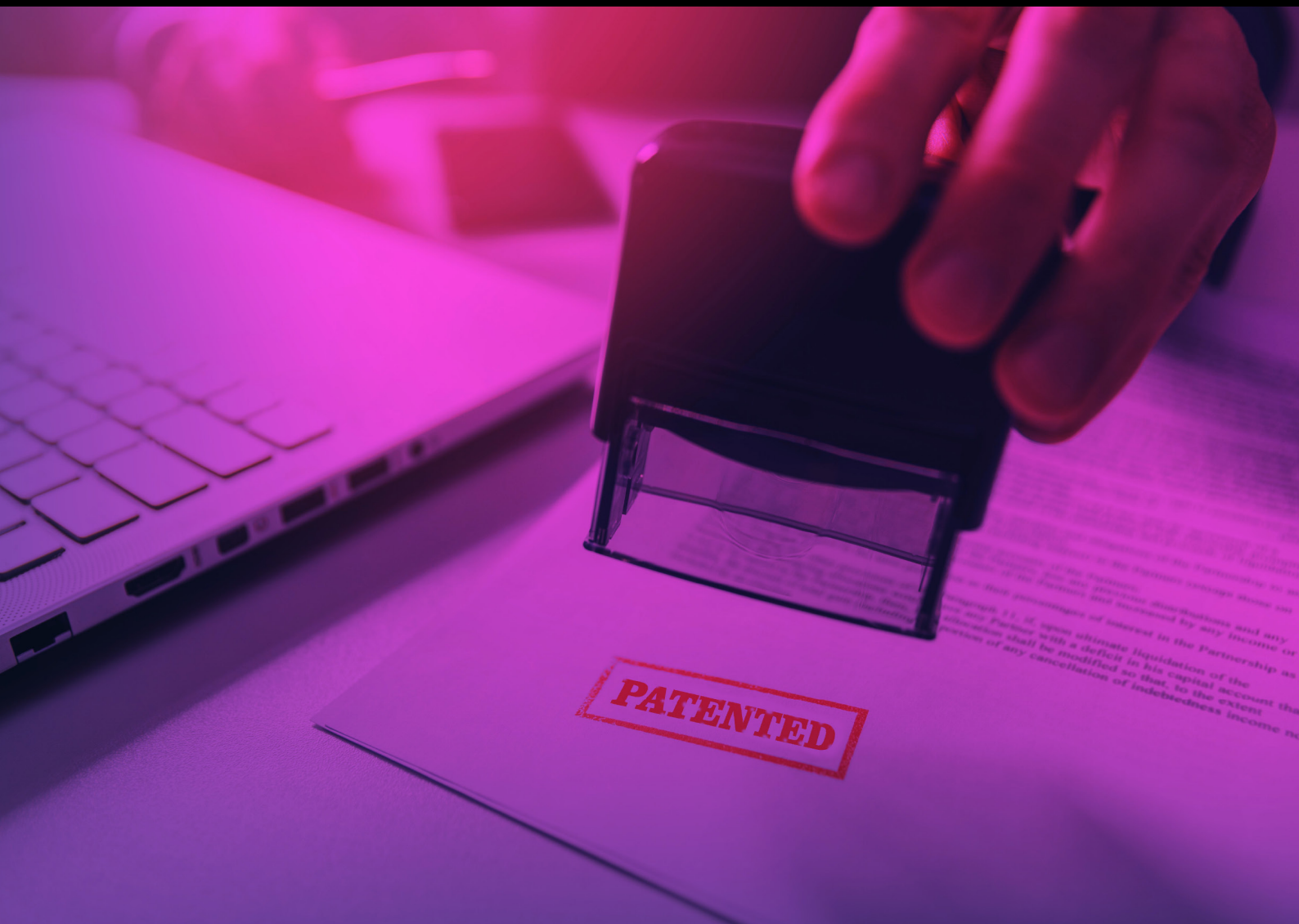

Abstract

After filing a patent application, the most anticipated event for an applicant is the prosecution of the application. While the nature of application rejections across jurisdictions almost remains the same, the examination process and complexity of patent prosecution (plurality of examination reports) differ from jurisdiction to jurisdiction. Therefore, responding to an examination report in different jurisdictions, specifically the Indian Patent Office (IPO), the US Patent Office (USPTO), and the European Patent Office (EPO), requires different strategies both in terms of claim amendments and the presentation of arguments.

The rapid advancement of technology in the areas of blockchain, artificial intelligence, and IoT has posed new challenges for patent prosecution. Examiners at the patent office have a challenging task to assess and understand inventions in these areas. This is one of the reasons for delays in examination during the various prosecution stages. Furthermore, if these ambiguities remain unsolved, it may potentially lead to abandonment and sometimes, withdrawal of applications.

One of the reasons for the low number of grants is the complex nature of patent prosecution and delays in the overall grant process. To address the complexity and meet the resultant challenges, organizations need to be prepared, proactively plan, and formulate strategies to respond to the examination reports and speed up the granting of patents.

- This paper attempts to address the following key areas in patent prosecution:
- Anticipating the types of objections/rejections in an examination report
- Preparedness in mitigating objections/rejections
- Effective response strategies

Anticipating the types of objections/ rejections in an examination report

Anticipating clarity/lack of support rejections (Sec 112, Art 84 etc.):

Clarity rejections are usually ‘black and white’ rejections and anticipating such rejections at the drafting stage is easy as compared to other rejections. A thorough review process at the drafting stage of the application to check any antecedent issues, usage of abbreviations, fancy terms, indefinite terms, unambiguous terms etc. should assist in preventing such rejections. However, there are a few other objections that fall under Sec 112 of the US Patent Act or Art 84 of the European Patent Convention that are difficult to overcome during the prosecution stage, such as the lack of support for claim limitation where the specification does not explicitly disclose the claimed

limitations, insufficient disclosure, best mode requirement, scope of the invention etc. Since the specification cannot be amended during the prosecution stage, it becomes challenging to overcome such objections, and the only option before the applicant is to cancel those claims that are not sufficiently disclosed. A practical mitigative action for such issues is to carry out invention mining exercises.

An invention mining exercise is carried out at the searching and drafting stage as a detailed collaborative exercise between the inventor and the searchers/drafters that aids in extracting and articulating the optimum potential of an invention, through detailed consultations, analyses, and slicing and dicing of the inventive idea by patentability as well as business sustainability parameters. Besides helping to mature an invention, this also ensures that all key features of an invention are appropriately and optimally articulated in the specification and claims that improves the quality of the draft and guarantees that all claims of an invention, independent or dependent, have appropriate support in the specifications.

Another mitigative action is to support the invention by furnishing necessary and sufficient figures and tables that help illustrate the idea with more clarity. It is observed that a thorough and well-governed review process before filing the application will help in avoiding rejections under clarity and sufficiency of disclosure requirements.

Anticipating subject matter eligibility/non-patentable rejections:

Anticipating patentable subject matter requirement is quite challenging, and patent eligibility aspect must be anticipated from an examiner's point of view. Each jurisdiction has its own laws and regulations for examining subject matter eligibility. A close coordination between inventors, searchers, and drafters, right from the invention definition and disclosure stage to the drafting stage of the application, reduces the chances of non-patentable rejections. At the invention definition and disclosure stage, if the drafter wears the examiner's thinking hat to ask relevant questions on the technical aspects of the invention, it will help in addressing these types of rejections.

Inventors need to understand the difference between 'solution to a problem' and 'technical solution to a technical problem'. If this significant understanding is clear at the disclosure stage, it will help in avoiding and overcoming non-patentable rejections. An alternative approach to mitigate such rejections is to ensure that the specification discloses as many technical features of the invention as possible to overcome non-patentable rejections. Despite these proactive measures, an applicant must be prepared to face non-patentable rejections, as the definition of 'what is considered to be patentable' is still blurry, especially if an application is related to computer-related inventions.

To anticipate and mitigate patentable subject matter rejections involves a team effort. For this reason, a robust invention mining exercise that includes questioning and cross-examining the inventive idea to aid in extracting the technical aspects must be employed during the searching / drafting phase. Also, drafters can effectively utilize the technical characters of an invention in the application by taking feedback from the prosecution team on rejections that can be anticipated. A combined effort between inventors, drafters, and the prosecution team will ensure a significant reduction in non-patentable rejections.

Anticipating novelty/inventive step rejections:

A comprehensive search is one of the solutions to anticipate rejections based on prior art. However, as with patentability rejections, prior art too is subject to interpretation, and the ambiguity of whether a prior application can be construed as prior art differs from applicant's interpretation to examiner's interpretation. Therefore, even if a prior art search is comprehensive, the applicant cannot be completely assured that the application will pass through the novelty/inventive step without rejections under Sections 102/103 of the USPTO or Article 54/56 of the EPO, and should be prepared for prior art rejection during prosecution. However, to anticipate prior art-based rejections and reduce the risk of close prior art being cited in the Office Action (OA), the mitigation is to make the prior art search as comprehensive as possible, and scrutinize all relevant and related prior art by

wearing the hat of an examiner to check if any of the prior art, even in hindsight, could be the reason for a possible rejection, and if not, whether a combination of the identified relevant prior art could lead to the claimed limitations. This will help in identifying the potential prior art threats and reduce the prosecution cycle. It is advisable to include the identified prior art in the background section with a short explanation on how your invention is different would help in the examiner not citing those prior art during prosecution thereby reducing the chances of prior art-based rejections.

Preparedness in mitigating objections/rejections

An initial screening should be performed based on the complexity and nature of rejections, and each Office Action may be classified into one of the three categories - 1) Red 2) Yellow and 3) Green.

1. The *red* category includes all Office Actions with a probability of **less than 40% chances of grant**
2. The *yellow* category includes all Office Actions with **41%-60% probability of grant**
3. The *green* category includes all Office Actions with **more than 60% chance of grant**

This categorization is based on various parameters such as:

a. Technology domain of the invention

b. OA jurisdiction

c. Patentability requirements of the jurisdiction

d. Type of rejections cited in the OA

e. Art unit assigned to the application

f. Graphical analysis of the prosecution history

This exercise helps in prioritizing and effectively managing patent prosecution.

Some examples of categorizing Office (Table 1) based on the type/number of Office Action and the type of rejections are given below:

Jurisdiction	Type/number of office action	Types of rejection	Category
US	2nd Final OA	101 retained, 103 retained with same prior art	Red
EPO	EESR	Non-technical rejections that may be difficult to defend	Red
EPO	Oral proceedings	Art 52	Red
AUS	First examination report	MoM (Manner of Manufacture) rejections	Red
US	2nd final OA	101 retained, 103 with new prior art	Yellow
US	2nd final OA	101 overcome, 103 could be overcome if amended as suggested by Examiner	Green
US	At any stage	Allowable subject matter	Green
EPO	Oral proceedings	Summons with Non-patentable subject matter	Red

Table: 1 Categorizing Office Actions

Office Actions categorized as ‘red’ are dealt differently by analyzing and establishing if the rejection can be defended, and if there is any possibility that the next Office Action issued may get into the ‘yellow’ category. If it is decided that the application is not worth pursuing further, then other options may be explored to protect the IP. The possible options may include filing a divisional application or filing a new application with additional technical features not addressed in the specification or protecting through other forms of IP, or else publish in a journal.

Office Actions categorized as ‘green’ are taken up on priority to speed up the prosecution process and ensure allowance at the earliest, since most likely these rejections are easy to overcome, and there is no merit in delaying the response preparation thereby delaying the allowance process. Such allowances in record time boost up the morale of inventors to file more applications.

Although the categorization is done at the initial level based on the above parameters, however, there is always a possibility of shifting the Office Action from one category to another.

Categorizing Office Actions helps in identifying Office Actions that should be taken up on priority, applications that need a different approach, and applications that are not worth prosecuting further. This whole exercise helps in cost savings and effective time and manpower management.

Effective response strategies

Typically, a response to an examination report requires an understanding of rejections from the patent examiner’s perspective and respond accordingly to each rejection comprehensively based on the merit of rejection.

Anticipating the probable next move of the examiner while responding to an Office Action helps avoiding multiple Office Actions and faster prosecution. A proactive approach rather than a reactive approach always works in favor of the applicant. If an analogy can be drawn between patent prosecution and a game of chess i.e. if your move is based on the opponent’s move, you might walk into the trap of your opponent and end up losing the game. Rather, if you force your opponent to make the moves you want by anticipating the next move in advance and devising strategies around it, most likely, you will end up winning the game. It is observed that this strategy works well with patent prosecution too.

The anticipative approach is advisable for all jurisdictions, however at a granular level, the implementation of the anticipative approach may vary from case to case. Typically, it is also observed that if the examiner gets more than what is bargained for in terms of claim amendments, the outcome is always positive.

Strategies in overcoming various types of rejections:

Across jurisdictions, the common set of rejections includes a) Clarity/lack of support, b) Non-patentable subject matter, c) Novelty and d) Non-obvious rejections. Each jurisdiction has its own way of analyzing non-patentable subject matter or clarity/lack of support etc. and hence, handling rejections of different patent offices need different strategies. Some of the effective strategies to overcome these rejections are detailed below:

Effective strategies to overcome clarity/lack of support rejections:

Rejections related to clarity/lack of support are the easiest to overcome. As mentioned above, these rejections are ‘black and white’ so to say, as there is no grey area. To overcome such rejections, there is not much of a strategy to be adopted. The only solution to such rejections is either amend the claims by deleting the limitations that are not supported by the specification, or if the claims are supported implicitly or explicitly or known in the art for a person skilled in the art, then provide further clarifications in the arguments section that the claims are well-supported in the specification. However, this may differ for each jurisdiction. For e.g. in EPO, such rejections mandate each limitation of the claim should explicitly be described in the specification and most likely, the EPO

does not consider 'person skilled in the art' or implicitly understood arguments. In USPTO, even if the limitations are not supported by the specification, however, if the limitations are well-known in the art or implicitly described, it will suffice the requirement.

Effective strategies to overcome non-patentable/subject matter eligibility rejections:

Rejections related to subject matter eligibility and non-technical rejections are commonly found in software-related inventions in India, US, and the EPO. For each jurisdiction, different strategies may be adopted in overcoming such rejections. At the invention disclosure (IDF) stage itself, before filing the application, the application is assessed to understand if it passes the criteria of patentable subject matter by including all the technical features of the invention, it may help in reducing rejections in Office Action and possibly, a direct grant without any Office Action. Even after taking all possible measures to avoid any rejections related to non-patentable subject matter or lack of technical solution, it is imperative such rejections may still appear in the Office Action.

Overcoming non-technical rejections has always been a challenge because of the ambiguity in determining what is technical, since the interpretation of what is technical and non-technical subject matter is mostly left to the examiner and applicant's understanding.

From time to time, patent offices across jurisdictions revise their guidelines on patentability, which has helped in bridging the gap between the applicants and examiners. The ambiguity with computer-related inventions is much more than any other domain and hence, there is a challenge in addressing these rejections for most of our patent applications.

If the three major jurisdictions vis-à-vis India, US, and Europe are considered, each patent office has identified unique guidelines in analyzing non-patentable subject matters.

Drafting patent applications aligned to the requirements of the EPO, specifically on the technical requirements, is an ideal way. If the application passes the eligibility requirement at the EPO, most likely the application will pass patent eligibility requirements at other jurisdictions too since out of the three jurisdictions, Europe has stringent laws related to patent eligibility, and if the application passes the European standards, it may be easy to pass through India and US as well.

Effective strategies to overcome novelty/inventive step rejections:

For novelty/inventive step rejections based on prior art, the approach of handling these rejections will be the same across jurisdictions i.e. to convince the examiner that the prior art cited by the examiner does not disclose one of the claimed limitations. This is addressed either by providing arguments with or without amending the claims.

In brief, the following strategies may be adopted to overcoming rejections based on prior art:

1) By being brief with arguments and highlighting the differentiating features upfront without providing any background of the prior art and the claimed invention. Examiners must have done their due diligence in understanding our invention and the prior art. Providing a brief explanation to the examiner on what is already known may not be useful and on the other hand, might dilute strong arguments. Since the examiner has limited time to go through the arguments, they will be more interested in looking at the differentiating features and arguments in the response document

2) While providing arguments, it is advised to focus on the claimed invention rather than explaining what the prior art does. It is the onus of the examiner on why a specific prior art is chosen, and the applicant's priority is to provide arguments on how the claimed features are novel and inventive w.r.t the prior art. Hence, focusing on the claimed application rather than the prior art is advisable.

3) If the prior art cited is close enough, a claim-mapping analysis for all pending claims would help in identifying the feature that stands apart from the cited prior art. This may be one of the dependent claims that is not prominent to the claimed invention but can be utilized as a strong

weapon in overcoming the prior art. Amending the identified dependent claim to the independent claims and providing arguments as to how the chosen prior art for the dependent claim is different may help in faster prosecution and early grant.

4) In addition to providing arguments to the independent claims, check the possibility of identifying potential arguments to as many dependent claims. It may happen that the examiner may be convinced with one of our arguments to a dependent claim, and may allow the claims if that feature is amended to the independent claims.

5) If the prior art cited are close enough, do not hesitate to narrow down the claims as appropriate. Let us accept that some close prior art was missed at the search stage and narrow down the claims with the best possible amendments.

Conclusion

Some of the strategies explained in this paper may help in understanding the complexities involved during patent prosecution, deploying the right strategy while prosecuting applications, effectively utilizing resources, time, and money leading to a faster grant process, building a strong patent portfolio resulting in effective monetization.

To sum up, implementing the above strategies inhouse would help in achieving the following objectives:

- Optimally managing examination reports
- Achieving patent grants with minimum prosecution
- Identifying applications that may lead to faster prosecution, and identifying applications that are not worth prosecuting further
- Utilizing cost and time effectively

About the author

Krishna Chellapilla

Krishna Chellapilla has around 20 years of experience in various aspects of Intellectual Property Rights and currently plays the role of FRS Head (Patents, Prosecution and Copyrights) in TCS. His specialization includes handling complex patent prosecution across jurisdictions, attending oral proceedings at the European Patent Office, and attending to patent examiner interviews at various patent offices. Prior to joining TCS in 2011, he was heading an Indian law firm and prior to that, he was engaged with a US-based law firm as an IP attorney.

Krishna Chellapilla holds a degree in Science, and a bachelor's degree in Law from Osmania University. He is also an MBA graduate, and did his postgraduation in Intellectual Property Law from National Academy of Legal Studies and Research (NALSAR) University, Hyderabad.

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