Industrial Application of Inventions and the Patent Approval

Drita Bejtullahi
University of Tetova, North Macedonia

Abstract

To invent something is to come up with a new innovative and creative idea. But, for that idea to be counted for a real patentable invention, nowadays one must be fully aware of the applicable rules and legal framework in place. First of all, it should be counted for a piece of creation which takes part in the general domain of intellectual property law. Then, it is the kind of intellectual work that would produce a product or process of some proven technical use or application in some sort of "industry" in accordance with the given IP legislation of a territory or jurisdiction where it seeks to find application for. In the given theme of this paper the accent is put on one of the conditions, among other rules and requirements set for this kind of IP creations, that it should be in line with the particular requirement of industrial applicability, otherwise it wouldn't be able to pass the applicable set of rules. Another important thing is that aside from fulfilling the functionality requirements, it should be born in mind that the product or process about to be created and completed, needs to be of the kind of products which aren't excluded as such. In the end come other issues of the type of good, benefit, profit, success or competitiveness that such a product would bring. With their finding the way across the grand arena of many patented and successful inventions, there is no doubt that the findings of many great inventors, their inventive products which find application at all fields of industry, count for a great work and contribution to a new and different way of living, with many breakthroughs and changes of grand dimensions.

Keywords: Inventions, Intellectual Property, Industrial Application, Patent Law.

Introduction

The intellectual property topic generally covers the many types of intellectual creations of a variety and countless creators all over. Those creations are normally listed under the well-known branches or categories of this field of intellectual activity. Furthermore, those categories or types of creations could be part of the two main branches of IP, namely the part of Industrial property and the Copyright, which are known to cover and regulate works of the mind in the fields of science, arts and literature. This kind of property has a long history of activity spanning throughout the centuries, even the millennia; many theoretical approaches by writers, philosophers and scientists; institutional and legal treatment and categorization by the society, institutions and governments; to get to the point where it was standardized and unified to a degree where it stands today and is recognized as such by the proper legal theory and system, also known as Intellectual Property Law.

This was only to give a brief overview about intellectual property, its general idea and the legal aspects, only to get to one of its types of creations or works of the human mind, which is the category of *Inventions*, their treatment by both the author and the licensing institution and what actually takes for them to go through and complete the

process of their *patenting*. And, that's not exactly and the only aspect here, but it is mainly what's maybe the principal and most important requirement for an invention to be complete and acceptable for patenting by a given office; which is its proven applicability in a given field of industry. So, this way this paper explains the main requirement that inventors should have in mind when working on their inventions beside other requirements as well as, some common practices, approaches and especially, the terminology used to describe and represent the functions of procedural processes across the intellectual property systems on national, international or European levels, with their respective laws and institutions.

In order to get to the actual topic here, that of industrial application, there is also given an overview of inventions, the idea behind them and their definition as a part of intellectual property and how they are covered by one of the main IP rights, the Patent Law. And, laws and rights, like any other legal matter, aren't there just to tell creators about the kind of works they are allowed to create and legalize accordingly. They are there about opportunity, they are there to guide the creators through, give them the right incentive and stimulus, help and enable them to explore the market and other competing works in order to find the right field of industry and application and reach the desired outcome, knowing that their work is in line with the lawful and that legal protection is provided for. And, from this point on, we are not talking about creating something new just out of curiosity and passion, but it is more about creating something new and innovative, something that advances development and economic prosperity and welfare, it is about the special kind of creations which have brought great changes and transformed the society and our way of living and of course, they are about great benefits for the creators themselves, as well as, the end users when the ideas for invention are turned into actual ready products.

What are Inventions as Part of Intellectual Property?

An invention represents an idea, concept or design for the creation of a new or processed device, the creation of a product or process in the form of concrete data, which give the description of the invention, or it is done by a drawing or stencil.[1] There could be numerous ideas and thoughts, many different visions and theories for the production of new 'objects' or for the remaking of existing ones, however they may not be realized and turned into new inventions without fulfilling the necessary requirements for patenting. They need to be presented through a concrete sketch or project, for example and have practical applicability. It is the evolution and expression of ideas that can make the difference and they can result in projects and inventions, because all "businesses and inventions start from an idea,"[2] to then be able to claim the patent rights, the intellectual property rights, respectively, until their realization. But, what does it take for a person, a researcher, a business, an institution, an organization, etc., to develop or process a product or idea, in order to turn it into an invention and reach the set goal, being it material or ideological? Mostly, ideas for inventions are developed and encouraged based on existing knowledge, products and

1 Invention and innovation: an introduction (https://www.open.edu).
2 UK Intellectual Property Office: Patents step by step.

phenomena, mainly by processing and transforming them in part or as a whole. This is also to indicate that inventions don't arise solely from great ideas! It is enough for one to offer solutions to a problem or issue, transforming one or more of its functions and making them more competitive with others in the targeted market. Proper legal protection which promotes and ensures all the steps of inventive creativity, thus avoiding unfair competition, makes the success of the inventor achieve the intended goals and deserved reward.

An individual creator's or business's interest in the field of industry and technology would be a permanent development and growth, wise and innovative investment, growing human and productive capacities. In that process, the existing knowledge and resources are usually put into operation, as the goal is to make the most accurate refinement and to upgrade the products that are being processed, if not completely new products are created, for a better placement and fair competitive valuation in the said market. And, if there is satisfactory outcome in problem-solving, in emerging new ideas, new creations, feasible projects, then they may constitute sufficient matter for a patentable invention. However, the "creator inventor" must have in mind and use all legal and institutional procedures in force, being prepared for all the key steps necessary to file the application and finalize the project. In addition to exercising the legal rights and observing the set criteria, other conditions should be respected, such as "the invention must've never been published before" in any way and anywhere in the world, until the day which the patent is applied for.[3] By fulfilling all necessary conditions, the inventor or the owner of the title is entitled to legal protection, definite ownership over the title, making use of certain profits, based on agreed terms and conditions and the publication and opening for wider popular practical use.

An invention, only after obtaining the full patent right, acquires the 'legal status of personal property'[4] and only then it can be treated as such. That way, the owner, namely the author, uses all the rights described in it, as well as other terms of use by others, by the public and even, the exchange of this right for any other material good and other types of compensation, not to mention other commonly used features for many systems of the law, such as for example, the transfer of this right to other individuals, being it the heirs, certain other authorizations, etc.

The invention as such cannot be counted as property or ownership, or at least not the same as owning movable or immovable property, just from the fact that someone owns it, has come up with the idea by giving certain effort and means and by gaining certain rights over it. However, the fact of its creation, the personal right and the guaranteed natural rights over it, transform it into private property over which the inventor secures control by a patent.[5] Moreover, the right of property title through a patent is equated with the title deed or the deed of a real estate, because they both provide the owner with the right and its protection from interference, violations or occupation by others.[6]

3 UK Intellectual Property Office: Patents step by step.

4 Invention and innovation: an introduction (https://www.open.edu).

5 Module 03. Inventions and Patents: https://www.wipo.int>pdf>ip_panorama_3_learning_points.

6 Module 03. Inventions and Patents: https://www.wipo.int>pdf>ip_panorama_3_learning_points.

The issue of inventions in North Macedonia, as well as other industrial property rights is regulated by the Law on Industrial Property, according to which, an invention is defined as a solution to a technical problem for a product, procedure or matter itself, which is the result of a certain procedure.[7] These are some widely known definitions, which then are detailed in rules and conditions that define the products and processes calculated for an invention, the realization of the rights of inventors and the invention and the institutional procedures that lead to potential patenting. Based on this, an invention could be accepted as such, if it passed the patenting procedures and get to the next stage, that of being provided legal protection, achieving its practical application in industry and that of making inventive contribution for the benefit of the society and its creator. If all basic requirements are met, protected inventions could also become: "products which consist of or contain biological material and methods for obtaining, processing or using it."[8]

Aside from overcoming legal obstacles, for an invention to complete its patenting procedures, if it meets the necessary requirements by law, it may also encounter other problems in nature. Usually, these can be things that have to do with the duration of the completion process and its dysfunction, not having all necessary elements put together, not meeting financial obligations, uncertainty about the expected result and outcome from its practical use, etc. Other issues could be about interdependence with other inventions or processes or, cases could involve two or more persons working in "solving the same technical problem" and this to result with the same inventions and for them to encounter the problem of one or the other invention not to be accepted for patenting.[9]

Industrial Application

Of the most basic requirements, already probably structured in all national and international legislations in the field of industrial property rights, and in particular in the process of patent applications of an invention, is that it must be applicable in any of the fields of industry. This means that, together with the patent application for an invention, the applicant must, among other things, submit concrete evidence of the industrial applicability of his/her invention in a particular field, in order for it to be granted a patent. This type of invention must produce such products which will find use in one of the fields of industry, although this may not be sufficient proof that it will be treated equally by any other industrial property or economic entity.

Industrial applicability, now as the main requirement and a goal for inventions, as it is being elaborated widely by academic, research, institutional and manufacturing-commercial circles, is also defined in special and adequate ways by these entities. In addition to the special treatment given to industry-oriented discoveries, no less importance should and is given to industry itself as a very broad and necessary field of socio-economic development. Industry, in addition to being an economic activity for the processing of raw materials and production of goods in factories, in

7 Law on Industrial Property of RNM, Official Gazette of RM, No. 44/09, Article 3.

8 Law on Industrial Property of RNM, Official Gazette of RM, No. 44/09, Article 25.

9 Invention and innovation: an introduction (https://www.open.edu).

terms of industrial property law means any physical activity of a "technical nature," i.e. activities in the field of useful and practical arts.[10] According to the European Patent Convention (EPC), Article 57, industrial applicability means the suitability of the invention to be made or used in any branch of industry, including agriculture. Being eligible for patenting, does not exclusively mean industry machinery and manufacturing capacities, but it can mean many other things, other processes and methods of practical use of ideas for invention. The suitability must be demonstrated through a testing process of the idea which must be applied to the "improvement or control of a product, apparatus or process" suitable for industrial application.[11] So, inventions only are eligible for patenting, if acceptable by law and regulations and if they are of a practical technical nature. On the other hand, ineligible are things not considered inventions, such as discoveries, scientific theories and mathematical methods, aesthetic creations, methods of interpreting mental works, playing games or doing business, computer programs and information presentations.[12]

An idea or invention must be new and applicable, in order to be patented; the same happens to interventions and improvements that can be made to existing inventions. Under U.S. Patent Law, this issue is also about the potential benefit of a coming invention, in terms of its concrete application in industry. It is explicitly stated the benefit that the forthcoming invention will bring, which is known as the "functionality requirement." So, the invention is essentially required to be functional in what the inventor claims it to be.[13] The applicability usefulness should be explained and described in sufficient detail during the submission of the application, so that it is clear, credible and acceptable to the competent experts in the given field. These issues are guaranteed by the US Constitution (Article 1, Paragraph 8), giving Congress the authority to "grant inventors exclusive rights" in order to promote "the development of the Science and useful Arts."

The "industrial" applicability requirement and the ways and details of proving the functionality of an invention, based on the American Patent Law, author Gene Quinn describes in his article: "Understanding the Patent Law Utility Requirement."[14] In addition to the routine description of the practical industrial application problem of the invention, commenting on the Patent Statute, he also describes other possible modalities faced by both patent applicants and the competent state authorities, such as examination experts and the application accepting authority, themselves. Dividing the issue of functionality into *specific*, *general*, *substantial* and *non-functional*, he describes both the advantages of patenting inventions and the omissions and shortcomings that may occur during the submission of applications and possible omissions during the examination of concrete facts on technical applicability.

Since practical application deals with the inventor's clear understanding of the "usefulness" of his invention, he must make a reasoned statement in the form of a "statement of truth" which contains the possibility of a *specific* and *substantial*

10 European Patent Office: European Patent Convention, Article 57, Industrial application.

11 WIPO: Industrial Applicability and Utility Requirements: Commonalities and Differences, Geneva, May 12 to 16, 2003.

12 European Patent Office: European Patent Convention, Article 57, Industrial application.

13 Understanding the Patent Law Utility Requirement, Article by: Gene Quinn, 7 November, 2015.

14 Understanding the Patent Law Utility Requirement, Article by: Gene Quinn, 7 November, 2015.

use. Examiners of these applications are instructed to rely on these statements and based on them to give approval, which does not provide the necessary operability of a patented invention, based only on the written statement, which means that the said invention may not result functional for the purpose which it was granted the patent. Instead, it would be best to emphasize the concrete functionality of the issue allegedly resolved, as functional, in the context of the benefit it brings or has brought and for which a more general issue is known.[15]

The other requirement, that of *substantial* functionality, has to do with the usability of the invention in the actual manner and form as it unfolds and not with what it will find use later, even after additional research. It means that, proof is needed about its concrete and real functionality, as the patent application is being carried out.

Non-functional, inoperative inventions would be those that lack utilization and consequently, do not bring any benefit, although by means of some general evidence of functionality, they pass this kind of requirement. In a way, their lack of functionality may go unnoticed without having in mind their complete inability to do so, and the partial lack of functionality in achieving the intended result does not lead to the rejection of the entirety of a stated invention. As other evidence of functionality, especially when it comes to evidence of problematic inventions, the abovementioned author mentions the possibility of introducing as evidence the "working prototype," which is very rare. Alternatively, demonstrations may be required through testing and the submission of statements of authenticity, in order to demonstrate the functionality of an invention to be patented, before the examiner of such evidence.[16]

Based on legal treatments that national authorities or other institutions of industrial property (intellectual property) give to this issue, it should be noted that there are a number of similarities, and in particular the general concept of "industrial application" or "utilization" and "functionality," respectively, are some of the main requirements for invention patenting. However, the ways of defining these requirements by individual countries happen to have certain differences, at least seen from the point of view of theoretical approaches and the structuring of rules. Thus, since most legal systems use such terminology as "industrial application," "technical (practical) application," "industrial suitability or acceptability," etc., by that it is mainly referred to things and processes that are similar, or even the same. Such a thing, in most cases, suffices with adding to the word industry, the other general explanation: in the "broader sense" or 'comprehensive." Of course, in many cases there are additional explanations which specify what is acceptable for an invention, what cannot be an invention and what things or ideas make an exception from being patented.

Another issue is the way certain things are referred to, calling them "skilled arts" from which to exclude "fine arts" and of course, the manner, method, process, expert and expertise which inventions should be treated with during the patenting process. Depending on the differences that can be observed in the terms of industrial application of inventions, during the patent application process, care must be taken in meeting the basic requirements, by both the applicant and the examiner. The

15 Understanding the Patent Law Utility Requirement, Article by: Gene Quinn, 7 November, 2015.
16 Understanding the Patent Law Utility Requirement, Article by: Gene Quinn, 7 November, 2015.

description should cover both the details of industrial application of the "main idea" and other secondary and general novelties, as well. Additionally, there should be described any eventual problems, details which, even if they alluded in possible deficiencies or weaknesses, should imply the possibility that they can be repaired through additional interventions. This should also be in order to avoid the possibility of any manipulations that the same are used, or a new intended product is created as a result of unexplained "problems," and then there is no proper basis to seek legal advice and get the necessary protection.

About Patent Approval Procedure

Ideas for invention, after adequately being formulated by the inventor, with all the necessary evidence for their functionality and practical use, should be addressed to the competent authority, which may be the Patent Office, or a similar authority or office, perhaps a little more general which other applications, for other types of discoveries or processes may be filed with. This is what inventors do and should do driven by different reasons, such as: making the invention public; wanting to put it into practical use, especially when actual products resulting from it are generated or regenerated; using it for various purposes, being it of a material or another nature; reaching up and coping with existing competition in relation to other similar inventions in the market; and most importantly, its institutional provision with the right legal protection in case such protection is approved and provided for. So solely, by patenting the invention, one is given the opportunity and means to take the necessary legal action against anyone who would copy, use, trade, or misuse that invention in any other way, without one author's knowledge or permission. Such a process, although it may seem simple and easy at first, can at times lead to different problems that can cause delays and prolongations, and even can cause a procedure to be repeated, if not, rejection of the case in its entirety. So it can happen that from a routine procedure, seemingly easily and timely passable, to come to unexpected obstacles, problems and unbearable costs.

Patent offices, being those of individual countries or those of a broader international level, have their patenting rules and procedures published, which include the conditions to be met, stages to be followed, application and patent costs, deadlines of examination and approval. So, it must be understood that, in order to be sure of passing these and other required legal steps, one must make all necessary preparations and all necessary details must be completed, based on the basic requirements to patent an invention. Another important thing to also have in mind is that the required conditions should generally be fulfilled before undertaking the patent procedure. In addition to preparing the necessary personal documentation and completing the application forms, one should clearly identify and describe the problems that have been studied and the result(s) achieved and defined as a solution. Most importantly, and in addition to following all procedural steps, the functionality of the invention and the given solution must be backed up by relevant evidence, which means proof and testing of that functionality, done previously and convincingly.

Conclusion on the Globalist and National Aspects of Intellectual Property

Making relevant comparisons of systems and legislations related to Intellectual Property Law, we notice some distinctive features for them, even though most of the general things are intertwined from one system to another, by following certain models of this law, respectively. Generally, all principal rights are included in their respective categories, regardless of whether somewhere they are listed under intellectual property and with a general legislation describing it, or by placing them within the framework of Industrial Property Law, or the Copyright, respectively, or even by presenting them through more specific laws for some of these categories of IP rights, but at the same time alluding that they are either part of one of the certain laws, i.e. industry, or that they belong to the other category of works from the field of arts and literature.

In general, all systems include the exclusive right of the author or holder of a certain right over their created work. There may be differences on the legal timeframe of one holding the title and also one should look out for a possible conflict of one work with another, especially after the respective right is accorded for and the work is released into commercial use. Thus, only if this acquired right does not conflict with any existing right, whether dominating it or being dominated by it, even due to the transfer and timeframe of interests, incomplete control over production and the circulation of goods or processes arising from this right, one actually cannot count on exclusivity or monopoly. So, in a way, one cannot even talk about the full possibility of maintaining and controlling that monopoly, especially now with the great globalist movements, numerous legislative harmonizations, conventions and joint international agreements, easy access to global information and market, especially in recent decades. Although these movements have made things easier, have encouraged creativity and inventions through standardization and simplification of procedures, have enabled access to public databases of patents and granted authorships, they may have created a tempting and wide territory for manipulation and flaws, ambiguity or misinterpretation; even inability to track, recognize and control properly licensed products placed on the market. It may also be due to the authorization given to two or more manufacturers, in one or more locations or countries, but also due to the inability to comply with all the rules set on a license, not to mention other flaws related directly to intentional falsifications.

Viewed from another perspective, that of socio-economic, educational and technological point of view of countries that, even after a long time spent in the transition processes, with lack of development and overall progress and which aren't merely rejecting harmonization and uniformity over intellectual property approaches, it is reasonable that in parallel with international memberships and accessions, they must work intensively in finding the best solutions in support of the promotion and development of relevant activities which could be complemented and achieve success through the contributions of creators of intellectual property arena. Including also the System of North Macedonia, priorities should be set and they should not get stuck on the margins of adaptations and legal theoretical improvisations. It is necessary to reflect on the developmental obstacles so far, such as unfair competition,

education and insufficient awareness on the values of protecting an intellectual creation and its distinctive and protected product by an intellectual property right, on non-compliance and strict implementation of existing standards and procedures during the making and licensing of a particular creative work or process. Of utmost importance should be the protection of the interests of the "productive" creator and producer, as well as that of the consumer, in order to create a balance of maintaining and developing these interests, such as keeping the balance between those who develop and put into function technical-technological discoveries, on one hand and those who make use of them, on the other, such as products put in process and service. So, the encouragement of innovation and discovery should be oriented towards the resources that will be used and exploited, economic sectors which are in need of assistance and which are of significance to a certain development of a region or municipality; the level of development of these sectors and the deficiencies which hinder a full functionality and development, revenues that they can generate and together with the goal of achieving the balance, to take into account the risk of not meeting the goal, meaning a full calculation of whether the effort and investment would be worth it.

References

European Patent Office: European Patent Convention, Article 57, Industrial application.
Invention and innovation: an introduction (https://www.open.edu).
Law on Industrial Property of RNM, Official Gazette of RM, No. 44/09.
Module 03. Inventions and Patents: https://www.wipo.int>pdf>ip_panorama_3_learning_points.
UK Intellectual Property Office: Patents step by step.
Understanding the Patent Law Utility Requirement, Article by: Gene Quinn, 7 November, 2015.
United States Patent and Trademark Office (USPTO): Trademark basics.
What is Innovation? https://innolytics-innovation.com.
WIPO: Industrial Applicability and Utility Requirements: Commonalities and Differences, Geneva, May 12 to 16, 2003.