The protection of technical inventions using patents

The patent is an exclusive right that protects novel technical inventions that involve an inventive step and are capable of industrial application.

An invention is novel if it is not part of the state of the art on the date the patent application is filed. In order to judge the novelty of an invention, the world-wide state of the art is used as a reference, that is to say, all technical knowledge made accessible to the public in any part of the world up to the date on which the patent application is submitted to the competent body. Therefore, as soon as an invention is accessible to the public, whether by means of oral description (at a conference, for example) or written description (a specialised publication or a web site) or by a use of the invention that would allow an expert to develop the invention by him or herself without any additional knowledge, it becomes part of the state of the art, and would therefore no longer be novel.

In addition to this novelty requirement, the invention must include two other requirements to be eligible for protection under patent law. All patent legislation requires that the invention, in addition to being new, should be applicable industrially and include an inventive step, that is to say it should not be deducible from the state of the art in an obvious way by an expert in the subject. Thus, the technical solution that constitutes the invention should not be obvious to an expert in the technical field of the invention.

From the date of the publication of the filed patent application by the Patent Office, the applicant has provisional protection against the misappropriation of the invention while the application is pending. However, patent infringement can be claimed only after the patent is obtained. The patent granting procedure normally takes two to four years. Usually, there is a granting procedure with a prior examination of the patentability requirements. This means that, once the application is submitted and the formal requirements have been fulfilled, the patent office of the State where the patent is applied for carries out a patentability examination: it evaluates whether the invention fulfills the requirements of novelty, inventive step and industrial application.

The cost of a patent increases considerably in the case of a European patent application filed for patents in several States, especially because of the legal obligation to provide several translations of the claims in the patent application, as well as expenses for legal advice, which are difficult to avoid. However, where legal protection is sought in several States, a European patent application is not as expensive as it would be to apply for a national patent in each State separately.
2. Is it always possible and/or necessary to obtain a patent to protect technical inventions?

Even if someone has developed a new technical invention, it is not always possible to protect it with a patent. In some cases, even if it is possible to obtain a patent because the invention fulfils all the patentability requirements, it does not suit the inventor for economic or commercial strategy reasons.

Especially in the case of an SME or a private individual, an inventor may come across the following situations:

a. A novel invention has been developed (at least, the inventor has good reasons to think that it is novel), but there is doubt as to whether it can pass the patentability examination, on account of the requirement of an inventive step. That is, it is not a major technical innovation, but a technical advance or an improvement on something previously known that involves some technical progress or adds some sort of advantage, but is not inventive enough for it to be clear that the inventive step requirement is fulfilled.

b. The invention, whether or not it is inventive enough to be patentable, must be protected quickly. This happens, for instance, in technical fields in which products are quickly substituted by more advanced products. These are highly competitive sectors where making a fast introduction of new developments into the market before a competitor does is crucial to ensuring the commercial success of the innovation and recovering the costs of its development. In these cases, the inventor cannot wait more than a few months to market (or put into practice) the innovation. Therefore, it is not advisable to apply for a patent because the granting procedure could take several years.

c. Finally, it may happen that the inventor does not have the economic means to pay to obtain In all these situations, the inventor must seek an alternative form of protection rather than a traditional patent.

3. What are the alternatives to an ordinary patent?

3.1. The utility model

3.1.1 What is the origin of the utility model?

The utility model is a legal institution the origins of which go back to 1891 in Germany. It was created to fill a gap in the law. The German patent office only granted patents for inventions that were new and displayed a certain level of inventiveness. But there were a great number of technical solutions consisting of industrial creations with little technical or constructive complexity. They were characterised by the fact that they generally included a formal modification of objects in common use and simple tools, where, despite the simplicity of the innovation, there was nonetheless a technical advance on what was previously known. These "small inventions" were not patentable, but the German legislature believed that they did not deserve to remain unprotected seeing as they had an undeniable economic value. That is why the legislature deemed it necessary to create a specific exclusive right, different from the patent and suitable for protecting these minor inventions.

The utility model was soon adopted by other countries, including Japan, Poland, Spain, Italy, and Portugal. Not only has the utility model survived in all those countries, but more recently, it has also been introduced in other states such as Greece (1987), Finland (1991), Denmark (1992) and Austria (1994).
3.1.2 What sorts of inventions are protected by the utility model?

Broadly speaking, and excluding some particularities of different States' laws, the utility model protects technical inventions (process inventions are excluded from the protection of the utility model) that fulfil the requirements of novelty and industrial application - some degree of "inventive step" is also required, but it is much lower than for patents.

3.1.3 What are the requirements for an invention to be protected by a utility model?

The novelty requirement is the same as for patent law, that is to say, the invention is novel if it is not included in the worldwide state of the art when the application is submitted. There are some exceptions, such as in the case of Spain, where only national novelty is required and Germany, where only written disclosures made in any part of the world and the use of the invention within German territory may affect the novelty of a utility model.

The requirement of an inventive step is defined differently from the requirement of an inventive step for a patentable invention. In most legislation on utility models, a lower level of inventive activity is required. Although it is very difficult to assess the level of inventiveness that qualifies, there have been attempts to express, in legal terms, the lower rigour of this requirement with expressions such as "the invention should not derive from the state of the art in a very obvious way for an expert in the field" (instead of the expression "it should not be deduced in an obvious way..." used in patent law.

Sometimes the requirement of inventiveness (the "inventive step") does not apply. For instance, Polish law requires that the model itself be useful, meaning that a practical aim is achieved through the solution in the production and use of the products.

Finally, in some countries, for example Germany and Austria, there is a grace period. That is to say, the printed publication or use of the invention by the applicant (or by someone acting on the applicant's behalf) does not affect novelty as long as it has taken place within a period of six months prior to the date of filing the application for the utility model.

3.1.4 What are the most important characteristics of the procedure for obtaining a utility model?

Usually, the procedure for obtaining this form of protection is a simple registration procedure. That is to say, the patent office only examines the fulfilment of the formal requirements for application. Once this formal examination has been completed, the body will proceed to grant the utility model. In this way, the time during which the applicant has provisional protection is considerably shortened. As a general rule, six months after an application is filed, a utility model can be obtained, which means full exclusive rights to the invention are granted.

In Spain, for example, after the formal examination of the application, there is an opposition stage: a third party with a legitimate interest may oppose the registration of the utility model by claiming that the invention lacks one of the requirements for protection established by law.

In Germany, Austria, Finland and Denmark, the applicant may ask the relevant patent office to write a "report on the state of the art". From this report, it can be determined whether the invention is novel and whether it involves an inventive step. But the report is not legally binding, and the office must grant utility model registration no matter what the result of the report may be.
In Portugal, the new Industrial Property Code, approved in March 2003, introduced a patent and utility model granting process that includes the examination of the protection requirements, even though, as regards utility models, it is, in principal, a voluntary process. If the utility model applicant does not request a prior examination, the Patent Office, once it has examined the formal requirements of the application, will register the utility model. This will be considered a “provisional utility model”. This provisional title will be made “definitive” once the applicant, at any moment of the registration procedure, or any third party, once the provisional utility model has been registered, requests that the patent office carry out a prior examination. The corresponding examination fees should also be paid. In addition, if the holder of a provisional utility model intends to enforce its right against a third party, it will have to request that the Office carry out a prior examination.

Poland is an exception to this general rule: formal examination of the application is followed by an examination of the legal conditions for protection.

In almost all national utility model systems, certain mechanisms connect the utility model to the patent. These mechanisms exist to prevent mistakes on the part of the inventor in applying for adequate protection: there will often be a way to transform a patent application into a utility model application and vice versa. In other cases, these mechanisms prevent the invention from being deprived of protection when the inventor does not have a clear idea of the invention's level of inventiveness. Thus, inventors are allowed to simultaneously apply for a patent and a utility model for the same invention, the registration of the utility being granted only if the patent application fails for want of an inventive step. Finally, in other cases, there is an attempt to offer the inventor full protection for the invention by granting a utility model registration while the patent application is pending (which, as we have said, usually takes a couple of years). This is the case of the so-called internal priority or derivation.

Again, Poland is an exception. The change of application is only one-directional, that is to say that during the examination stage or for a period of two months from the refusal to grant a patent, the applicant may apply for a utility model protection right. It is not possible, however, to convert a utility model application into an invention application.

3.1.5 What is the duration of the exclusive right granted for a utility model?

The duration of the exclusive right granted for a utility model is, as a general rule, ten years (except in Greece, where the duration is seven years.)

3.2. The short-term patent

This is an expedited patent that is cheaper than a traditional patent. It confers the same rights, but for a shorter period of time, normally six years.

This option exists in the Netherlands and Belgium. In fact, it does not mean that a legal right different from a patent is legally recognised but that respective patent laws allow the option to obtain a patent without fulfilling all of the procedural requirements necessary to obtain an ordinary patent, with the proviso that the duration of the exclusive right is then shorter.

In France, however, there is a specific legal protection called the "certificat d'utilité", which can be applied for independently to protect a technical invention. However, despite the name, the certificat d'utilité is a second-tier patent, different from what we know as a utility model.

In the Netherlands and Belgium, as well as in France, protection by means of a short-term patent or a certificat d'utilité is for technical inventions that fulfil the patentability
Forms of legal protection for technical inventions (especially utility models)

requirements (novelty, inventive step and industrial application). There is no lesser inventive step requirement, nor are process inventions excluded.

3.3. The "petty patent".

We will use the term "petty patent" to designate the Irish "short-term patent". This is because the Irish short-term patent protects technical inventions (both of product and of process) but requires a lower inventiveness level than patentable inventions.

4. Is there a Community utility model or second-tier patent?

There is not currently a utility model or second-tier patent that can be obtained for the entire territory of the European Union. However, in 1995, the Commission began to consider the economic importance of minor inventions and the need to harmonise national legislations on this matter. For this purpose, the Green paper on the protection of the utility models in the single market (COM (95) 370 final) was published. In this document, several possibilities were mooted, the most important being the following:

a. the adoption of a Directive to align the existing legal protection schemes which at the same time introduces protection in the countries where there is none (Luxembourg, the United Kingdom and Sweden);

b. the adoption of a Community Regulation creating a Community exclusive right; and

c. the adoption of a harmonisation Directive, as a first step, as well as a Regulation establishing the Community utility model in a later stage, as was done with industrial designs.

Finally, the third option was chosen. Thus, on 12th December 1997 (OJEC 1998, No C 36, p. 13 and subsequent) the Commission presented a Proposal for a Directive for the alignment of the legal protection of minor inventions by utility models. In 1999, the Amended Proposal for a Directive (COM (1999) 309 final, OJEC No C 248 E, p. 56 and subsequent) was published. In the Amended Proposal, protection by means of a utility model is envisaged for any novel invention that involves an inventive step and is capable of industrial application.

The system plans for the utility model to cover all types of technical inventions, products and processes, excluding biological material and chemical and pharmaceutical inventions. However, the protection by utility model of all other substances and processes (including computer programs) would be allowed.

The novelty required would be judged by referring to the worldwide state of the art, and the inventive step requirement would be defined in a special way in order to establish a difference of degree compared to the inventive step required to obtain a patent. Therefore, for an invention to receive protection by means of a utility model, it would have to represent an "advantage", and not be derived in a very obvious way from the state of the art from the point of view of an expert in the field. The "advantage" referred to would consist of a practical or technical advantage for the use or manufacture of the product or process concerned, or another kind of benefit for the user, such as in the field of training or leisure.

The registration procedure would not require an examination to determine fulfilment of the protection requirements. The competent authority would only examine the fulfilment of certain formal procedural requirements for the application. A voluntary report on the state of the art is envisaged.

An applicant for a utility model could simultaneously file an application for a patent for the same invention. However, once the patent is granted, the utility model would be void. Therefore, the dual protection of an invention by two different exclusive rights would not be permitted.
The utility model would be granted for an initial six-year period, from the date of filing the application, with the possibility of two consecutive two-year extensions, up to a maximum duration of ten years.