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Patent Issues Part II: Novelty and Inventive Step II

You may remember from last month's article that novelty and inventive step are two basic requirements for patentability. In accordance with the European Patent Convention (EPC) an invention is considered to be new, if it does not form part of the state of the art. Further, an invention is considered to involve an inventive step if, having regard to the state of the art, it is not obvious. While the meaning of "state of the art", (i.e. prior art) was discussed in the previous issue, this article discusses certain aspects to be considered when assessing novelty and/or obviousness of a product or a process. The case studies given are fictional and assumptions made may not be transferable to all

3 Novelty

People not familiar with patent issues are swift to say that the subject matter of certain patent is not novel. However, in many cases, it turns out that they are incorrect. One reason may be that the priority date was not considered. However, in most cases the reason is that the meaning of the term "novelty" in patent issues is somewhat more narrow.

Novelty Test

The test for novelty is a one-to-one comparison between the claimed invention with one prior art item. In other words, for a novelty test, it is not permissible to combine prior art items. A prior art item takes away the novelty of a claimed subject matter, if the claimed subject matter, i.e. each and every single feature given in the claim, is derivable unambiguously and directly from the one prior art item.

The question of what is disclosed in a certain prior art item is not always without ambiguity. In practice, only those features that are expressly mentioned in the prior art item are considered to have been disclosed in the prior art item. Failing this, the document has to at least disclosed a feature implicitly to a person skilled in the art by what is expressly mentioned. As a result, even well-known equivalents of a feature expressly mentioned are usually not considered to be disclosed in the prior art item.

Further, a generic disclosure does not generally cancel out the novelty of any specific example falling within the terms of that disclosure. Meanwhile, a specific disclosure takes away the novelty of a generic claim embracing that disclosure. Simply put, an apple is novel over fruit, but fruit is not novel over an apple.

Case Study

Imagine that a patent application is filed with the EPO, wherein claim 1 reads as follows:

A method for recharging a toner cartridge comprising the steps of

- a. Separating the toner cartridge into at least two parts.
- b. Filling fresh toner into at least one of the two parts and

- c. connecting the two parts after filling.

In a prior art document, a method for recharging a toner cartridge is disclosed, comprising the steps of

- a. Separating the toner cartridge into two parts, namely part A and B.
- b. Filling fresh toner into part A.
- c. Gluing the two parts together after filling fresh toner into part A.

The specific disclosure of one connection method, namely gluing, anticipates the feature c) of claim 1 related to a generic connection method. Likewise, filling fresh toner into part A anticipates step b of the example patent application.

Hence, the subject matter of claim 1 is not novel over the prior art document.

In a modification, it is assumed that the application comprises a claim 2 as follows:

The method according to claim 1, wherein the two parts are connected by hot-welding.

“Hot-welding” is not disclosed in the prior art document. Hence, the method of hot-welding the two parts together is novel compared to the prior art document.

Consequently, a novelty attack against the patent application using only the prior art document may be fruitless. However, an inventive step attack may be viable.

4 Inventive Step

The second basic requirement for patentability is that the subject matter must involve an inventive step, also referred to as “non-obviousness”. Whereas in most cases the novelty (or non-novelty) of the subject matter may be clearly ascertained, the question of “obviousness” may be less clear-cut.

The requirement of “inventive step” is essentially the same in most European countries, Japan and the US. Generally, a predictable improvement of prior art or anything that follows plainly or logically from the prior art is considered as “obvious”. In other words, something is considered to involve an inventive step if a person skilled in the art would not know how to solve the problem at which the invention is directed without exercising any skill beyond that to be expected.

However, the methods for assessing “inventive step” may differ substantially from country to country. Unfortunately, these national differences in assessing “inventive step” may lead to different results. Here we take the approach for assessing “inventive step” used by the European Patent Office (EPO).

Problem-Solution-Approach

When a case is brought before the EPO, the so-called “Problem-Solution-Approach” is applied to assess the inventive step. The approach consists of:

- 1) Identifying the closest prior art, i.e. the most relevant prior art.
- 2) Determining the objective technical problem, i.e. determining the differences between the application under examination and the closest prior art, and stating the technical problem which the claimed invention addresses and successfully solves in comparison to the closest prior art.
- 3) Examining whether or not the skilled person faced with the objective technical problem would (not simply could) have been prompted to modify or adapt the identified closest prior art, thereby arriving at something falling within the terms of the claims and thus achieving what the invention achieves.

Once an invention exists and is stated in an application, it will often be easy to show that a skilled person could have made the invention by combining different elements well-known in the prior art. However, if there are no indices in the prior art as to why the skilled person was prompted to combine these elements, such arguments are mostly disregarded by the EPO as being the product of an unacceptable retrospective analysis, a so-called ex post facto analysis.

Therefore, the aim of the last step of the “problem-solution-approach” is to avoid such an “ex post facto” analysis by asking if the skilled person would have been prompted to combine these elements. Consequently, for assessing obviousness, several prior art items may be combined, provided that this combination is suggested in one of the prior art items or by other means.

In some cases, once a problem is established, the solution to that problem may be simple. Nevertheless, the invention may still involve an inventive step because a hitherto unrecognised problem is solved.

Case Study

Imagine that in the example given in section 3.2 above, several tests by the applicant surprisingly revealed that the formerly known refilled toner cartridges are of poor quality due to glue entering the toner cartridge and mixing with the toner. In such a case stating the hitherto unrecognized problem of finding a substitute connection method may involve an inventive step. Consequently, a respective claim may be patentable over the prior art.

This is based on the premises that the problem of glue entering the toner cartridge has so far been unrecognised. In a modification of the example, it is assumed that a second prior art document exists, in which the poor quality caused by glue and toner coming into contact of is already discussed. Hence, the problem is already well-known by any person skilled in the art, and finding the solution of using hot-welding instead of gluing may not involve an inventive step. Consequently, a respective claim may not be patentable over the prior art.

The two examples show the complexity of considering whether or not a subject matter of a claim involves an inventive step. In many cases, inventions that appear to be obvious when regarded in retrospect prove to involve an inventive step when considering the knowledge of a person skilled of the art at the time the application was filed.

Testing the requirement of inventive step demands skill and experience. Therefore, in many cases it may be advisable to leave it to a patent professional to judge on the prospects of success of an inventive step attack against a patent or of filing a respective patent application. However, even for a patent professional, predicting the outcome of an inventive step attack with some certainty is not always possible.

5 Conflict with post-published, earlier European applications

As described in detail above, even well-known equivalents are generally not considered to be embraced by the prior art item, so the patentability may not successfully be attacked on the grounds of novelty. However, using the same prior art item, an inventive step attack may be successful. In many cases, such a distinction may seem purely academic.

However, when considering novelty in accordance with the EPC, the state of the art also comprises the content of other European applications filed (or validly claiming a priority date) earlier than the filing date (or the priority date) of the application being examined, but published on or after the filing (or the priority date) – to the extent that the earlier and later applications validly designate the same State or States. Such applications are referred to as post-published applications.

On the other hand, such a post-published, earlier European patent application is no prior art document when considering inventive step. Hence, if the document is a post-published, earlier European patent application a distinction between “novelty” and “non-obviousness” may be crucial.

6 Further aspects

Discussing all requirements of patentability would without doubt go far beyond the scope of this series of articles.

You may remember, in the previous article featured a scenario where during substantive examination an “objection” was filed containing the sentence:

“I am also of the strong opinion that granting this application would be contrary to public interests on both environmental and economic grounds”.

Please note that the EPO has not been vested with taking into account environmental or economical considerations when assessing patentability. Consequently, such an objection would not be considered.