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G 1/23 „Solar Cell“ – Existing Products in a new Light?

Thorsten Bausch, Timo Pruß (Hoffmann Eitle) · Tuesday, July 18th, 2023

In decision T 438/19 Technical Board of Appeal 3.3.03 has ex officio (!) referred three questions of law to the Enlarged Board of Appeal (now handled as G 1/23) in order to resolve a perceived divergence in the case law. These questions concern the question whether and in how far a (commercial) product and technical information describing it (to some extent) is prior art for a patent. The referred questions are:

1. Is a product put on the market before the date of filing of a European patent application to be excluded from the state of the art within the meaning of Article 54(2) EPC for the sole reason that its composition or internal structure could not be analysed and reproduced without undue burden by the skilled person before that date?
2. If the answer to question 1 is no, is technical information about said product which was made available to the public before the filing date (e.g. by publication of technical brochure, non-patent or patent literature) state of the art within the meaning of Article 54(2) EPC, irrespective of whether the composition or internal structure of the product could be analysed and reproduced without undue burden by the skilled person before that date?
3. If the answer to question 1 is yes or the answer to question 2 is no, which criteria are to be applied in order to determine whether or not the composition or internal structure of the product could be analysed and reproduced without undue burden within the meaning of opinion G 1/92? In particular, is it required that the composition and internal structure of the product be fully analysable and identically reproducible?

It is immediately apparent that the answer to these questions can be of high relevance for the validity of a patent in view of prior art products that existed at the priority date, so that it may be worthwhile to shed some light (though not necessarily powered by solar cells) on this referral and the underlying principles.

Legal Background – Art. 54(2) EPC and G 1/92

As most readers of this blog will know, Art. 54(2) EPC defines the state of the art in a quite

specific way, namely as comprising “everything that has been made available to the public”. Here, the term “available to the public” certainly provides for a higher threshold than e.g. “everything known or described”. For example, one dictionary defines “available” as meaning that something “is able to be obtained, used, or reached”.

It is immediately evident that therefore something that cannot be “obtained, used or reached” by a skilled person is not “available” in this sense. A mere description of an entity having desirable properties, such as The Wishing-Table, the Gold-Ass, and the Cudgel in the Sack (or “Tischlein Deck Dich” for our German readers), is thus not “available to the public”, as Grimm’s fairy tale (sadly) lacks the information that is required in order to obtain any of these useful entities.

That such a threshold exists in patent law is very sensible if one considers that a major justification for granting patents (i.e., monopolies) is to foster progress in technology. By disclosing the invention and thereby making it “available to the public” (as required by Art. 83 EPC), the inventor enables others to reproduce, test and improve the invention so as to develop the disclosed technology further. In exchange, the inventor gets a patent and can enjoy a monopoly (which may, or may not, at least be equivalent to a Gold-Ass).

This line has also been adopted by the EPO, for instance in G 1/92. Here, the Enlarged Board held under item 1.4:

1.4 An essential purpose of any technical teaching is to enable the person skilled in the art to manufacture or use a given product by applying such teaching. Where such teaching results from a product put on the market, the person skilled in the art will have to rely on his general technical knowledge to gather all information enabling him to prepare the said product. Where it is possible for the skilled person to discover the composition or the internal structure of the product and to reproduce it without undue burden, then both the product and its composition or internal structure become state of the art.

The decision appears to quite clear that in order to be “available to the public”, a skilled person must be able to analyse and reproduce a product, the latter also without undue burden. This is in line with the current version of the Guidelines G-VI.4 stating:

Subject-matter described in a document can only be regarded as having been made available to the public, and therefore as comprised in the state of the art pursuant to Art. 54(1), if the information given therein is sufficient to enable the skilled person, at the relevant date of the document to practise the technical teaching which is the subject of the document, taking into account also the general knowledge at that time in the field (see T 26/85, T 206/83 and T 491/99).

Similarly, it is to be noted that a chemical compound, the name or formula of which is mentioned in a prior-art document, is not thereby considered as known unless the information in the document, together, where appropriate, with knowledge generally available on the relevant date of the document, enables it to be prepared and separated or, for instance in the case of a product of nature, only to be separated.

It follows that known products can still be patented if they cannot be reproduced or reverse-engineered based on common knowledge.

So, if you invent The Wishing Table, you may still get a patent for it (because Grimm's fairy tale is not enabling) but only if you disclosed it such as to enable a skilled person to reproduce it (otherwise your application will be refused under Art. 83 EPC). This is also reflected in the case law that even a known and desirable entity may become claimable as such if one was the first who developed an inventive method to actually produce it (T 595/90).

Not all products are equal

It is self-evident that some products are easy to reverse-engineer, while others may be more difficult or impossible to reverse-engineer. Examples of the latter products not only include Wishing Tables (assuming that they existed at least when the Grimm brothers described them), but also e.g. polymers.

Two polymers in the same class, such as polyolefins, often have similar compositions in terms of elements and starting materials, but can possess very different physical properties due to differences in their internal structure. These differences in internal structure are a consequence of their methods of manufacture, in particular the choice of polymerization catalyst, its amount, the reaction conditions (temperature, pressure), the presence, identity and amount of auxiliaries, etc. Even for someone skilled in polymer chemistry, in the light of thousands of known polymerization catalysts and a plethora of different reaction conditions and auxiliaries, it is utmost difficult, if not impossible, to reverse-engineer a commercial polymer in the absence of knowledge about the catalyst and synthesis conditions.

Realizing these difficulties, even the referring Board 3.3.03 previously rejected a commercial polymer as being comprised in the state of the art under Art. 54(2) EPC in the absence of detailed information on its synthesis (T1833/14, T2916/19).

The present referral

In the underlying case, operative claim 1 relates to a material that is suitable as an encapsulating material for a solar cell that comprises an ethylene/?-olefin copolymer which is characterized by certain parameter ranges specifying melt flow rate (a common parameter for polymers), density, Shore A hardness and aluminium content.

The Opponent attacked this claim based on an example of a prior art document as closest prior art. This example describes an encapsulating material for a solar cell that contains a commercial polymer ("ENGAGE 8400"). The Opponent/Appellant asserted that the commercial polymer satisfied all features of the claim except for the aluminium content, as also derivable from product brochures, and that adjusting the aluminium content did not require inventive skill.

The Patent Proprietor defended the patent inter alia by submitting that there is no information in the prior art how this specific commercial polymer is to be prepared, and that a skilled person thus has to perform an extensive research program in order to find the "correct" catalysts and synthesis conditions, without success even being guaranteed. The polymer could thus not be reproduced without undue burden, and therefore has not been made available to the public. The inventive step objection should thus be rejected, as it lacks a suitable basis, i.e. is not based on prior art as defined in Art. 54(2) EPC.

Such an approach was taken by the referring Board in e.g. T1833/14. In the referring decision, however, the Board identified diverging case law and questioned whether it would be justified to

exclude an existing product from the state of the art because it cannot be exactly reproduced with all of its properties, or whether it would not rather be appropriate to consider that those properties of the product that are either listed in brochures or which can be derived from the product by routine analysis techniques have been made “available to the public”(Questions 1 and 2).

A further concern of the Board appears to be that the reproduction of a product to full identity is frequently not possible without further knowledge about the manufacturing process, and that it is unclear how closely a reproduction must match the existing product in order to be considered the same product (Question 3).

In doing so, the Board dives into a semantic interpretation of G 1/92 and the Travaux Préparatoires of the EPC and arrives at the conclusion that “available to the public” might mean that simply accessibility of information but not reproducibility is meant. Thus, the established case law requiring a prior art disclosure to be enabling and item 1.4 of G 1/92 might lack a proper legal basis, according to the Board.

Further, if reproducibility was meant, it would be open to subjective criteria how much deviation is allowed to qualify a reproduced product as being the same. This would lead to a subjective novelty assessment, which is to be avoided and would lead to legal uncertainty.

Outlook

These proceedings will certainly be of significance to a large number of current and further proceedings. The decision will clarify if, under which circumstances and to which extent certain observable properties of a non-reproducible entity may be held to be “available to the public”, or if the product and its properties are simply no prior art because the product is not reproducible without undue burden, and hence not “available to the public”.

One aspect that that referring decision has not addressed but which will hopefully also be clarified by the Enlarged Board of Appeal is the question who carries the burden of proof that a prior art product is (or is not) reproducible and thus has (or has not) been made available to the public.

Disclosure: Hoffmann Eitle (Dr. Timo Pruß) represents the Patent Proprietor in this case. The EPO has meanwhile issued a [press release](#) on this decision on its website. It is to be expected that the Enlarged Board will soon allow interested parties an opportunity to comment on this referral.



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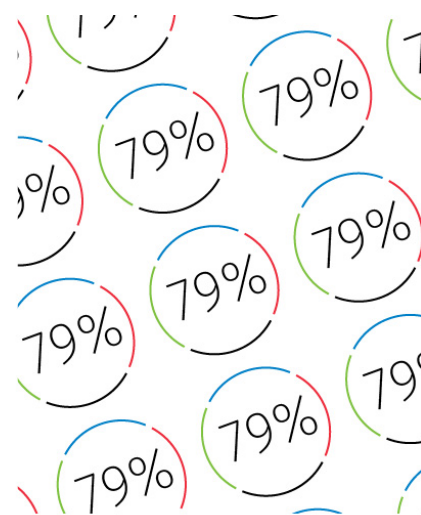
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