

OPINION

Equivalence in Europe

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A patent may be violated literally or by equivalents. Since an infringer usually tries to conceal the infringement, a patent is most frequently not violated literally (unless the accused infringer does not know of the patent, or believes the patent is invalid). So the area of equivalence is quite broad, especially if literal infringement is interpreted narrowly, as in photographic identity.¹

A European patent should be interpreted in the same manner in all Contracting States.² However, the concept of equivalence greatly differs in the various countries.

In England, the leading case is still³ considered to be *Catnic*.⁴ The problem in this case was that the inventor claimed a "vertical" item (a lintel used in the building industry), while the infringing product was inclined to the vertical at an angle of 6 degrees. The judge (Diplock LJ) refused a too literal interpretation:

"A patent specification should be given a purposive construction rather than a purely literal one derived from applying to it the kind of meticulous verbal analysis in which lawyers are too often tempted by their training to indulge."

The judge then articulated the matter in three questions. The questions were re-worded by Hoffmann J. (as he was) in a subsequent case (*Improver Corp. v Remington*⁵), as follows (and since then have become known as the *Improver questions*):

"(i) does the variant⁶ have a material effect upon the way the invention works? If yes, the variant is outside the claim. If no:

(ii) would this (*i.e.* that the variant had no material effect) have been obvious at the date of publication⁷ of the patent to a reader skilled in the art? If no, the variant is outside the claim. If yes:

(iii) would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention? If yes, the variant is outside the claim."

In *Wheatley v Drillsafe*⁸ the questions were labelled the Protocol questions, since they were considered in conformity with the Protocol on Article 69.

To resolve question one the claim has to be read as a whole.⁹ The invention has to be understood at the level of generality considered in the patent.¹⁰

Question two gives rise to a difficult problem, when the subsequent realisation is the result of an invention. On the one hand, since the various European patent laws (and also most of the non-European, as far as can be determined) configure a dependent invention (namely a realisation which is inventive, but nevertheless is dominated by a prior patent), the fact that the accused infringement is inventive may seem irrelevant for the evaluation of infringement. On the other hand, since equivalence is frequently evaluated

1 The EPO (European Patent Office) adopts an almost photographic identity rule for the purpose of establishing novelty. See *Case Law of the Board of Appeal of the European Patent Office* (1998), pp.69 *et seq.* This approach should lead to a similar rule for the purpose of establishing infringement. Germany does not adopt a quasi-photographic identity for novelty. However, cases for infringement mostly concern equivalent processes or products. (Marshall, 1998 *CASRIP Summer institute*, has indicated a percentage of 80 per cent). This probably derives from the German system, which separates the issues of validity and infringement, so that most literal infringements result in settlements, or actions for invalidity.

2 Busse (Keukenschrijver), *Patentgesetz*, Anm. 14, 109; Brinkof [1997] G.R.U.R. Int. 489; Brinkof [2001] G.R.U.R. 885.

3 Several criticisms have been expressed recently. See Turner, "Purposive Construction: Seven Reasons Why *Catnic* is Wrong" [1999] E.I.P.R. 531. But see Franzosi, "In Defence of *Catnic*" [2000] E.I.P.R. 242. The prevailing opinion today in England is that *Catnic* has to be re-examined. This approach contrasts with the position of the German Supreme Court, which seems more and more inclined to consider *Catnic*. See BGH March 2, 1999, *Spannschraube* [1999] G.R.U.R. 909; [1999] I.I.C. 932; *Kunststoffrohrteil*, mentioned below.

4 House of Lords, November 27, 1980 [1982] R.P.C. 183.

5 High Court, May 16, 1989 [1990] F.S.R. 181.

6 *i.e.*, the accused device.

7 The reference to the date of publication is justified by the fact that a patent is a legal document, which comes into existence at the date of publication. The recent tendency is to consider the date of application (or priority, if existent).

8 Court of Appeal, July 5, 2000 [2001] R.P.C. 133.

9 *Kastner v Ritzla*, Court of Appeal June 16, 1995 [1995] R.P.C. 585 at 596. This principle is in sharp contrast with that of the United States: *Pennwalt. Corp v Durand-Wayland, Inc* 833 F. 2d 931 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 1009 (1988). Adelman-Francione, "The Doctrine of Equivalents In Patent Law: Questions that Pennwalt Did Not Answer" (1989) 137 U. Pa. L. Rev. 673.

10 *Improver v Remington* [1990] R.P.C. 181 at 192.

in consideration of the obvious nature of the accused device, it may seem that non obvious devices escape from the evaluation of equivalence.¹¹

In the Hong Kong case *Improver v Raymond*,¹² the accused device was considered non-equivalent, since it was (validly) patented. In the parallel English case, Hoffmann J. explained that this was not the correct way to put the question. The skilled man should have been told both of the patent and the variant, and asked whether the variant would obviously work in the same way.¹³

The third question requires consideration of the manner in which the invention is described, and has to be solved with no reference either to the prior art,¹⁴ nor to the infringement¹⁵ for the first limitation. (Here, great difficulties can be seen. If a patent has to be interpreted in order to save its effect, a consideration of the prior art cannot be avoided.) On the second limitation, Neuberger J. in an *Erythropoietin* English case¹⁶ has shown (the author believes) the difficulty (or impossibility) of such an operation. In fact, if a patent is capable of a plurality of interpretations, which one would be considered by the interpreter, if not with reference to the infringement? One has to be practical.

In Germany the Supreme Court articulated the equivalence rule with the *Formstein* decision¹⁷ in three rules:

- the alleged infringement should have the same technical effect;
- the solution could be derived by a person skilled in the art from deliberations starting from the claims;
- the alleged infringement should not belong to the state of the art and should not be patentable over the prior art.

The rule has been re-worded several times, and the most recent formulation has been given in the *Kunststoffrohrteil*¹⁸ case as follows:

“In order that an embodiment that differs from the literal meaning of the claim may fall under the scope of protection it is not sufficient that (1) it solves the problem of the invention with means that are different but objectively equivalent and (2) such that the expert technician with his technical knowledge recognizes said different means as equivalent. If the equivalence cannot be declared without orientation to claims, (3) the considerations that the expert technician should assume have to be oriented to the sense¹⁹ given to the technical teaching contained in the claim, so that the expert considers the different embodiment with its different means as the equivalent solution in concrete terms.”

The rule is applied not without uncertainties, especially when the accused infringement is inventive. In *Befestigungsvorrichtung II*,²⁰ the BGH said:

“The requirements for patent infringement by equivalent means are also met if one or more elements of the actual embodiment are to be understood as the realisation of a more general statement that the average skilled person can deduce to be of equivalent effect to the teaching described in the patent claim and explained in the patent description. Under these circumstances it is irrelevant whether the actual realisation is obvious to the average skilled person or whether it is inventive . . . The scope of patent protection can also include such embodiments that make use of the protected teaching whilst also implementing an inventive further realisation, which is then a dependent invention”.

And in *Zeilegsvorrichtung für Baumstämme*,²¹ after having defined a dependent invention as a more concrete embodiment of a feature contained in the claim which the accused infringer was able to derive from a general teaching already contained in the claim of the older patent, the BGH sent the case back to the Court of Appeal to find out whether the accused infringement was inventive (in which case it would have been non-infringing) or not inventive (and therefore infringing). Legal commentators have discussed how to reconcile the two last mentioned Supreme Court decisions.²² As far as this author is concerned, the matter remains somewhat murky.

In France equivalency is assessed when “different means have the same function and produce the same result.”²³

The function is defined as “the first technical effect” of the claimed means. The function must be protected, but the patentee may not use the equivalence theory when the invention lies in the choice of specific means for carrying out a known function.

11 The difficulty does not arise in case of subsequent inventions which:

- either are a literal violation of a prior invention (example, a patent has integers A, B and C. The infringer does A, B, and C, although C is modified in an inventive manner);
- or violate a prior patent by equivalence on aspects which are not those that have been conceived with an inventive activity (example: a patent has integers A, B and C. The infringer has integers A', B', equivalent to A and B, and C, which is a literal violation of C, even if modified in an inventive manner);
- or add an inventive feature to a literal or equivalent violation (example, a patent has integers A, B and C, and the infringer does A', B', C' and D).

12 *Improver Corporation v Raymond Industrial Ltd*, Court of Appeal of Hong Kong, Marks and Clerk, *European Patent Infringement Cases* (1999), p.241.

13 *Improver Corp v Remington Consumer Products Ltd* [1990] F.S.R. 181 at 192.

14 *Glaverbel v British Coal* [1995] R.P.C. 255 at 270.

15 High Court, October 6, 1995, *3M v Plastus Kreativ* [1997] R.P.C. 737 at 747.

16 Neuberger J., April 11, 2001 [2002] R.P.C. 1; *Kirin-Amgen and Roche v TKT*: “in many cases there is something of an overlap between construction and infringement issues”.

17 BGH, *Moulded Curbstone (Formstein)* [1987] I.I.C. 795.

18 BGH, March 3, 2002 [2002] G.R.U.R. 511; [2002] Mitt. d. Patentanwälte 229.

19 “am Sinngehalt der in Patentanspruch unter Schutz gestellten technischen Lehre orientiert sein . . .”.

20 BGH, *Fixing Device II (Befestigungsvorrichtung)* [1992] I.I.C. 111.

21 BGH, *Segmentation Device (Zerlegsvorrichtung für Baumstämme)* [1995] I.I.C. 261.

22 See Pagenberg, “More Refined Rules of Claim Interpretation” [1995] I.I.C. 228.

23 Court of Appeal Paris, 4th ch., March 15, 1988, *Tomra v Souchon* [1988] R.D.P.I. 43; Court of Appeal Paris, 4th ch., *Reber v Nauder* [1991] Ann. 57.

The equivalent means theory is applied on a feature by feature basis. All features are therefore considered. However, a theory has been developed distinguishing between combination and juxtaposition. In a combination, all the different features contribute to the same result. In a juxtaposition, some features do not contribute. Therefore, in a juxtaposition (or complex) invention, features that are considered non-essential may be omitted.

In Italy the jurisprudence has adopted generic formulations, as for instance:

“when the invention is imitated in a result which constitutes its essence and practical purpose, there is an infringement even if the invention has been modified with variants consisting in mechanical equivalents of the constituting elements (so called infringement by ‘mechanical equivalents’).”²⁴

Some decisions of the lower courts are less generic. With the Italian decision of the *Epilady* case, the High Court of Milan²⁵ underlined the analogy of the function of the infringing product. A decision of the same court in a biotechnological case²⁶ found equivalence because the infringing product “correspond(ed) to a section of 17 amino acids that are constituents of the sequence of 859 amino acids which represents the ‘heart’ of the patent in this suit, a polyprotein coded in HCV with antigenic determinant (or epitope) identified by at least 10 given amino acid.”

The Court of Appeal of Milan in the *Forel* case²⁷ stated that equivalence can be affirmed when the alleged infringement does not show relevant differences from the claimed invention. It excluded equivalence because the differences were based on a different positioning and movement of the working tool in a machine (for working on metal frames for glass), resulting in a different design of the machine.

In the Netherlands one of the leading cases has been *Meyn v Stork*,²⁸ where the Supreme Court (Hoge Raad) said:

“it is necessary that skilled third parties, taking cognisance of the essence of the patented invention as this is put forward by the claims of the patent, in the light of the description and the drawings, may assume that the patentee has wanted to distance himself by the wording used in the patent, from a part of the protection afforded by the essence of the patent”.

In another leading decision, *Ciba Geigy v Ote Optics*,²⁹ the Supreme Court made reference to the inventive idea behind the wording of the claim. However, it suggested following the problem/solution approach as maintained by the European Patent Office, and especially considering the interest of third parties:

“the Court, when interpreting the claims of the patent specification in the light of the description and drawings, must in this case too examine what is the essence of the invention whose protection is invoked—in other words: what is the inventive idea underlying the wording of this claims—in order to avoid an interpretation based exclusively on a literal meaning of the wording, which as a result may be too restricted (or too broad) to provide fair protection for the patentee. Having adopted this point of view, however, one still does not have any indications how one is to find the middle course referred to in the Protocol between a fair protection for the patentee and a reasonable certainty for third parties when thus interpreting a patent. Consequently the Court that is called upon to interpret the claims of the patent will also have to judge whether the outcome of the court’s examinations does sufficient justice to certainty for third parties. This last consideration may justify a restrictive interpretation which keeps rather close to the wording of the claims, in the sense that any lack of clarity therein to the average person skilled in the art wishing to define the limits of the protection conferred by the patent will in principle work against the patentee.”

In *Kasterman v Laarhoven Design International*, the Court of the Hague said that a fair protection for the patentee means that in principle equivalence also falls under the protective scope of the patent. However, with respect to legal certainty one can require that a third party on reading the patent will understand without having to carry out any inventive thinking that his product or process, although not falling under the literal text of the claims, is equivalent to that described in the claims and therefore falls under the protective scope of the patent.

24 Supreme Court, October 24, 1958, *Victoria Arduino v Faema* [1958] I Foro Pad. 1386.

25 *Daar, Yahav v European Home Product*, May 4, 1992 [1992] G.A.D.I. 2823.

26 *Sorin Biomedica v Chiron and Ortho Diagnostic Systems*, February 10, 1997 [1997] G.A.D.I. 3650; [2001] E.N.P.R. 172.

27 *Forel v Lisec*, Court of Appeal of Milan, July 11, 2000 [2000] II Riv. Dir. Ind. 455; See Franzosi, “Three European Cases on Equivalence: will Europe adopt *Catnic*?” [2001] I.I.C. 113.

28 Hoge Raad, January 27, 1989, *Pieter Meyn v Stork* [1989] I.I.C. 297.

29 Hoge Raad, January 13, 1995 [1997] I.I.C. 748.

In Spain the Administrative Chamber of the Supreme Court, in a judgment of June 10, 1968,³⁰ said that according to the principle of equivalence

“all the variants of shape, material, size, arrangement of elements, and even any substitution of such elements for others, shall be deemed to be included in the protection of any registered invention, when as a result of that the fundamental principle of the invention described, claimed and covered by the patent is not altered”.

And the Criminal Chamber of the Supreme Court in a decision of December 2, 1975 stated that there is a violation when the “essential capital and fundamental elements are the same, although the subject matter of the patent and the copy may differ in secondary or incidental details”. This approach was confirmed, with the same words, in a decision of May 16, 1979. The Civil Chamber of the Supreme Court in a decision of December 13, 1989 stated that “no one can take advantage of a third party idea and present it as their own even under the pretext of having made minor and insubstantial modification to its scheme or to the use of the same.”

A decision of October 19, 1993 considered an accused device that was covered by a subsequent patent. This is a difficult problem that has not found a solution in the various jurisdictions. The court stated that the problem was

“to ascertain whether the machines which are construed (by the accused infringer) are substantially identical to those protected under the patent or, on the contrary, introduce novelties which entail inventive step. The appealed judgment affirms that the machines . . . although displaying some differences . . . are exactly the same substantially . . . and also the essential conditions of the prior invention are not modified so that they would entail a different method or process.”

A similar problem was presented to the Provincial Court of Barcelona which, with a decision of February 10, 2000, declined to consider the issue for some procedural reasons.

That same court, with a decision of September 18, 2000, defined the theory of equivalence as follows:

“Effective protection of the inventor’s right does not tolerate the monopoly ridiculing . . . by introducing an irrelevant modification in order to destroy the total likeness between the former and the new process. This gives rise to the doctrine of equivalents, deeming this to mean variants of shape, material, size, arrangement of elements, and even any substitution of these elements for others when, as a result, the fundamental principle of the invention described, claimed and covered by the patent is not altered, or when two means perform the same function to obtain an identical result despite the fact that the means to carry them out are different; performing the same function when they derive from the same fundamental idea, in other words, when they apply the same principle in the same way, and the result is identical when it is of the same nature and the same quality”.

It can be said of the Spanish jurisprudence that the reference to the general inventive idea was acceptable under the old law, but less under the new (even if it is now tempered by the reference to claims).

In *Belgium* the theory was developed as far as 1918 by Vander Haeghen.³¹ He distinguished between equivalence of technical functions and equivalence of technical factors. The technical function is the result that needs to be achieved, irrespective of the particular means which are put in place. The technical factor is the material element that is used to achieve the result.³² The technical function is considered when evaluating equivalence, and the technical factor when evaluating patentability.

Equivalence is assessed when substituted means are employed to realise the same technical function.³³ The substitutes are considered when they are apparent³⁴ to the skilled expert.

While the theory may have some merit in distinguishing between equivalence for the purpose of evaluating infringement and equivalence for the purpose of evaluating validity, it seems that no valid reasons are given to attribute to the area of infringement all the technical functions, independently from the means employed. This is possible only if the scope of the

30 All Spanish quotations from Montana, “The Dawn of a Spanish Doctrine of Equivalents” [2002] J.W.I.P. 517.

31 Vander Haeghen, *Les inventions mécaniques et le principe des équivalents* (1918).

32 Vander Haeghen, *Brevets d’invention, marques et modèles* (1928).

33 Van Reepingen and De Brabanter, *Les brevets d’invention* (1987), p.96; Buydens, *Droit des brevets d’invention et protection du savoir-faire* (1999), p.122; Court of Appeal of Brussels, July 7, 1924 [1926] Ing. Cons. 41; Court of Ghent, February 6, 1998 [1998] I.R.D.I. 96.

34 “manifestes pour l’homme du métier.” Van Reepingen and De Brabanter, n.33 above, at p.96.

patent is made coincident to the technical function discovered, independently from the wording of the claims. This may result in the protection of the general inventive idea, or even more.

In Switzerland, the Commercial Court of Zürich³⁵ stated:

“A patent is infringed when the infringer uses the main elements of the invention, even if they do not produce an embodiment which is word for word identical to the claims. There is also infringement where equivalent means are used, equivalent means being those which are obvious to the person skilled in the art. The technical invention is used only when the same technical problem is solved by means which are in the scope of the technical rule. The scope of the protection is derived from the claims as supported by the description and drawings, and is determined by the technical solution of the problem, the prior art in the patent and the general knowledge of the skilled person. The way that the inventor has enriched the state of the art has to be taken in to account”.

The European landscape is very varied. Can a common view (or at least some unifying principles) be identified? It seems not.

The most sophisticated approach seems to be the English one, which the English themselves do not like, also because they believe that the Germans do not like it. The Germans, on the contrary, do like it. It is a matter of parallel divergencies. In the author's opinion, the three *Catnic* questions are not without value, but they leave doubts, not on the point whether they are in harmony with the Protocol, or whether they may be accepted by other countries. The doubts, in his opinion, are basically three:

- how to evaluate whether the variant has a material effect on the way the invention works;
- how to evaluate that this fact (that the variant has no effect) would be (or would have been) obvious;
- how to evaluate whether the patentee intended that strict compliance with the wording of the claims was essential.

If one could solve these doubts, the *Catnic* test would be almost perfect.

If *Catnic* is not considered the best contribution to the European theory of equivalence, the author has a feeling, in any event, that the best contribution may be found in still another English decision. In *Wheatley v Drillsafe*, after a deep analysis (which the author has greatly appreciated) made by Aldous L.J. of the three Protocol questions, Lord Sedley wrote a brief concurring opinion, which says that while he appreciated Lord Aldous's comments, he believed that “in the end . . . equivalence is a matter of first impression.” It seems that this is a very appropriate comment, accurately summarising scores of decisions and commentaries.³⁶

35 Commercial Court of the Zurich Canton, December 3, 1991, Marks and Clerk, *European Patent Infringement Cases* (1999), p.323.

36 The contribution is even more appreciable, considering that it comes from a judge who is not specialised in patent law (practitioners, quite inappropriately, tend to consider that a non-specialised judge is less authoritative than a specialised one). This would confirm what is said in Italy (and, with all respect, felt and deserved): “the mouth of innocence is the mouth of truth”.

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