

## AROUND THE WORLD WITH CLAIM CONSTRUCTION: THE IMPROVER CASES

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### 1. *Purposive Construction*

Recall that the European Patent Office examines a single application that becomes a bundle of national patents in European Patent Convention contracting states. Currently, there is no single court to adjudicate infringement of a European patent; a patentee generally must pursue actions in each jurisdiction in which infringement is occurring. Under the European Patent Convention (EPC), claim construction for infringement purposes is a national matter but is guided by EPC Art. 69 and the Protocol on the Interpretation of Art. 69. Article 69 of the EPC provides that “[t]he extent of the protection conferred by a European patent or a European patent application shall be determined by the terms of the claims. Nevertheless, the description and drawings shall be used to interpret the claims.” The Protocol further states that:

Article 69 should not be interpreted as meaning that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Nor should it be taken to mean that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patent proprietor has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines *a fair protection for the patent proprietor with a reasonable degree of legal certainty for third parties*.

(emphasis added).

A primary reason for the creation of the Protocol derived from the different approaches to infringement taken by the national courts at the time of the drafting of the EPC. In particular, the UK was perceived as taking a strict, literal approach to the construction of claims (which would tend to result in fewer findings of infringement), while Germany was tilted to the opposite extreme of using the claims as a guideline (tending to result in more findings of infringement).

Despite the admonition in the Protocol, European courts, particularly in the UK and Germany, continued to diverge in their approaches to claim construction, creating marked uncertainty for patentees since a patent might be found valid and infringed in one jurisdiction and valid and not infringement in another jurisdiction. Just such a situation occurred in the *Epilady/Improver* series of cases, where a UK court diverged from German and Dutch courts on the question of infringement. The UK and German decisions which follow, illustrate some of the

challenges faced by patentees suing for infringement of European patents with no centralized patent court system.

***Improver Corp. v. Remington Consumer Prods. Ltd., (1989) [1990] F.S.R. 181 (Pat. Ct.)***  
**(U.K.)**

Hoffmann J.:

This is an action for infringement of a European patent for an electrically powered cosmetic device for removing hair. The commercial embodiment of the plaintiff's invention is called "Epilady" and the defendant's device is called "Smooth & Silky." The defences are, first, that Smooth & Silky does not infringe the claims of the patent and secondly, that the patent is invalid for obviousness and insufficiency. In my judgment the patent in suit is valid but the defendant's device does not infringe. The action is therefore dismissed.

The Invention

Depilation means the removal of hair by the root, as opposed to shaving which leaves the root behind. The advantage of depilation is that the hair takes much longer to regenerate. Various methods have been used in the past for cosmetic depilation, but none was completely satisfactory. . . .

Epilady was invented by two Israelis in 1982. It consists of a small electric motor in a hand-held plastic housing to which is attached a helical steel spring held by its ends and stiffened by a guide wire to form a loop. The arcuate form of the spring causes the gaps between the windings to open on its convex side but to be pressed together on the concave side. When the spring is held close to the skin and rotated by the motor at about 6,000 revolutions per minute, hairs enter the gaps on its convex side and are gripped between the windings as the rotational movement brings them round to the concave side. The effect is to pluck them out of the skin.

Marketing of Epilady began in June 1986. It was an enormous commercial success. In the first two years over 5.8 million devices were made, generating a gross retail turnover in excess of US \$340,000,000.

The Patent in Suit

The patent in suit is European Patent (UK) no. 0101656. ...

The basic description of the patent in suit declares that--

"There is thus provided in accordance with an embodiment of the present invention an electrically powered depilatory device including a hand held portable housing, motor apparatus disposed in the housing, and a helical spring composed of a plurality of adjacent windings arranged to be driven by the motor apparatus in rotational sliding motion relative to skin bearing hair to be removed, the helical spring including an arcuate hair engaging portion arranged to define a convex side whereat the windings are spread apart, and a concave side corresponding thereto whereat the windings are pressed together, the rotational motion of the helical spring producing continuous motion of the windings from a spread apart orientation at the convex side to a pressed together orientation at the concave side

and for the engagement and plucking of hair from the skin, whereby the surface velocities of the windings relative to the skin greatly exceed the surface velocity of the housing relative thereto."...

The description ends, however, with the following general statement, which I shall later refer to as the "equivalents clause":

"It will be evident to those skilled in the art that the invention is not limited to the details of the foregoing illustrative embodiments, and that the present invention may be embodied in other specific forms without departing from the essential attributes thereof, and it is therefore desired that the present embodiments be considered in all respects as illustrative and not restrictive, reference being made to the appended claims, rather than to the foregoing description, *and all variations which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.*"

Claim 1 reads as follows:

an electrically powered depilatory device comprising:

a hand held portable housing (2);

motor means (4, 4') disposed in said housing; and

a helical spring (24) comprising a plurality of adjacent windings arranged to be driven by said motor means in rotational sliding motion relative to skin bearing hair to be removed, said helical spring (24) including an arcuate hair engaging portion arranged to define a convex side whereat the windings are spread apart and a concave side corresponding thereto whereat the windings are pressed together, the rotational motion of the helical spring (24) producing continuous motion of the windings from a spread apart orientation at the convex side to a pressed together orientation on the concave side and for the engagement and plucking of hair from the skin of the subject, where by the surface velocities of the windings relative to the skin greatly exceed the surface velocity of the housing relative thereto....

### **Smooth & Silky**

Smooth & Silky also consists of a small electric motor in a hand held housing but the element attached to the motor and used to extract the hair is not a helical metal spring. Instead it is a cylindrical rod of elastomerised synthetic rubber held by its ends to form an arc subtending about 60°. I shall for convenience call it "the rubber rod." A number of parallel radial slits have been cut into the rubber. The arcuate form of the rod causes the slits to open on its convex side but to be pressed together on the concave side. When the rod is held close to the skin and rapidly rotated by the motor, hairs enter the gaps on its convex side and are gripped between the walls of the slits as the rotational movement brings them round to the concave side. The effect is to pluck them out of the skin. . . .

Mr. Gross has been granted a patent [covering the Smooth & Silky device] in the United States [U.S. 4,726,375]. . . .

Dr. Laming, a distinguished design engineer called as an expert witness by the defendants, said that Mr. Gross's specification contained nothing which distinguished Smooth & Silky from Epilady by function. The difference lay in their respective forms.

### **Infringement**

The question of infringement turns upon a short but undoubtedly difficult point of construction, namely whether the rubber rod is a "helical spring" as that expression is used in the claims of the patent in suit. The proper approach to the interpretation of patents registered under the Patents Act 1949 was explained by Lord Diplock in *Catnic Components Ltd. v. Hill & Smith Ltd.*[1982] R.P.C. 183, 242. The language should be given a "purposive" and not necessarily a literal construction. If the issue was whether a feature embodied in an alleged infringement which fell outside the primary, literal or acontextual meaning of a descriptive word or phrase in the claim ("a variant") was nevertheless within its language as properly interpreted, the court should ask itself the following three questions:

(1) Does the variant have a material effect upon the way the invention works? If yes, the variant is outside the claim. If no--

(2) Would this (i.e. that the variant had no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art. If no, the variant is outside the claim. If yes--

(3) 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.

On the other hand, a negative answer to the last question would lead to the conclusion that the patentee was intending the word or phrase to have not a literal but a figurative meaning (the figure being a form of synecdoche or metonymy) denoting a class of things which included the variant and the literal meaning, the latter being perhaps the most perfect, best-known or striking example of the class....

In the end, therefore, the question is always whether the alleged infringement is covered by the language of the claim. ... It is worth noticing that Lord Diplock's first two questions, although they cannot sensibly be answered without reference to the patent, do not primarily involve questions of construction: whether the variant would make a material difference to the way the invention worked and whether this would have been obvious to the skilled reader are questions of fact. The answers are used to provide the factual background against which the specification must be construed. It is the third question which raises the question of construction and Lord Diplock's formulation makes it clear that on this question the answers to the first two questions are not conclusive. Even a purposive construction of the language of the patent may lead to the conclusion that although the variant made no material difference and this would have been obvious at the time, the patentee for some reason was confining his claim to the primary meaning and excluding the variant. If this were not the case, there would be no point in asking the third question at all.

....Section 125 of the Patents Act 1977, which is declared by section 139(7) to be framed to have as nearly as practicable the same effect as Article 69 of the European Patent Convention, says that the invention shall be taken to be that specified in a claim, as interpreted by the description and drawings. Section 125(3) applies to English patents the Protocol on the

Interpretation of Article 69 which, if I may paraphrase, says that Article 69 and section 125(1) mean what they say: the scope of the invention must be found in the language of the claims. Extrinsic material such as the description can be used to interpret those claims but cannot provide independent support for a cause of action which the language of the claim, literally or figuratively construed, simply cannot bear. On the other hand, the claims should not be interpreted literally but in a way which "combines a fair protection for the patentee with a reasonable degree of certainty for third parties."

Dillon L.J. said in his judgment at the interlocutory injunction stage of this action that Lord Diplock's speech in *Catnic* indicated the same approach to construction as that laid down by the Protocol. . . . I regard it as binding upon me. I must therefore ask Lord Diplock's three questions to ascertain whether "helical spring" should be interpreted to mean a class of bendy, slitty rods of which a close-coiled helical spring in its primary sense is a striking and elegant example but which includes the defendant's rubber rod.

*(1) Does the variant have a material effect on the way the invention works?*

The answer to this question depends upon the level of generality at which one describes the way the invention works. At one extreme, if one says that the invention works by gripping and pulling hair, there is obviously no difference; the same would be true of a pair of tweezers. At the other extreme, if one says that it works by gripping hairs between metal windings of circular cross-section wound in a continuous spiral around a hollow core, there obviously is a difference. . . . It seems to me that the right approach is to describe the working of the invention at the level of generality with which it is described in the claim of the patent. As I have said, Dr. Laming agreed that there was no difference between the descriptions in Mr. Gross's patent and the patent in suit of the way the inventions worked. The differences lay entirely in the descriptions of the hardware. In my judgment, at the appropriate level of description, the rubber rod works in the same way as the helical spring and the differences I have mentioned, so far as they exist, are not material.

*(2) Would it have been obvious to a man skilled in the art that the variant would work in the same way?*

....Dr. Laming and Dr. Sharp, the eminent engineer called as an expert by the plaintiff, agreed that it would have been obvious to the skilled man that the attributes which enabled the helical spring to function in the way described in the specification were that it was capable of rotating, capable of transmitting torque along its length to resist the forces involved in plucking hairs, *bendy* (to form an arc) and *slitty* (to entrap hairs by the opening and closing effect of rotation). They also agreed that it would have been obvious that any rod which had these qualities in sufficient degree and did not have other defects such as overheating or falling to bits would in principle work in the same way and that the rubber rod plainly belonged to that class. On this evidence the second question must in my judgment be answered yes.

....

*(3) Would the skilled reader nevertheless have understood that the patentee intended to confine his claim to the primary meaning of a helical spring?*

This brings one to the question of construction. Since the question is what the skilled reader would have understood, I set out the views of the rival experts.

Dr. Sharpe placed considerable emphasis on what I have called the equivalents clause. He said in his report:

it would have been obvious to me that all the inventor wanted a helical spring for was as a convenient rotating bent beam in which slits formed by the adjacent windings would open and close as it rotated. It would then have been equally obvious to me that he could not have intended to exclude equivalents like the [rubber] rod . . . in thinking of equivalents I fell driven by the last paragraph of the specification before the claims [the equivalents clause] to think that the inventor was trying to make me think of equivalents for the helical spring . . . some other element that would do the same job.

....

Dr. Laming, on the other hand, said that a helical spring was a very specific engineering concept. It meant a bar or wire of uniform cross-section wound into a helix. This definition was also accepted by Dr. Sharpe, although he suggested that the rubber rod could also be regarded as a helical spring in a more literal sense because it was springy and had torque stresses running through it in a helical pattern. I do not think it would occur to the ordinary skilled man to think of the rubber rod as a helical spring. Dr. Laming thought that in the context of the specification the skilled man would also not understand a helical spring to mean a *genus* of bendy, slitty rods. The references to prior art did not suggest that the function of a helical spring was simply to be a bendy slitty rod. In the patents in which they had been used, they were plainly essential features. Dr. Laming said:

My opinion is that there is no way of interpreting the [plaintiff's] specification such that anything other than a helical spring (as defined above) is intended. The simple reason for this is, in my view, that the inventor had in mind what he regarded as a novel use of a familiar and readily available engineering component and saw the nub and centre of the invention as that use.

I have now read the European Patent several times and it is clear that nothing other than a helical spring is referred to. If there were alternatives to a helical spring which the inventor or draftsman of the patent had in mind he did not indicate anywhere that such alternative might be used. This stands in contrast to suggested alternatives with regard to e.g. alternative drive arrangements suggested in Column 6 . . .

The flexibility conferred on the helical spring by its essential features is obtained for the elastomeric rod by quite other means--by its being made of a material of very low elastic modulus, a material about 30,000 times more flexible than the steel of the spring. The difference of material is inherent in the difference between the two devices: the helical spring, if made of the elastomeric material, would be useless spaghetti; and the arcuate rod made of steel would be an undriveably rigid bar . . .

If the [plaintiff's] specification contained anywhere such words as "or any other configuration of an elastic member or members whereby rotation of the member or members causes a spread apart orientation at one position and a

pressed together orientation at another position or point in the cycle" then at least one might be led to think about alternatives to the helical spring. Whether I would have thought of an elastomeric rod in such a case is hard to say in hindsight but the likelihood is made less by consideration of the Figures 9-14 which show possible configurations which the patentee had in mind. Except possibly for the first (Fig. 9) these configurations could not be adopted by an elastomeric rod without some internal wire guide, and in that case, the friction developed between elastomer and guide would in my opinion be prohibitive.

On this last point Dr. Sharpe agreed.

Dealing with the equivalents clause, Dr. Laming said.

It is true that [in the equivalents clause] reference is made to embodiment 'in other specific forms' and it asks there for reference to be made 'to the appended claims rather than the foregoing description.' But what follows is a series of claims in which the variations are all on such matters as the angle subtended by the arcuate portion (claims 2, 3 and 18), the degree of opening of the windings (claims 5 to 8), various mechanical drive options (claims 13 and 14) and different surface speeds (claims 19 and 20). A constant feature of all the claims is the specification of a helical spring which itself is the only type of element mentioned in the text of the specification and shown in the figures.

In my judgment the difference between the experts depends upon how one construes the equivalents clause. The first part of the clause merely says that the description should not be used to restrict the meaning of the language used in the claims. That is not the question here. What matters is the final words: "*and all variations which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.*" If this means: "whatever contrary impression the skilled man may be given by the language of the claims read in the context of the rest of the description, all references in the claims to hardware are deemed to include any other hardware which would in any circumstances function in the same way" then I think Dr. Sharpe must be right. In my judgment, however, the clause does not have so wide an effect. The words I have quoted say that the variation must still come within the *meaning* of the claims and the reference to "range of equivalency" means in my judgment no more than "don't forget that the claims must be interpreted in accordance with *Catnic* and the Protocol."

Thus interpreted, I do not think that "helical spring" can reasonably be given a wide generic construction and I accept Dr. Laming's reasons for thinking that a skilled man would not understand it in this sense. The rubber rod is not an approximation to a helical spring. It is a different thing which can in limited circumstances work in the same way. Nor can the spring be regarded as "inessential" or the change from metal spring to rubber rod as a minor variant. In *Catnic* Lord Diplock asked rhetorically whether there was any reason why the patentee should wish to restrict his invention to a support angled at precisely 90° C, thereby making avoidance easy. In this case I think that a similar question would receive a ready answer. It would be obvious that the rubber had problems of hysteresis which might be very difficult to overcome. The plaintiff's inventors had done no work on rubber rods. Certainly the rubber rod cannot be used in the loop configuration which is the plaintiff's preferred embodiment. On the other hand, drafting the claim in wide generic terms to cover alternatives like the rubber rod might be

unacceptable to the patent office. I do not think that the hypothetical skilled man is also assumed to be skilled in patent law and he would in my judgment be entitled to think that patentee had good reasons for limiting himself, as he obviously appeared to have done, to a helical coil. To derive a different meaning solely from the equivalents clause would in my view be denying third parties that reasonable degree of certainty to which they are entitled under the Protocol.

*The German decisions*

The patent in suit is being litigated in a number of countries but the only one in which the action has come to trial is in Germany, where the *Landgericht* of Düsseldorf found in favour of the plaintiff. This naturally causes me concern because the *Landgericht* was interpreting the same patent according to the same Protocol and came to a different conclusion. It seems to me that the reason for the difference between me and my colleagues in Düsseldorf is that, having answered what I have labelled as Lord Diplock's first two questions in the same way as I have, they treated those answers as concluding the matter in favour of the plaintiff and did not find it necessary to ask the third question at all. The specification, they said, conveyed to the expert "the understanding that the configuration of the hair engaging portion as helical spring has to be understood functionally" and that the expert to whom the patent was directed would have "no difficulties in perceiving and understanding this meaning of the teaching of the invention." This does seem to me with respect to be an interpretation closer to treating the language of the claims as a "guideline" than the median course required by the Protocol. . . .

It may be said that the expert evidence before the *Landgericht* at the trial was different, but I doubt whether this could have been so. There was no real difference between the views of Dr. Sharpe and Dr. Laming on questions of engineering: the difference lay in the approach to construction, which is really a question of law.

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The following decision involves adjudication of infringement of the same European Epilady patent by the same device before a German appeals court.

**Germany: European Patent Convention, Art.69 (1); protocol on interpretation - "Epilady Germany II"  
24 IIC 838 (1993)**

The plaintiffs accuse the defendant of infringement of European Patent 0101656 . . . .

In June 1988, the defendant started distributing an electrically driven depilatory device, placing it into circulation in the Federal Republic of Germany under the designation, "Lady Remington Liberty". This device operates by means of an arcuate roll of rubber-like plastic, the smooth outer surface of which features a plurality of radial, spaced apart cuts which are distributed over the circumference of the roll and penetrate the plastic element partially only. By means of the motor, this roll is driven in a rotational motion about its longitudinal axis, so that the cuts open to form gaps at the convex side, and so that the side walls thereof are firmly pressed together when the cuts rotate to the concave side of the arcuate roll.



The plaintiffs asserted that the rubber roll provided with radial slits and used as hair-engaging element in the disputed depilatory device constitutes an equivalent to the helical spring provided by the invention. . . .

The defendant's admissible appeal is not successful on the merits. . . .

The starting point of the teaching of the patent in suit is the finding, which is known for instance from the state of the art mentioned in the patent specification, that a coil spring (helical spring) cannot only be used according to its actual purpose as a power unit, but, owing to its largely unlimited flexibility and to the gaps and clamping means resulting from the adjacent windings, is also suited to catch, clamp and pluck hairs out of the skin. This is rendered clear by the patent specification describing prior known hand-driven devices by correspondingly drawing attention to their mode of functioning. This, however, equally also applies to the subsequently described motor-driven depilatory device according to U.S. Patent 4,079,741, as the pertinent person skilled in the art easily recognizes even without express indication. According to the findings of the court's expert in the opinion of September 28, this person is an experienced college-educated engineer or a constructionally interested, academically trained engineer with a university degree. His knowledge must be of a certain scope, and he must be capable of fully recognizing and judging basic correlations. About the, as such atypical, use of a coil spring and the operation possible therewith, namely introduction of the hair into the gap, clamping of the hair by rotational or forward motion of movable windings and plucking of the hair, the teaching according to the patent in suit does not intend to change anything. This cannot be doubted in view of the description of U.S. Patent 4,079,741. Insofar, it is not the operation or the depilatory results achievable that are objected to, but solely the complex and expensive construction which makes the device unsuitable for home use. Only if said operation is too slow, as in the case of the known hand-operated or hand-driven devices, does it become inefficient and painful for the user. The court's expert did not express any doubts insofar, either; he also emphasizes that a coil spring in the described atypical use was already known as a suitable plucking means, and that the inventor was looking for a more efficient use of the known coil spring solution.

Accordingly, it is the object of the teaching of the patent in suit to suggest a motor-driven depilatory device with the described operation, so that efficient hair removal is ensured. In addition, however, the device according to its size, complexity, production costs and convenience of use should be suited for home use in such a way as is already the case for the electrical razor.

The solution according to the patent in suit (claim 1) makes use of the finding which is already revealed by Swiss Patent 268 696, i.e. that a coil spring is an elastic element which opens gaps on bending at the convex side and closes at the concave side, in a device which operates by motor-driven rotational motion of the windings of the spring, namely by a rotational motion which is quicker than the velocity at which the depilatory device is moved by the user's hand over the areas of the skin to be depilated. . . .

Patent claim 1 describes this solution of the problem of the patent by the following features:

The electrically powered depilatory device comprises

1. a hand held portable housing,
2. motor means positioned in said housing,

3. a helical spring comprising a plurality of adjacent windings,
- 4 the windings are arranged to be driven by said motor means in rotational sliding motion relative to skin bearing hair to be removed,
5. said spring includes a hair engaging portion which
  - a) is arcuate,
  - b) defines a convex side whereat the windings are spread apart and
  - c) defines a concave side corresponding to said convex side whereat the windings are pressed together,
6. the rotational motion of the spring produces a continuous motion of the windings from a spread apart orientation at the convex side to a pressed together orientation at the concave side and for engagement with the hair and for plucking of hair from the skin of the subject,
7. the surface velocity of the windings relative to the skin greatly exceeds the surface velocity of the housing relative thereto

The depilatory device, “Lady Remington Liberty”, introduced in the German market by the defendant makes use of the teaching of the patent in suit as just explained.

The depilatory device distributed by the defendant fulfils features 1 and 2 literally. Features 3 to 7, however, are not given literally since the disputed embodiment uncontestedly does not feature a helical spring. The disputed embodiment instead has a massive roll-shaped body of a flexible and elastic rubber-like plastic material, featuring radial spaced apart cuts on its circumferential surface. This arcuate and motor-driven rubber roll is, however, a replacement means equivalent to the coil spring of the patent, so that features 3 to 7 of patent claim 1 are given in equivalent form.

First of all, the court . . . has no doubts that the disputed embodiment is identical in effect to a device making use of the wording of claim 1 of the patent in suit. The roll of the disputed embodiment unites a plurality of adjacent elements, namely the areas separated by the cuts (cf. feature 3); these areas are arranged to be driven by the motor means in rotational motion relative to skin-bearing hair to be removed (cf. feature 4). The roll comprises a hair-engaging portion which is arcuate, defines a convex side whereat the elements are spread apart and a concave side corresponding to the convex side whereat the elements are pressed together (cf. feature 5). The rotational motion of the roll produces a continuous motion of the elements from a spread apart orientation at the convex side to a pressed together orientation at the concave side for engagement with the hair and for plucking of hair from the skin of the subject (cf. feature 6). The surface velocity of the roll relative to the skin greatly exceeds the surface velocity of the housing relative to the skin (cf. feature 7). The disputed embodiment thus achieves that a hair that has reached the spaced apart areas of the roll is approached ever more closely by the walls of these areas as a consequence of the rotational movement, which walls then clamp the hair and pluck it out. With respect to the principle and success of the desired hair removal, which is efficient and suited for home use, the hair undergoes the same treatment as with a device using the wording of the patent in suit. In conjunction with this, reference can also be made to the description of the patent in suit, according to which wedge-shaped slits (gaps) are instrumental for the depilatory effect of the device. For, wedge-shaped gaps are also featured by the roll of the disputed embodiment. The fact that these - due to the different orientation and depth of their gaps in

comparison with the inclined windings of a common coil spring - may move the hair differently before plucking it, namely bend it first, as to be seen from the private expert opinion, is therefore irrelevant for the question of identical effect. . . .

When evaluating the scope of protection of claim 1 of the patent in suit, however, the argument cannot be limited to the identity of effect only which, by the way, was also found, for example, by the British court (Justice Hoffmann) which had also dealt with the patent in suit and the disputed device. For the purpose of fairly delimiting the actual improvement of the field of technical knowledge achieved by an inventor on the basis of Art. 69(1) EPC and the Protocol on Interpretation, the protected invention will only be considered to be used if a person skilled in the art, on the basis of reflections progressing from the meaning of the patent claims, i.e. the invention described therein, could find out, with the help of his professional knowledge at the priority date, the modified means used with the disputed embodiment as a means being identical in effect for solving the problem underlying the invention; . . .

After the expert opinion, the court is convinced that a person skilled in the art - owing to the content of the claims of the patent in suit - was capable of arriving at the disputed embodiment in this sense.

The starting point for this conclusion is that a person skilled in the art will recognize by virtue of his professional knowledge that in the patent - in any case as far as the basic teaching of claim 1 is concerned - it is not a matter of the use of a "helical spring" as such. For, it is . . . used contrary to its common application or, as the expert also expressed, atypically. This fact was not sufficiently recognized in the court's judgment in the proceedings for issue of a preliminary injunction since it was only convincingly shown in the expert opinion; moreover, this fact was also given too little weight in the British court decision, which has already been mentioned, in this case probably mainly owing to the fact that the case was judged on the basis of the *Catnic* decision which was prior to Art. 69 EPC, and also owing to the additional fact that patent claim 1, which is of primary interest, was not placed in the foreground of consideration. The knowledge that, in the patent, the coil spring does not act as a power unit as usual, automatically results in the fact that those criteria of a helical spring are sought in order to determine why it is proposed in the patent. With this, however, a person skilled in the art in the field of interest here, and with the education mentioned by the expert and the skills resulting therefrom, will easily recognize that the coil spring is only proposed for the reason that it is an elastic cylindrical body which may be quickly rotated in the arcuate state and, above all, for the reason that it features - by virtue of its windings and their sides (walls) facing each other and separating the windings - means that stretch the surface of the body to form gaps at the convex side, while at the concave side they result in clamping areas with the help of which the hairs that entered the gaps may be clamped and plucked. In this way, to a person skilled in the art, the instruction of claim 1 of the patent in suit reads in a functional respect: Take a cylinder-shaped elastic element comprising separated walls of areas of material, to the effect that gaps will form on the convex side and clamping areas will form of the concave side if it is bent, and select - according to material and quality - an element that may be rotated at high speed when bent. If evaluated as a whole, the expert based his written opinion on this understanding. In view of the undisputed technical knowledge of the expert, both with respect to the technical field of interest here and with respect to his experience in patent litigation matters, the court does not see any reason not to follow the logic of the expert in that a person skilled in the art will actually understand the teaching of the patent in suit in this way. Moreover, the court's expert also confirmed this on inquiry of the

defendant and the court. The basic thesis that a person skilled in the art will not interpret the coil spring as a spring, but as an elastic body with gaps is convincing, as it is obvious that the helical spring is not used as a spring per se, and as its use in accordance with the teaching of the patent in suit - and also, however, with the state of the art to be seen from the Swiss patent specification, for example - requires the abstraction by a person skilled in the art that this spring is an elastic element which opens at the convex side and closes at the concave side when bent, and which is furthermore so stable that it may be driven at relatively high speed. This abstraction therefore was professional knowledge in view of the state of the art, and it was rendered obvious by the claims of the patent in suit, respectively, if seen in the light of the description.

However, if the patent in suit conveyed this knowledge, it was also obvious to use a roll with cuts as in the accused embodiment as a hair-plucking element. . . . As opposed thereto, however, it is recognizably unimportant whether the body be completely hollow, feature a core or be massive, which is why a person skilled in the art could easily think of applying a massive roll with cuts. To produce the arcuate cut hair-plucking element of rubber or rubber-like plastic material could already be considered possible by a person skilled in the art for the reason that the wording of the patent in suit (claim 1) does not stipulate a certain material, but the question of the material is left open to the expert choice of a designing engineer proceeding on the basis of the patent in suit. Rubber-like plastic material is known to be a preferred material in conjunction with the use of an elastic, bendable element. . . .

The court also considers, as an indication of this finding, the history of the origin of the disputed embodiment as it is described in the British court decision which has been mentioned several times. The starting point was a device according to the patent with a metal coil spring. It was found that the use of this device was annoying because it plucked too many hairs at a time, but the principle of depilation according to the patent was not criticized. This points to the fact that the designing engineer of the disputed embodiment, having proceeded from the starting point assumed above, must have actually thought about what the “helical spring” really meant in the device presented to him. It further suggests that even though only metal coil springs had been used in the prior art, except for the so-called disk solutions, that fact did not actually represent an obstacle to a deviation therefrom.

Finally, it is also undisputed that it cannot be claimed that the disputed embodiment results in an obvious way from prior art (cf. in this respect Federal Supreme Court, 1986 GRUR 803, 806 - *Moulded Curbstone* ). Insofar, it is sufficient to refer to the statements of the court's expert under No. 3 of his written expert opinion as the defendant had declared through its attorney during the oral proceedings that the so-called *Moulded Curbstone* objection was not raised.

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## NOTES

1. In the UK *Improver* decision, the court concluded that the patent was valid, but was not infringed because the patentee intended to limit the scope of the invention to the use of a helical spring and did not contemplate any equivalent such as a rubber rod for hair removal. The German court, interpreting the same patent and the same EPC Article 69, reached the contrary conclusion that the defendant's rubber rod-based device did infringe claims in the patent. In a

third decision, a court in the Hague also found infringement under a similar rationale as the German court. See *Improver Corp. v. Beska B.V. & Remington Products Inc.*,

[Court of Appeals, the Hague], 20 Feb. 1992, 24 IIC 832 (1992) (Neth.). One possible reason for the different results can be traced to the language of EPC Art. 69. The three official EPC languages are English, French and German. The German word for “terms” in Art. 69 is “Inhalt” which is perceived as having a broader meaning than the corresponding English and French words. Apparently the legislators were aware of the different meanings but were unable to agree on either narrowing the German or broadening the French and English. Because no one language dominates, all three versions are valid. For more on this topic see Christian von Drathen, *Patent Scope in English and German Law under the European Patent Convention 1973 and 2000*, 39 I.I.C. 384 (2008); Edward Armitage, *Interpretation of European Patents (Art. 69 and the Protocol on the Interpretation)*, 14 I.I.C. 811 (1983).

2. Another difference between UK and German court proceedings concerns the use of experts. In the UK, parties can each present expert witness testimony such as Lord Justice Hoffman considered in *Improver* (UK). However, in Germany, there generally is a single, court-appointed expert (parties are asked to propose a suitable expert) to assist the court as occurred in the German *Improver* case. Do you think the lack of a “battle of the experts” made any difference in the German *Improver* case?

3. As noted in Chapter 3, EPC 2000 came into effect in May of 2008, and amended the Protocol on Art. 69 to include a new Article 2 which states:

#### Equivalents

For the purpose of determining the extent of protection conferred by a European patent, due account shall be taken of any element which is equivalent to an element specified in the claims.

This new provision explicitly instructs courts to look beyond the literal claim language in determining infringement, allowing for a broadened scope of protection. While Germany has long accepted the DOE, the UK traditionally has been hostile to it. As further explained by Lord Hoffman:

There is often discussion about whether we have a European doctrine of equivalents and, if not, whether we should. It seems to me that both the doctrine of equivalents in the United States and the pith and marrow doctrine in the United Kingdom were born of despair. The courts felt unable to escape from interpretations which “unsparing logic” appeared to require and which prevented them from according the patentee the full extent of the monopoly which the person skilled in the art would reasonably have thought he was claiming. The background was the tendency to literalism which then characterised the approach of the courts to the interpretation of documents generally and the fact that patents are likely to attract the skills of lawyers seeking to exploit literalism to find loopholes in the monopoly they create. . . . If literalism stands in the way of construing patent claims so as to give fair protection to the patentee, there are two things that you can do. One is to adhere to literalism in construing the claims and evolve a doctrine which supplements the claims by extending protection to

equivalents. That is what the Americans have done. The other is to abandon literalism. That is what the House of Lords did in the *Catnic* case . . . .

Since the *Catnic* case we have article 69 which, as it seems to me, firmly shuts the door on any doctrine which extends protection outside the claims. I cannot say that I am sorry because the *Festo* litigation suggests, with all respect to the courts of the United States, that American patent litigants pay dearly for results which are no more just or predictable than could be achieved by simply reading the claims. . . .

Although article 69 prevents equivalence from extending protection outside the claims, there is no reason why it cannot be an important part of the background of facts known to the skilled man which would affect what he understood the claims to mean. That is no more than common sense. It is also expressly provided by the new article 2 added to the Protocol by the Munich Act revising the EPC, dated 29 November 2000.

*Kirin-Amgen Inc. v. Hoechst Marion Roussel Ltd.*, [2004] UKHL 46, [2005] 1 All E.R. 667 (Eng.), para. 41-42, 46, 49. Do you agree with Lord Hoffman's criticism of the DOE? Do you agree with his interpretation of Article 2 to the Protocol on Article 69?

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#### **NOTE ON POST-*IMPROVER* DEVELOPMENTS IN THE UK**

The *Improver* questions can still inform the purposive construction of claims. However, in its 2003-2004 session, the House of Lords began to wean lower courts and litigants from their heavy reliance on the three Protocol/*Improver* questions in *Kirin-Amgen Inc. v Hoechst Marion Roussel Ltd.*, [2004] UKHL 46. In so doing, it also provided a mini-treatise on patent claim construction. *Kirin-Amgen* involved the identification of the gene coding for human erythropoietin, one of the most important early biotech inventions. In the opinion, Lord Hoffmann explained:

"[T]he Protocol questions" have been used by English courts for the past fifteen years as a framework for deciding whether equivalents fall within the scope of the claims. On the whole, the judges appear to have been comfortable with the results, although some of the cases have exposed the limitations of the method. When speaking of the "*Catnic* principle" it is important to distinguish between, on the one hand, the principle of purposive construction which I have said gives effect to the requirements of the Protocol, and on the other hand, the guidelines for applying that principle to equivalents, which are encapsulated in the Protocol questions. The former is the bedrock of patent construction, universally applicable. The latter are only guidelines, more useful in some cases than in others. I am bound to say that the cases show a tendency for counsel to treat the

Protocol questions as legal rules rather than guides which will in appropriate cases help to decide what the skilled man would have understood the patentee to mean.

....

No doubt there will be patent lawyers who are dismayed at the notion that the Protocol questions do not provide an answer in every case. They may feel cast adrift on a sea of interpretative uncertainty. But that is the fate of all who have to understand what people mean by using language. The Protocol questions are useful in many cases, but they are not a substitute for trying to understand what the person skilled in the art would have understood the patentee to mean by the language of the claims.

*Id.* at paragraphs 52 and 71.

Reinforcing the guidance from *Kirin-Amgen* that the Protocol/*Improver* questions are simply one means, but not the sole means, of engaging in a purposive claim construction, later courts have relied on claim construction principles first articulated by Lord Justice Jacob in *Mayne Pharma Pty. Ltd. v. Pharmacia Italia* [2005] EWCA Civ 137:

- (a) The first, overarching principle, is that contained in Art 69 itself.
- (b) Art 69 says that the extent of protection is determined *by the terms of the claims*. It goes on to say that the description and drawings shall be used to interpret the claims. In short the claims are to be construed in context.
- (c) It follows that the claims are to be ***construed purposively*** the inventor's purpose being ascertained from the description and drawings.
- (d) It further follows that the claims must not be construed as if they stood alone the drawings and description only being used to resolve any ambiguity. Purpose is vital to the construction of claims.
- (f) Nonetheless purpose is not the be-all and end-all. One is still at the end of the day concerned with the meaning of the language used. Hence the other extreme of the Protocol a mere guideline is also ruled out by Art 69 itself. It is the terms of the claims which delineate the patentee's territory.
- (g) It follows that if the patentee has included what is obviously a deliberate limitation in his claims, it must have a meaning. One cannot disregard obviously intentional elements.
- (h) It also follows that where a patentee has used a word or phrase which, acontextually, might have a particular meaning (narrow or wide) it does not necessarily have that meaning in context.
- (i) It further follows that there is no general "doctrine of equivalents".
- (j) On the other hand purposive construction can lead to the conclusion that a technically trivial or minor difference between an element of a claim and the corresponding element of the alleged infringement nonetheless falls within the meaning of the element when read purposively. This is not because there is a

doctrine of equivalents: it is because that is the fair way to read the claim in context.

(k) Finally purposive construction leads one to eschew what Lord Diplock in *Catnic* called “the kind of meticulous verbal analysis which lawyers are too often tempted by their training to indulge.”

Such guidance may not be as easy to apply as the brighter-line Protocol/*Improver* questions, but it represents the approach to claim construction in the UK.

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