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Key Essentials in European Patent Claim Drafting

By Dr Michael Topf, Kuhnen & Wacker IP Law Firm, Freising/Munich

I. Introduction

Drafting claims for a European patent application differs from drafting claims for patents in other countries or regions due to the peculiarities of the European Patent Convention (EPC) and the case law of the EPO Boards of Appeal and the Enlarged Board of Appeal. In particular there are many formal restrictions imposed upon admissible claim language.

Many objections raised by the European Patent Office during the examination procedure relate to formal aspects. A considerable number of European patent applications are rejected, or European patents are invalidated, due to non-observance of the formal requirements of the EPC.

Valuable patents may be lost merely on formalities, but they could have been saved had the applicant been better aware of the formal requirements under the EPC.

The following will address the pitfalls and how they can be avoided. The aim is to reduce the number of patent applications that are rejected by the EPO only on formalities. Moreover, practical aspects of claim drafting that allow savings in time and money will also be examined.

II. Two-Part Form

Rule 43(1) EPC states:

“Wherever appropriate claims shall contain:

- (a) a statement indicating the designation of the subject-matter of the invention and those technical features which are necessary for the definition of the claimed subject-matter but which, in combination, are part of the prior art; and
- (b) a characterising portion — preceded by the expression ‘characterised in that’ or ‘characterised by’ — stating the technical features which, in combination with the features stated in subparagraph (a), it is desired to protect.”

For an improvement invention clearly starting from one piece of closest prior art and improving this in one or other respect within its unchanged general purpose, a two-part format is appropriate for claims of a European patent application.

Where the subject matter of the claim is not an improvement on prior art, but rather represents a totally new concept in the art, the one-part claim format would be appropriate.

If the two-part format leads to difficulties with respect to clarity in view of the necessary delimitation against the closest prior art (especially in steps of a method claim), the one-part format would also be appropriate.

In any infringement case, the first step is to perform a “feature analysis” of the asserted claims totally independently of whether the claims were granted in one or two-part format. Thus, the same feature analysis results whether the claim is in two-part format or not. For this reason, delimitation against the closest prior art in a two-part format *does not have any legal drawbacks with regard to the scope of protection conferred by the claim*. It simply gives the reader a quicker notion of where the emphasis of the invention is, as compared to the closest prior art.

This means that the applicant need not insist on a one-part format to avoid any possible legal disadvantages of a two-part format. If a one-part format is for some reason preferred by the applicant, he should forward arguments why the subject matter of the claim is not an improvement on the prior art but represents a totally new concept in the art, or should provide arguments as to what problems regarding clarity would arise in case of drafting the claim in a two-part format. Normally, the primary examiner will not make a big issue of this. Even if he should, there is no legal or practical reason spending much more effort on insisting on either the one or two-part format.

III. Reference Numerals

Rule 43(7) EPC reads:

“If the European patent application contains drawings, the technical features mentioned in the claims shall preferably, if the intelligibility of the claim can thereby be increased, be followed by reference signs relating to these features and placed in parentheses. These reference signs shall not be construed as limiting the claim”.

Thus, reference numerals should be included in the claims before the EPO to facilitate quicker understanding with the assistance of the drawings. The EPC clearly states that these reference numerals do not have any limiting effect on the scope of protection.

In effect, the “feature analysis” in an infringement case does not contain any reference numerals (at this stage, the claim already is roughly understood, and subtleties thereof — rather than a quick general understanding — are in the centre of interest).

This means that there is no sense in insisting on having reference numerals removed or excluded from an EPO claim. This might jeopardize allowance, but gains nothing. Quite to the contrary, in revising for foreign filing, especially EP filing, reference numerals should be inserted so as to save the foreign representatives’ time (and applicant’s money) to find out how the claim actually reads on the embodiments.

IV. Multiple Dependencies

The EPO allows multiple dependencies in any case of doubt. Of course, if a screw for example is introduced in Claim 5 for the first time and Claim 6 says that the screw is made of steel, Claim 6 may logically only depend on Claim 5. In all other cases, where the improvement of this claim might be applicable to the embodiments of all

(or any portion) of the previous claims, the reference may simply be worded “according to any one of the preceding claims” to cover all possible combinations of claims (without any cost disadvantage).

This means that in revising the claims for an EP application, multiple dependencies should be introduced whenever this is not totally unreasonable. Filing may also be effected with the usually restricted US-type dependencies, but, if granted this way, possibilities of defense in a revocation proceedings are restricted according to these dependencies (i.e. it is not possible to make a claim non-obvious by further restriction over new prior art, to restrict Claim 1 by the features of Claim 6 alone, if Claim 6 depends on Claim 4 and Claim 4 depends on Claim 2 — then also the features of Claims 2 and 4 must inevitably be included even though not needed for defense against the art).

V. Costs for Excess Claims

The official claim fees to be paid for the 16th claim and each subsequent claim are high (for the 16th and each subsequent claim about US\$270 and for the 51st and each subsequent claim about US\$680). Therefore, a high number of claims as frequently found in US applications may well cost several thousands of dollars just for additional claim fees. Thus, reducing the number of claims to 15 or less is important as to control costs.

Apart from an automatic reduction of the number of claims upon revision to EP style (no multiple independent claims for the same idea with associated sub-claims) the following measures are useful to reduce the number of claims without reducing the contents and scope of what is actually claimed:

- **Use multiple dependencies of sub-claims.** Any specific sub-claim needs to occur only once as it can be made dependent on any preceding claim (as long as there is no contradiction).
- **Include successive improvements into one claim using “preferably” clauses.** Thus, a claim “containing chromium in an amount of 2–10%, preferably 4–8%, more preferably 5–7%, still more preferably 5.5–6%, and in particular 5.7%” may replace five US-type sub-claims without changing the meaning of what is claimed.
- **Delete sub-claims if still too many claims remain.** Also make sure the message thereof is contained in the specification in a separate sentence (for example, “the screw in this embodiment, as in all other embodiments using a screw in this function, is preferably made of steel so as to ensure reliability of the connection” — this sentence serving the same purpose as a corresponding sub-claim “wherein the screw is made of steel”, and allows using this restriction in revocation proceedings just as a sub-claim depending on all other claims using or allowing screws).

VI. Means Plus Function

With European claim construction, means plus function means what it says. Namely, that any structure that performs this function is covered thereby. The only function of the specification in this respect is to give enabling disclosure for at least one example. Therefore, the EPO is somewhat reluctant to allow means plus function features, so as not to give broader protection than the idea and original disclosure of the invention actually deserve. However, if, in the given case, a means plus function feature is considered appropriate, then it gives full protection.

Moreover, the EPO is rather liberal as regards functional statements or statements of effects. Especially when trying to reduce multiple independent claims for the same general idea (invention) to one, it may be preferable to use means plus function features (e.g. instead of having one independent claim with a resistor and one independent claim with a capacitor for the same function), and also functional statements (“so that the device may automatically. . .”) can provide a basis for limitation against prior art without having to claim specific structural elements. Functional statements will be allowed where someone of average skill in the art will immediately see a variety of possibilities of structures to obtain this functional effect, with at least one structural example given in the specification.

This means that if means plus function features had been carefully avoided in the US claims, they may reasonably be used for European filing. In some cases, means plus function language may render a single claim broad enough such that no variety of independent claims with varying structural limitations is needed anymore. Means plus function language (if originally disclosed) thus may serve to easily comply with requirements under the EPC without any sacrifice of scope of protection.

VII. One Independent Claim Per Category

Under the demand for clarity and conciseness of the claims (Article 84 EPC), the EPO usually allows only one independent claim per category. Multiple independent claims of the same category covering the same technical idea with different wordings and different restrictions are only admissible in exceptional cases.

Rule 43(2) EPC expressly limits the use of more than one independent claim in the same category (if in unity, Article 82 EPC) to the following exceptional cases:

- (a) A plurality of inter-related products (e.g. components of a set, sewing machine and needle therefor, etc);
- (b) Different uses of a product or apparatus;
- (c) Alternative solutions to a particular problem inappropriate to be covered by a single claim.

This means that if the EP representative receives application documents for filing with the EPO containing a

variety of independent claims in the same category covering the generally same subject matter by different wordings and with different restrictions, it may eventually be necessary to define the smallest “common denominator” of these claims (i.e. the combination of those features that all claims have in common), and present this for examination. If this (very broad) combination of features turns out to be anticipated or obvious, additional limitations have to be contemplated, but these limitations effectively limit the scope of protection conferred by the claim, and do not leave space for avoiding them in other claims. Where a plurality of independent claims in a certain category is necessary, divisional applications must be filed.

As most examining countries insist on such form of claiming, it is advisable, for foreign filings, to revise the documents to this effect. Otherwise the foreign representatives will have to invest much time to analyze the claim structure in full detail so as to find the “least common denominator” and claim this, only to experience that further limitations would obviously be necessary to arrive at a possibly patentable subject matter. These limitations need to be further incorporated will have to be decided by the client in any case, and if not decided when embarking on foreign filing, they will have to be decided later after unnecessary money has been spent on revising the claims to arrive at a first meaningful office action.

It should be noted that a new Rule 62a EPC has been effective since April 1, 2010. According to this, if the Search Division is of the opinion that the claims do not comply with Rule 43(2) EPC (allowing more than one independent claim per category only in exceptional cases), it shall invite the applicant to indicate, within a period of 2 months, the claims complying with Rule 43(2) EPC on the basis of which the search is to be carried out.

If applicants fail to provide such indication, search shall be carried out on the basis of the first claim in each category. Further, under new Rule 137(5) EPC, amended claims may not relate to subject-matter not searched in accordance with new Rule 62a.

As a result of that a divisional application might be necessary to claim the non-searched subject matter. However, if the application is itself a divisional application, it might be too late to file a divisional application under new Rule 36 EPC, which reads:

- “(1) The applicant may file a divisional application relating to any pending earlier European patent application, provided that:
 - (a) the divisional application is filed before the expiry of a time limit of *twenty-four months from the Examining Division’s first communication* under Article 94, paragraph 3, and Rule 71, paragraph 1 and 2, or Rule 71, paragraph 3, in respect of the earliest application for which a communication has been issued, or
 - (b) the divisional application is filed before the expiry of a time limit of *twenty-four months*

from any communication in which the Examining Division has objected that the earlier application does not meet the requirements of Article 82, provided it was raising that specific objection for the first time.”

VIII. Vague Expressions

According to Article 84 EPC the claims must be clear. According to Article 123(2) EPC original claims normally must not be broadened later. As a consequence, if the original claim was found to contain an unclear expression, this can be amended only where that is possible without broadening the claim (e.g. “substantially circular” may be amended to “circular” as this is narrower).

If, however, an amendment would broaden the claim beyond such unclear expression, Article 123(2) EPC does not allow such amendment (T 728/98).

Assume for example that the original claim feature is a “long pillar”. Due to the fact that the term “long” is vague (how long is long?), this claim feature is unclear. However, under Article 123(2) EPC the term “long” may not just be cancelled as then also very short pillars would be included in the scope (whatever “long” means, it is not short). Thus there is an inescapable trap already set in the examination procedure. The application must be rejected without even examining the invention with regard to novelty and inventive step.

This means that applicants must check claims for any vague expressions and eliminate them.

IX. Clarity and Enabling Disclosure

Lack of clarity (Article 84 EPC) of a claim is not a ground for opposition. However, if a claim is amended during opposition proceedings, it is examined as to whether such amended claim fulfils *all* requirements of the EPC, including clarity. On the other hand, insufficient disclosure (lack of an enabling disclosure) in the whole patent (Article 83 EPC) is a ground for opposition (Article 100(b) EPC).

However, opponents often succeed in making an alleged lack of clarity an issue in opposition proceedings against a claim not previously amended. The trick: the opponent argues that the meaning of a claimed expression (as defined in another context by dictionaries, etc) is so broad that it encompasses subject matter beyond that disclosed. For this matter (which the skilled reader may never have intended to be covered), the application documents do not provide an enabling disclosure.

X. Avoiding Unnecessary Limitations in Originally Filed Claims

If the original claim in a certain category included a limiting technical feature, subsequent removal thereof (“broader claims seem available”) is *usually not possible*. The EPO looks at the original claim as a statement of what the inventor found to be indispensable for his invention at the filing date, and if he subsequently finds

out that a limiting feature is in fact dispensable, then he makes a new invention for which he is not entitled to claim the original priority.

Case law of the Boards of Appeal reaches that conclusion from Article 123(2) EPC, which reads:

“A European patent application or a European patent may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.”

This is primarily intended to bar “new matter”, i.e. claiming of technical features that have not been “clearly and unambiguously” disclosed in the original documents. However, case law goes on to state that what is beyond the scope of an original independent claim has also to be considered as extending beyond the content of the original application.

In that way, the EPC defines two types of “new matter”:

- The “normal type” — claiming a detail not originally disclosed (for example, the amended claim includes features A+B+C, but feature C was not originally disclosed); and
- The “scope type” — extending the scope to something that was originally outside the scope by the wording of the original claims (for example, the amended claim includes features A+B, but only A+B+C was originally disclosed).

Removal of limiting features from an independent claim is only allowed if the rest of the originally filed application documents clearly stated or showed that the features in fact are only optional (e.g. “rounded corners” claimed, with the description stating: “While not relevant for the function of the device, in the preferred embodiment shown the corners are shown to be rounded so as to avoid injuries when handling the device”). If there is no such statement, later cancellation is only allowed if it is directly and unambiguously clear to anyone of ordinary skill in the art that the limitation in question is totally unrelated with any contribution to solving the problem to be solved (for instance the paint color of a constructional component), or does not have technical character at all.

This means that in drafting the claims, or in revising them for foreign filing, one should in any case of doubt delete limiting features from the independent claims and include them in sub-claims. Further limitations are allowed at any time (*if* within a “clear and unambiguous” original disclosure). If unrevised, US-type multiple claims of the same category were originally filed, the “least common denominator” would be considered to be this indispensable combination of features in the inventor’s mind at filing date.

XI. Validity of Priority

In decision G2/98 of the Enlarged Board of Appeal, the rigorous principles of original disclosure according to (the case law for) Article 123(2) EPC have to be applied also to the examination of validity of a priority (which

requires disclosure of the same invention in the priority documents). In other words, the application documents of the earlier original application (i.e. the priority application) are not to be treated differently than the original documents of the EP application.

This has far-reaching consequences for the validity of claimed priorities, which in turn may “kill” the application or patent if relevant prior art (maybe the invention itself) was published in the priority interval.

For example the priority of chemical patents may be invalid if ranges were slightly “updated” during drafting claims for the European patent application based on a priority application (e.g. from a range of 3–6% to a range of 3–5%).

This means that the same warnings given herein when drafting the original claims of a European patent application should also be taken into account when drafting the claims of the earlier original application. When drafting the claims for a European patent application amendments of the claims of the priority document should be avoided as far as possible.

XII. Conclusions

The EPC, as interpreted by EP case law, includes unexpected pitfalls and inescapable traps. More than 10% of the EP patents in opposition are revoked on formalities (i.e. for reasons other than lack of novelty and/or lack of inventive step). That means they are revoked even before the actual invention is looked at. This has led to a tendency to return more often to national filings where the situation is less of a problem. However, filing of national patent applications for all member states of the EPC would involve much greater cost and effort, compared to the centralized filing of one European patent application.

In important cases, an EP application should be accompanied by national applications in the most important countries to avoid the risk of putting “all your eggs in one basket”.

Dr Michael Topf is a partner at IP law firm Kuhnen & Wacker in Freising/Munich, Germany. His practice focuses on the prosecution of sophisticated patents in the field of physics (in particular semiconductors, optoelectronics and telecommunication) and electronic engineering/electronics. Michael is a German and European patent attorney as well as a European trademark and design attorney.