

"Los Lunes del Centro de Patentes"

University of Barcelona

10 May 2004

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Advanced Claim Drafting
with emphasis on the allowability of,
and the protection obtainable by,
product-by-process claims,
purpose-directed product claims
and functional claims.

<p>The attached materials on “Drafting European Patent Applications” cover claim drafting from a practical perspective and can be used as general reference materials by claim drafters</p>	<p>Main Index for Drafting Materials</p>
<p>A few topics relating to the theme to be covered are briefly discussed in “Drafting European Patent Applications” and are accessible via a special index</p>	<p>Index for Advanced Drafting Topics</p>

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Index

Topics on the above theme in
“Drafting European Patent Applications” and Exercise Materials

Product-by-process claims
Protection of Product-by-Process Claims
Purpose-Directed Product Claims
Protection of Purpose-Directed Product Claims
Functional Claim Wording
Use Claims
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Main Index to “Drafting European Patent Applications”

DRAFTING EUROPEAN PATENT APPLICATIONS

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Notes: - Each Section has a detailed index.
- The page numbering is not continuous.

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Foreword

To successfully draft patent claims requires an understanding of the fundamental principles of patentability, and the ability to apply these principles in practice.

Proficiency in patent drafting takes years to develop: the complex interaction of technical knowledge and legal thinking has to be mastered; skills in assimilating, comparing, selecting, organizing and presenting information have to be acquired by practice; and feedback on the results of drafting still comes years later.

A full understanding of patentability requires a study of the law - starting with the European Patent Convention - and the developments reported notably in the Case Law of the Boards of Appeal, as well as the Guidelines for Examination, and books by numerous authors.

These course materials are not intended to replace the source materials or as a substitute for drafting practice, but rather to complement them by taking an approach that is compatible with the practical requirements for drafting European patent applications. Please therefore use these course materials in conjunction with the legal sources.

The aim is to help those involved in drafting better understand what they are doing and to serve as a guide for newcomers to help them achieve proficiency.

The underlying approach is based on the idea that European claim drafting started when the European Patent Convention entered into force as a self-contained code, and has developed since.

The papers deal individually with different aspects of drafting and amending claims and their support in the description, organized as follows:

- **Preliminary Considerations when Starting the Drafting Process:** things you need to consider when setting out.
- **Fundamentals Underlying Claim Drafting** that every drafter needs to understand as a basis for successful drafting.
- **Claim Evolution:** changes in claims at different stages of the procedure.
- **The Description** as a counterpart to the claims.
- **General Considerations:** contains comments about drafting trends, prior traditions and influences.
- **Paper A (drafting) of the European Qualifying Exam**
- **Paper B (amendment) of the European Qualifying Exam**

The papers are intended as a support for courses dealing with drafting/amendment where we are confronted with the paradigm: It is not possible to learn everything needed for drafting before

setting out; instead, we have to tackle the job and learn how to do it by trial and error.

The subjects are segmented so we can refer to them to gain a better understanding when questions arise from practical work during the courses, in the expectation that participants will continue to use the papers as needed during their work.

In addition to using the papers as an ongoing reference, participants should gain benefit by a full reading to reinforce what they have already acquired and as a foundation for future development.

Specific guidance for candidates preparing for the European Qualifying Examination is given in the Sections devoted to Papers A and B of the Exam. Also, throughout the papers references are made where appropriate to the Exam situation, bearing in mind that the Exam tests the candidates' ability to draft and amend claims and support patentability in a context which differs from usual working conditions.

When these papers were originally conceived, there was a serious problem in training related to the generation gap created in the aftermath of the entry into force of the EPC. Even on everyday matters like drafting and amending claims, most working experience was inadequate or counterproductive for the Exam.

Now, much better training possibilities are available, but preparing for the Exam still

represents a challenge. The past Exam papers and Examiners Reports are available on CD-ROM. They constitute a valuable resource to be used by the candidates for their individual work or work in tutorial groups.

Practice on the past Exam papers accompanied by thorough correction and careful analysis will enable apprentice drafters to acquire proficiency in important aspects of drafting where they have insufficient work experience.

Further guidance for Exam candidates is available at www.patskills.ch: see in particular the section "[Course Themes](#)".

However, the focus of the course papers is on-the-job drafting. The Exam is not considered as an end in itself but as a means to become proficient.

Last but not least, drafting and amending claims can be good fun, and having fun is a good way of learning. During the courses, some work is done in groups so participants can share experiences and take advantage of discussing and correcting mistakes all together.

Brian Cronin
September 2002

**Preliminary Considerations when Starting the
Drafting Process****Index**

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Introduction

The drafting process is usually triggered by the making of an invention, or by a need for protection.

Depending on the starting materials available, the draftsman has to select from available information and/or seek further required information.

Somehow an idea is formed as to what the invention is and what needs to be protected. This has to be compared with the prospects for obtaining a patent, based on existing knowledge of prior practices and/or through carrying out searches.

The potential protection is linked to the technical contribution of the invention that can be formulated in terms of a solution to a problem.

From this, claims are drafted and refined to provide adequate protection while aiming to meet up to the requirements of patentability.

How much can be included in one patent application? How many patent applications may be needed?

This Chapter covers various considerations when starting the drafting process.

Starting Materials :

The starting materials for a patent application usually include one or more of the following:

- A general idea.
- A prototype.
- A finished product.
- Laboratory reports.
- An internal record such as a "Patent Submission Form" or an "Invention Disclosure".
- Sketches.
- Technical drawings.
- A proposed publication (thesis/paper).
- Some prior art - possibly a search result.
- An existing patent application, e.g. one or more priority applications.
- Written instructions summarising the inventor's ideas and aspirations.
- A decision or desire to patent.
- Background materials on policy, interests etc. (rarely in writing).

Getting Information :

Methods of assembling the information include:

- Questioning the documents : extracting information from the available materials. Reading and understanding the relevant parts of documents etc.
- Questioning the inventor : finding out the limits of technical operability, technical support, feasibility of alternatives, advantages etc.
- Questioning yourself : background information from similar inventions handled earlier, the same client's earlier patent applications, background knowledge.
- Questioning outside resources : searches for further materials.

Often, the initial starting materials do not contain enough data to draft a complete application with an adequate set of claims and fall-back positions. To identify missing elements and fill the gaps from available resources, it is important to have a good idea of what is needed in the finished patent application.

In order to search for relevant prior art it is necessary to dissect the invention into its components, for instance into keywords for an on-line search. These keywords are already rough expressions of the technical features that will make up the claims.

Prior art searches:

Knowledge of the prior art is essential to establish novelty/inventive step, unity, place the invention in the context of a technical problem/solution, but also to select background art, find support for claimed features, get ideas for claim terminology etc.

Prior art searches include:

- On-line searches, e.g. via Internet.
- Patent Office searches (credit may be obtained for EPO searches).
- Cascade searches from citations in earlier patent applications in the same area.
- Searching in-house libraries etc. for background information in textbooks, scientific literature and so forth.
- Obtaining details of prior industrial practices and marketed products (usually from the inventor or other technical personnel or marketing).

The earlier the closest prior art is available, the greater the chances of obtaining the maximum valid protection.

Being forced to compare the invention with close prior art induces "amplification" of the distinguishing features necessary to support inventive step.

Pre-assessment of patentability :

Before embarking on drafting, it may be necessary to provide advice on patentability, i.e. the prospects of obtaining a patent based on the prior art as known, e.g. from an informal search.

This advice can be given, with or without drafting a claim, based on the identification of the inventive contribution over the prior art.

When appropriate, patentability advice can be coupled with a draft claim or claim outline.

The advice on patentability may need to cover the following:

- The prospects of obtaining protection.
- The potential breadth of protection.
- Different patentable aspects (product, process, use, etc.)?
- Any needed extra information (experiments etc. needed to support patentability)?
- If more than one patent application may be needed, or otherwise how to group different aspects together.
- Any limitations on protection, especially. due to the prior art.
- The situation vis-à-vis competitors patents, especially regarding possible dependency.

Such advice can be given based on existing knowledge, with a reservation in case further prior art may be located, e.g. during the EPO search.

Assurances on patentability/dependency are necessarily incomplete at this stage but are nevertheless important.

Note that giving positive patentability advice is relatively easy, if the invention is clear of the prior art.

Giving a negative opinion can be more difficult. It is not unknown for an inventor to turn to a new Patent Attorney, who succeeds in obtaining a patent over prior art which looked devastating at first view.

Where very close prior art is known, this does not necessarily rule out patentability. It requires pin-pointing and "magnifying" the technical difference.

Also, where the prior art rules out patenting a broad concept, there usually is room for improvements, and this can be explained. In other words, this provides an opportunity to "scrape deeper" to find something patentworthy.

Synthesis of a claim :

"Drafting" or synthesising a claim is a complex operation that may evolve "gradually" as the understanding of the invention improves.

Preliminary "shaping up" of a claim involves:

1. A general idea of what the invention is. What does the client/inventor want to protect and need to protect?
2. (Some) knowledge of the prior art.
3. What are the technical features of the invention ?
4. Alternative definitions (broad/narrow) for the technical features - explore the terminology.
5. Appraisal of technical advantages of the invention compared to what was known.
6. What technical problem(s) does the invention solve? How can you express the technical contribution of the invention?
7. An approach to novelty: which feature or combinations of features would be novel over the prior art?
 - If necessary, tabulate the invention's features and compare with each piece of prior art to show which combinations are novel.
8. Can one or more pieces of prior art be taken as starting point for a 2-part claim/problem-solution approach?

9. Once the invention and its relationship to the prior art have been understood, draft a claim definition that (hopefully) covers the invention and excludes the prior art (is novel) and can be associated with the advantages (solves a problem). Then, check and refine the claim.
10. (Re)formulate the technical problem solved by the invention. Does the subject matter solve the problem? Adjust the claim (solution) and the problem as necessary.
11. Check the terminology of the technical features: broad/narrow.
12. Check the claim for compliance with "formal" requirements: clear and concise?
13. Check that the claim covers all embodiments of the invention. Adjust if necessary.
14. Can all the subject matter be covered by one claim or capped under several related claims (unity)?
15. Consider different claim categories: device, process, use, combinations, sub-combinations, intermediate or finished products etc.
16. Does the claim cover further "undisclosed" embodiments: useful/useless?
17. Bearing in mind how generalised the draft claim is, what sort of prior art would you expect? Develop sub-claims and fall-back positions.
18.
Organise secondary features into sub-claims.

19. How could the claim be avoided? Can the claim be broadened and still remain patentable over the known prior art?
20. Keep checking and improving the claim.
21. As so many things have to be checked, it's virtually impossible to do everything in one go. Make several successive passes/revisions, each time focussing on a particular aspect.
22. It's difficult to apprehend all defects in one's own draft. Generally it's easier to spot mistakes and errors in what's written down than to detect an error relating to a missing feature, e.g. a missing essential element. It's also difficult to detect when an intentionally broad but unclear wording unintentionally covers the known state of the art, leading to lack of novelty.
23. When drawings are ready, insert reference numbers in the claims: make sure of consistency of terminology, that key elements are claimed, that generalised terminology corresponds to the specific embodiments, and the same element e.g. "means for" is not claimed twice, etc.
24. When working on the main claim you may need to write up the prior art description and a problem-solution description for the introduction. This is good practice.
25. Try and have the claims well worked out before submitting a draft to your client/inventor/supervisor, and be prepared to adjust as a function of the feedback.

The sequence of these operations will depend on the starting materials and personal considerations.

As a general rule, it's best not to try and draft a claim until you have a good picture of the invention, yet it's also best to try and draft a rough claim as soon as possible, given that the refining of the claim will lead more rapidly to a powerful understanding of the invention than simply by trying to work it out in your head.

A good compromise is to start making written notes, jotting down alternative terminology, and writing down a list of parts/features, before trying to put together a claim.

Under usual working conditions, it is possible to spread the operation over several days or more, gathering materials and improving understanding by discussing with the inventor, etc.

When drafting under time pressure, as in the European Qualifying Exam, it is advisable (especially in the mechanical area) to cast a first claim draft that is reasonably close to the client's expectations and that can be refined to an acceptable standard in the remaining time.

In chemical drafting, more emphasis is placed on equating a claim of given scope (e.g. the formula of a compound) with the available experimental support for inventive step (unobvious technical effect), often based on principles from the Case Law.

Developing Examples / Embodiments :

- When drafting claims, supporting examples must be found and if necessary developed alongside the claims.
- Developing examples, embodiments and potential fall-back positions for the claims usually involves questioning the inventor(s) by the patent draftsman.
- Each parameter needs to be explored to determine the outer limits of operability and the specific ranges or conditions giving optimum advantages.
- Usually, the draftsman will not put forward his own bright ideas or suggestions, but will ask questions allowing the inventors to specify which details will be useful and which should be discarded.
- It is important to know about plans for future work on the invention and when further results may be available (within the priority year? within about 2 or 3 years, during prosecution?)
- The detailed description not only provides fall-back for one's own claims, its specific disclosure will prevent competitors from patenting modifications of the invention.

Skeleton Drafts:

An effective way of advancing quickly to a full patent application is making a skeleton draft or outline of the patent application, leaving entire sections to be completed and blanks to be filled with data/ranges etc. Questions and comments can be included in the draft.

Selecting Information :

Sometimes the starting materials contain an overwhelming amount of material that needs to be compacted. Or there may be other reasons for restraining the disclosure. To make sure the content of the patent application is right, decide what should be left out :

- Know-how (to be licensed or kept from competitors).
- Secrecy restrictions: does the applicant have an obligation of secrecy to a third party?
- Non-ownership: does the entire invention belong to the proposed applicant? Will the application still stand up if the non-owned part is left out?
- Future developments: data may best be left out if it is not absolutely necessary and could foreshadow future inventions.
- Publication: check whether the applicant really wants all the data published. Remember, once something is published it can't be un-published! It is not possible to extract unwanted materials from an European patent application to prevent publication while still going ahead for the remaining parts.

- Where there is a mass of data both inside and outside the proposed coverage, select the data inside which gives best support to the claim coverage; include comparative data only if necessary.
- Where the application is a sub-combination or a sub-assembly, avoid unnecessary drawings and description of the entire assembly. Confine the description to the claimed parts.
- If there is extensive prior art, select and discuss only the most pertinent reference(s) corresponding to the claim preamble. Lists of prior art are not expected, but this can be a convenient way of showing that a document has been considered. Note: the duty of disclosure requirement for the USA can be dealt with separately from the patent application's description.
- If there is too much data to handle conveniently in one patent application, consider filing several patent applications instead of one.
- Future translation costs is a legitimate reason for keeping the application as short as possible.

Unity of Invention

The concept of unity is primordial in preliminary drafting and decision taking because it governs:

- The amount of subject matter that can be protected in a single European patent application.
- The number of separate patent applications necessary to comprehensively cover any particular development (initial applications or divisionals).

Unity has a major impact on the costs of patenting any given development. In practice, we can be faced with two extreme situations:

- An applicant with small resources but plenty of ideas, who can only afford a single patent to cover several inventive ideas.
- An applicant with ample resources but few inventive ideas, where it is possible to file multiple patents on marginally inventive products in order to obtain comprehensive coverage.

Claims

Unity concerns the subject matter protected by the claims. To a limited extent, "non-unitary" subject matter may be included in the description and in sub-claims, but without being protected in its own right.

Unity in Preliminary Drafting

Broad Claim In the initial drafting process, it is common to seek a general definition covering the subject matter and which differentiates over the known prior art or the assumed prior art. A patent application can then be drafted using a broad main claim and an organized set of sub-claims ("apparent unity").

Multi-Claim An alternative approach (for the first priority application) is to include several broad independent claims or corresponding statements in the description, without paying too much heed to unity at this stage, leaving unity to be dealt with when re-filing a European application or internationally under priority or even during examination.

Multi-Filing It is also possible to file several individual basic applications during the priority year. At the end of the year, selected applications or parts of them can be combined together for European and other filings; the unity aspect can be handled at that point. It is possible to establish a priority date by filing a European patent application without paying any fees.

Note: Multiple filing of priority applications is common for cases originating from Japan, because of the traditional approach to unity: one embodiment/one claim/one patent. Unity has also been handled differently in different countries, but with the new EPC/PCT rules and trilateral cooperation, there is a trend towards harmonisation.

Substantive Requirements - Preliminary Claim Drafting

SUBSTANTIVE REQUIREMENTS	CLAIM REQUIREMENTS
NOVELTY	<p>There must be a technical difference over the prior art.</p> <p>Assessment of novelty is based solely on the relationship of the claimed subject matter over the prior art.</p>
PROBLEM-SOLUTION	<p>It must be possible to express the claimed technical difference as a technical solution to a technical problem.</p>
INVENTIVE STEP	<p>Obvious developments over the prior art must be excluded.</p> <p>Inventive step can be supported by factors external to the claim.</p>
EXCLUSIONS Industrial Applicability	<p>The claims must not cover excluded matter: purely aesthetic, business schemes, therapeutic methods etc.</p>
UNITY	<p>One generic claim followed by sub-claims.</p> <p>Or several claims linked by a single inventive concept -common contribution over the prior art.</p>

Novelty - Expansion of the State of the Art:

As time passes, the state of the art grows. A hundred years or so ago, a Commissioner of the US Patent Office predicted that the rate of filing patent applications, which had been rising steadily, was bound to fall as there was less and less room for patenting new inventions.

The contrary is true. Each new invention creates a potential for further inventions because it can in turn be modified or combined with other teachings. Any given field of technology may become saturated. But some inventions open up new technical fields each creating potential for more new inventions.

As developments are made, there is always room for claims that exclude the prior art and are novel by defining an improvement of narrower scope or by opening a new area not contemplated by the prior art. Novelty can be created :

- By more narrowly or more specifically defining a feature of the prior art (selection).
- By side-stepping (a new alternative to given prior art).
- By making a new combination or sub-combination.
- By placing something known in a new context (new application).
- By using something known to produce a new technical effect (new use) or

sBy creating an entirely new field of endeavour.

It is by definition impermissible to claim something new in broad terms covering again something that is already in the state of the art. Claiming novelty always has to go forwards, never back. This induces a forward momentum : the state of the art grows as novel subject matter is unfolded to the public; as the state of the art grows, its potential for further growth increases.

To assess novelty and inventive step for patenting, the state of the art is confined to what is available to the public. It does not include existing private or secret "grey area" knowledge. This is one reason why it is difficult for experts with extensive knowledge - partly public, partly non-public, with no clear distinction - to appreciate whether a development may be patentable.

When a novel idea in this grey area is published, instead of the grey area decreasing (which seems to be what the Commissioner thought), the release of the novel idea gives the public the possibility to further develop it and use it in different areas etc. The grey area advances and grows with the state of the art.

The relationship of the new invention to the scope (protection) of earlier patents is also of interest in terms of the freedom to exploit the new invention without infringing rights under earlier patents.

New inventions which side-step the claims of an earlier patent on a commercial product are valuable because the old and new patents may jointly monopolise the area, and only the new patentee can enter the already-developed market in competition with the earlier patentee.

Technical Advance - Time Factor :

Given two products of the same type which are technically different, the difference can be expressed in terms of a technical solution to a technical problem, or a technical advance of the later product over the earlier.

For an improvement within the scope of an earlier development, this can be expressed as a "one-way relationship" : the improvement is novel over the development and is better than the development, but not the other way around. If the improvement were known first, it cannot later be covered again by a general claim which includes other embodiments as well as the improvement. Such a claim would lack novelty.

When a new development side-steps an earlier development their relationship is two-way: whichever comes first, each is novel in relation to the other and it can be possible to express the technical difference in terms of an improvement of the later one over the earlier.

Product A Depilatory device with helical spring (Epilady).

Product B Depilatory device with slit elastomer (Remington).

A first: B has the advantage of smoother plucking of hairs.

B first: A has the advantage that the helical spring can curve through greater angles -> less heating etc.

If both products were invented simultaneously, they could be covered in a single patent application with a generic claim (general wording or alternatives), and with mutually exclusive sub-claims to the individual products.

Claims - Time Factor :*Art. 54*

To assess novelty and inventive step requires comparison with the state of the art before the date of filing (or priority date) of the claim.

The claim scope must:

- Cover the new invention (technical solution to a technical problem).
- Exclude the prior art (novelty).
- Exclude obvious developments of the prior art (inventive step).

Broadening

In most cases the applicant will want the claim also to cover envisaged variations and future developments of the invention. For this reason the claim will need to generalise the invention to a permissible extent while still steering clear of the prior art.

This dual function corresponds to the notions of:

- Open definitions - desirable to encompass future developments
- Closed definitions - useful to exclude the known prior art.

The Problem-Solution Approach

The advent of the problem-solution approach as a cornerstone of patentability has led to the use of a "problem->solution" analysis as a starting point to assess inventions.

One traditional approach was to concentrate first on identifying novelty, and address "problem-solution" at a later stage either when finalising the draft patent application, or even when confronted with the issue during examination, opposition or appeal.

Nowadays, many drafters address "problem-solution" upfront as one of the first issues in their dialogue with inventors. Numerous scientists and inventors are familiar with thinking in terms of technical problems and solutions, and this leads to a fruitful dialogue in many cases.

Using the problem->solution approach as a starter, leads to the sequence: what problem has been solved? -> which features of the solution are essential to solve the problem? -> which combination of these features creates novelty?

In some cases, the drafter is confronted with a finished product and is asked if anything can be patented. Here, the drafters main job is to identify what problem(s) the product has solved, which can be done by identifying the closest prior art and formulating the invention as a solution to the problem(s). Such cases could be referred to as "solution inventions" because the client/inventor

supplies the solution, and the drafter then finds the problem it solved.

The EPO use the problem-solution approach in a somewhat restricted way in the assessment of inventive step during examination, opposition or appeal. The official approach is to take the closest single item of prior art known at that stage as the starting point for expressing the invention in terms of the "objective problem" solved by the skilled person in going from this closest prior art to the claimed invention, i.e. in achieving the technical contribution of the invention. This provides a structured way of addressing the question of obviousness.

If the initial problem is superceded because closer prior art comes in and perhaps the claim changes, this so-called "subjective" problem is set aside and replaced by an "objective" problem based on the closest prior art and the latest claim.

At the preliminary drafting stage, a "flexible" use of problem-solution can help the drafter to shape claims around the perceived technical effect or advantages, so the claims will later stand up to the official problem-solution test.

The problem->solution analysis of inventions is one of the most important factors of patentability before the European Patent Office. Patent drafters need to be familiar with different facets of this analysis in initial drafting and at later stages. Different aspects of "problem-solution" are discussed in greater depth later on.

Approaches to drafting:

The way to approach drafting a patent application depends upon the reasons for seeking patent protection and the type of invention. For example:

Patenting induced by:	Main features of approach:
Product about to be marketed	All details of the product to be marketed must be described in detail in the priority application to ensure effective immunity under priority.
Scientific paper to be published	Incorporate passages of the publication, even if not necessary for patent requirements. The scientific image may be as important as the protection itself.
Idea under development	Work out practical embodiments. Possibly include paper examples. Add new embodiments when refiling under priority.
Product to be licensed	Two patents better than one. A broad patent to keep out competition. Specific patents that will withstand litigation.
Process to be licensed	Broad coverage of the process principles. Licensed know-how excluded from patent.

Product Undergoing Design Changes	Cover all possible alternatives. Be prepared to shift coverage to the final product later.
Product that circumvents a competitor's patent	Side-step: claim what is outside the earlier patent. This helps show inventive step. Point out your advantages, the competitor's disadvantages.
Improvement falling under a competitor's patent	Demonstrate your advantages, with or without acknowledging the technical contribution/dominant position of the prior patent.
Technically more-or-less equivalent product under the fringe or grey area of a competitor's patent	Include equivalent embodiments inside and outside the competitor's claim to show that the claim is arbitrary and create a smoke screen.
Small improvement over close prior art	Pin-point the difference and magnify it in the claim. Associate the difference with impressive advantages.
Broad new technical principle - seems remote from the prior art	Develop embodiments to support the broad claims and develop back up positions in case relevant prior art comes in.
Complex product over close prior art	Several (overlapping) patent applications on specific features ("picket fence").

Product that can be differentiated over the prior art by several different combinations of features	Several simultaneous applications directed to the different approaches, possibly identical coverage in sub-claims. Dual patenting problems can be sorted out later.
Small patentable modification of marketed product	File early enough so the publication at 18-months will come before marketing the modification and protect against competitor's new patent applications.
Patentable process for producing known products	Patent the process in general terms sufficient to prevent any competitor from doing the same and interfering with marketing of the products.
Product containing an inaccessible or concealed patentable feature	Patent the concealed part to prevent any competitor from doing the same.
Developing products in patent-active areas, where freedom to market is important	File early. Develop and describe in detail as many embodiments and variations as possible.
Drafting Paper A of the European Qualifying Examination	Broadest possible valid claims based on the given facts. Comply with all office requirements. Sub-claims only for significant fall-back positions. Propose several patent applications if necessary.

Starting Point:**Broad Concept or Narrow Concept:**

Drafting a new set of claims to cover an invention usually involves the following approaches:

- Developing claims based on a general idea or broad concept.
- Generalising claims from specific embodiments or examples.

These two approaches are complementary. Both approaches assume some knowledge of the prior art.

Starting from a broad concept:

The principle, when starting from a broad idea is to identify all possible embodiments; select the important ones; refine the broad definition to include all wanted embodiments and exclude known prior art; classify the features of the embodiments to lead to a structure for a set of claims and for the Disclosure of Invention; and identify the specific embodiments to be described.

Specifically

- Formulate a broad claim definition.
- Compare this with any existing embodiments.
- Develop and consider alternative embodiments covered by the definition.
- Adjust the definition to eliminate plainly useless or unwanted (prior art) embodiments.
- Develop the features of useful embodiments:
 - Specific forms of the claim features.
 - New features, not already in the claim.
 - List for possible sub-claims.
 - Are any subsidiary features essential for the main claim?
- Consider each feature of the definition in turn:
 - Alternative more general and more specific wordings.
 - Ranges.
 - Is the feature essential?
- Investigate claim formats:
 - One part.
 - Two-part.
 - Choice of preamble.
 - Consider different preambles to best bring out the inventive step.

Broad Claims When seeking a broad claim it is essential to consider all hypothetical embodiments in order to anticipate future developments and provide adequate support for the claims.

Vulnerability Broad claims are vulnerable to invalidation. Any single piece of prior art which anticipates or renders obvious any single embodiment of the claim is enough to invalidate the entire claim. This is why developing fall back positions through sub-claims is important.

If a broad claim is vague (unclear) and speculative (without adequate support for the range of embodiments covered) it will be open to objection during examination and later.

*Broad &
Valid* A broad and valid claim is worth considerably more than a narrow and/or invalid one! To achieve validity, broad claims must be very carefully worded. For quite a simple invention, a broad claim may seem rather long. More words are often needed to encapsulate a simple idea in general terms while remaining precise and skirting around prior art so as to obtain the maximum available protection. This is an exception to the common perception that short claims are broad and long claims are narrow in scope.

*Broad &
Inventive* It is usually easier to associate an inventive step with a broad/generalised claim than with a narrow/specific claim.

**Starting From a Specific Concept : Narrow
Claim or a Product**

*Finished
Product*

When the invention is already in the form of one or more complete embodiments, for instance a product approaching the stage of marketing, a very narrow definition or "picture" claim of the product can be used as starting point. Then, each feature is examined in turn, considering broader wordings, possible substitution of features and possible elimination of features, comparing with the prior art to avoid over-generalisation. A generalised claim is thus distilled from the detailed embodiment of the invention.

Specifically

- Generate a narrow "picture" claim of the product or a reasonably organised list of all of the component parts and features
- Consider each feature of the definition in turn:
 - Alternative more general and more specific wordings
 - Ranges
 - Is the feature essential?
- Generate a comparable list of features for the closest prior art documents:
 - Compare with the picture claim
 - Which features can be generalised without prejudicing novelty?
 - Which generalisations lead to a claim that is anticipated - must be excluded?

- Investigate claim formats:
 - One part
 - Two-part
 - Choice of preamble
 - Consider different preambles to best bring out the inventive step

- What new embodiments are covered by the generalised claim?
 - Consider new examples/embodiments.

*Commercial
Patents*

Inventions which are ready for commercialisation require special attention. There may be a burning need for a patent, yet consideration of possible patentability has been left to the last moment. Often, the prospects of patentability look poor on the face of crowded prior art. Yet proper consideration of these cases sometimes leads to patents with claims giving excellent coverage for the commercial product as well as many viable alternatives.

Applicability

The "bottom up" approach to claiming - starting from a specific embodiment and generalising - is applicable both when:

- There is crowded art (in which case it is sometimes difficult to directly formulate a general claim)
or
- The prior art is remote or not well known at all and cannot be used as a starting point.

Intermediate Starting Point

Of course, it's possible to start from an intermediate point, from to an initial claim that seems to give good protection.

Here the claim is tested by broadening in some respects (more generalised wording or omitting features) and narrowing in some respects (narrower wording or including new features).

All parameters are tested by a "Goldilocks" approach until the claim is "just right".

On the one hand a broader main claim and possible broader dependent claims are induced, and on the other hand narrower dependent claims are developed as fall-back positions.

This approach is appropriate in particular when starting from a pre-defined problem-solution where the approximate scope of the final claim is detected early on.

Claims for Alternatives

When starting from a broad idea, a set of sub-claims is developed, including specific claims for each worthwhile embodiment generated.

When starting from a narrow claim or a specific embodiment, a more generalised claim is developed, with an appropriate number of intermediate claims.

In addition, different formats of independent claims in the same category (device, process, use etc) will be investigated as well as claims in different categories.

In developing alternative claims, it is important to bear in mind the applicant's interests and intentions in commercialising the invention and also any other possible avenues of commercialisation a clever competitor may be tempted to try.

Sub-combinations or sub-parts;
intermediate products; downstream products; repair or replacement operations; import/export and transfrontier operations, etc. all need to be considered.

Policies and Purposes

The applicants' policies and purposes will determine why they are seeking patent protection and why the European route may offer advantages.

The applicants' position or standing in their field and their patent strategy or policy will influence the timing and content of their patent applications. Examples:

- Developing a leadership position:

Early filing of broad patents on key inventions followed by a series of improvement patents to prevent others from breaking in, using the lead time before publication of the leader's successive patents.

- Following the leader:

- Patent evasion or copying often under cover of "improvement" patents designed to hide the activities behind a smokescreen and cloud the issue of infringement, and/or
- Developing dominated "niche" patents to be exploited under license or by cross-licensing, and/or
- Patenting of non-dominated improvement patents as trading chips.

- Building a "picket fence":

Filing multiple narrow patents around a product for which broad protection under an individual patent is not available. By filing several applications simultaneously, patents of overlapping scope can be obtained.

- Freedom to operate:

Filing patent applications on inventions "in the pipe-line" will pre-empt competitors from obtaining corresponding protection, thereby securing freedom to operate.

Early filing of patents is designed to prevent competitors from gaining a stronghold, the patent applications usually having very comprehensive disclosures so that competitors at best can only get patents on details.

This can be combined with systematically opposing any patents in a given area or of certain competitors.

- Protecting the market:

Here patents are used defensively to deter competition in given markets, protect a technological lead and protect market penetration or share. The patents need broad claims and specific protection for the commercial product. Coverage can be confined to the main markets or manufacturing countries.

- Basis for Licensing:

Licensing requires broad territorial patenting and if possible multiple patents or a package (loss of a single patent should not affect the income stream). To be licensed separately, know-how must be kept out of the patents.

- Basis for further development

Research/Academic Institutions may need to protect research results in order to attract industries for further development of the invention or for sponsoring further research. Shortage of funds means the filing is frequently left until just before publication.

Usually, the upcoming publication can be used as specific description for the patent application, sandwiched between a generalised set of claims and a corresponding general introduction.

For filings on or just before the day of publication, generation of the claims with "intermediate generalisations" is all important so all claims are entitled to the filing/priority date.

- The insurance policy approach:

Patenting the results of an R&D program often takes place well before commercialisation. Not knowing which inventions will be winners, patents are filed on many inventions hoping

some will come in handy later. Often, the applications contain abundant data because the research results are to be published anyway. The scientific image is often important: the need for accuracy and thoroughness may restrain extrapolation.

- The private individual's brainwave:

The European route - often combined with PCT - gives private inventors and small companies the opportunity of greater territorial coverage for a lesser initial outlay than before. The initial filing can be used to gain time to find a buyer or sponsor. If so, the patent application may constitute an important part of the applicant's "sales pitch". It must highlight advantages over competing products and portray an advanced stage of development of the product. Also, if the product is to be shown to prospective buyers during the priority year, the patent application must describe it comprehensively.

- "Keeping up with the Jones's":

Filing patents just because the competition does it. Many companies are scared of being left behind by their competitors and this provides a strong driving force.

Avoiding past mistakes where late or non-filing of patent applications led to trouble is also a strong driving force.

Summary of Preliminary Considerations

In summary, the preliminary considerations when starting the drafting process involve the starting materials, seeking additional information, selecting the information and "framing up" draft claims in view of the needed protection and the perception of what is patentable.

Further influences in initial drafting such as:

- Claim drafting traditions
- Corporate drafting styles
- The individual's or his/her firm's drafting style

are discussed later under "[General Considerations](#)".

The next chapter "[Fundamentals](#)" analyses mainly the legal influences affecting patent drafting.

**Fundamentals Underlying Claim Drafting
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Introduction

This chapter discusses fundamentals underlying claim drafting that every drafter needs to understand as a basis for successful drafting.

The legal requirements constitute a framework allowing ample scope for individuality in expressing any particular invention; moreover, departures from the legal requirements are sometimes justified at the outset.

But the contents of a patent application ultimately have to meet up to the legal requirements for the patent to be granted. Knowing these requirements will help the drafter to obtain the needed information and present claims in a proper way.

Since the coming in force of the European Patent Convention, most attention on fundamentals has been focussed on the substantive provisions of the EPC itself and the interpretation provided by the Case Law of the Boards of Appeal, i.e. from the EPO examination, opposition and appeal procedures. See the main source materials: the EPC, the Guidelines for Examination, the Case Law of the Boards of Appeal, 4th edition 2001, as well as books like Singer/Lunzer, Singer/Stauder and Visser "The Annotated EPC". Hoekstra "References to the EPC" gives cross-references to the source materials.

In former times the decisions of national courts in infringement proceedings constituted the main source of wisdom affecting claim drafting. Many claim drafting practices under the EPC indeed were derived from the old national Case Law: see under "[General Considerations](#)".

Under the EPC, we have a split system where the EPO is responsible for grant and opposition, and all other matters after grant are dealt with under national laws, which are "partly" harmonized.

Claims have to be based on the EPC requirements for a patent to be granted, whereas the protection conferred is a matter for the national courts. Interpretation by the courts is discussed under "[Evolution](#)".

The claims primarily define the matter for which protection is sought. Compliance with legal requirements to obtain a patent is important, but secondary. A good grasp of the principles underlying the extent of protection is important for successful patent drafting.

The chances of successfully obtaining valid, enforceable and useful protection are vastly improved if claims are directed from the outset to obtain all needed and all possible protection covering the client/inventor's interests.

The Claim as a Definition :

Art 84

The claims shall define the matter for which protection is sought.

Define: *Mark out (limits, boundary); make clear, especially as to outline, state exact meaning or scope*

Definition: *Defining statement of precise meaning of a term*

(Oxford Dictionary)

The claim definition also determines the extent of protection:

Art. 69

The extent of the protection conferred by a European patent or a European patent application shall be determined by the terms of the claims.

The description and drawings shall be used to interpret the claims. Guidelines for the interpretation of claims by the national courts are given in the "Protocol on Interpretation".

The Concept of Claim SCOPE

Claim scope reflects what is covered by or inside the claim definition.

Anything that is not covered by the claim is outside the scope of the claim:

"What is not claimed is disclaimed".

First "Law" of Claim Scope:

The claim scope encompasses all the technical subject matter covered by the claim and excludes everything else.

Second "Law" of Claim Scope:

The technical subject matter covered by a claim is determined by the claim wording.

A fine distinction is drawn between the "scope" of the claim (the definition of the technical subject matter for which protection is sought) and the "protection conferred" which extends to commercial activities pertaining to the technical subject matter embraced within the "scope" of the claim.

By claim "scope" we mean the technical subject matter; the extent of the legal "protection conferred" or "legal scope" is inferred from the technical "scope" of the claim.

Clarity and Conciseness

Art. 84

The claims ... shall be clear and concise ...

If a claim doesn't specify clearly what it covers, it does not fulfill its purpose. Unclear claims should be objected to during examination. After grant, an opponent or third party may be able to launch an attack based on broad interpretations due to the lack of clarity.

Clarity of a claim should never be sacrificed for conciseness.

The conciseness requirement rules out unnecessary repetition of the wording of individual claims and repetition of claims. However, "non-repetitive redundancy" which makes the scope clear and avoids unwanted openness of the claim, is fashionable and acceptable.

Clarity also implies consistency; inconsistent terminology in the claims and description leads to a lack of clarity.

Meeting up to the dual requirement of clarity and conciseness is a major challenge in claim drafting and patent drafting in general:

As short as possible

As long as necessary

Clarity is perhaps the most fundamental quality of a claim. Novice draftspersons and candidates for the EQE should aim first and foremost to produce clear claims.

Lack of clarity is a ground for refusal of a European patent application. Additionally, patentability will often hinge on clarity. Unclear claims are broadly interpreted by EPO Examiners to cover prior art in order to introduce an objection, usually lack of novelty.

Infringement issues frequently result from unclear claim wording that is narrowly interpreted by competitors activities to notionally exclude their (proposed) activities. Numerous litigations have arisen due to a dispute between the parties stemming from alternative interpretations pursued by parties with diametrically opposed interests. Much of this could be avoided by clear claim wording.

The description and drawings are used to interpret the claims: Article 69. However, during examination the requirement for clarity is overriding. Any ambiguity of the claims has to be removed by amendment.

Open and Closed Definitions:

There are two basic types of claim definition:

- Open
- Closed.

Sometimes, claims defined these ways have been referred to as "central" and "peripheral".

An open definition is one that specifies a central core of essential or minimum feature(s) and covers this central core alone or together with other unspecified or ancillary features.

Open: A geometrical device comprising three sides connected together at equal angles.

- Covers primarily an isosceles triangle but also includes various polygons.

A closed definition is one that specifies all essential features excluding any further inclusion of other features or certain specified features.

Closed: A geometrical device consisting of three sides of equal length connected together at equal angles of 60°.

- Limited to an isosceles triangle.

A claim can be worded with certain features or parts defined in an open way and other features or parts defined in a closed or excluding way.

Technical Features:

Rule 29 The claims shall define the matter for which protection is sought in terms of the technical features of the invention.

This excludes definitions in terms of non-technical features:

- Economic advantages
- Aesthetic features
- Legal statements
- Value statements
- Statements of origin (Trademarks)
- Fancy names ...

Technical: A writing instrument made of a graphite rod enclosed in a wooden cylinder from which the graphite rod protrudes at one end.

Non-Technical A new and inexpensive gadget very handy for executives with an urge to scribble.

G 2/88 The technical features of a claim to a physical entity (product, apparatus, device etc) are the physical parameters of the entity.

The technical features of a claim to a physical activity (method, process, use etc) are the physical steps which define such activity.

G 2/88 There are no rigid lines of demarcation between the different types of claim categories: claims

including technical features relating both to physical parameters and physical activities are possible.

T26/86

Claims including a mix of technical features and non-technical features have also been allowed.

For a method/process of producing a product, the technical features are the starting product(s), the steps of the method/process and the end product.

Method of production steps are not considered to be technical features defining a product.

Nevertheless, if a product claim includes method features that imply physical features of the product itself, such "derived" physical features can be implied into the claim.

For example if a product claim includes the recitation "which has been dried by heating at over 100°C" this implies that the product is in a corresponding dried state.

Method of operation or use steps included in a product/apparatus claim can however have the effect of limiting the scope of the claim to the product/apparatus when in operation/use.

Unnecessary statements of this type severely restrict the protection.

Functional Wording

T426/89

Technical features of an entity can be defined functionally. "Means for" language is acceptable. Functional terms defining a technical result are permissible if the feature cannot otherwise be defined without restricting the scope and it is clear for the expert how to implement them (T68/85).

These conditions provide an almost universal justification for the use of broad functional terms. As a result, functional language has become widely used in European claim drafting.

Structural functional language is also acceptable: "amplifier", "herbicide" etc.

Functional language which expresses an effect is also common: "simethicone adsorbing material".

As a rule, in European practice, it is best to confine "means for" to a few instances where this formulation is most effective, and to use "structural functional" language wherever possible.

The use of functional language is coupled with amplification of the need for clarity: any broad functional language that lacks clarity can easily be detected.

Claim Language

It follows that claims are written with language that defines the invention in terms of its technical features, avoiding non-technical features.

For a patent to be granted, the subject matter of each claim, as defined in terms of its technical features by the claim wording, must meet up to all requirements of patentability: novelty, inventive step and industrial applicability.

Claim language avoids the use of wording that does not contribute to the definition of the technical subject matter. However, non-defining terms are acceptable providing they do not introduce unclarity.

Claim language is essentially made up of the technical features linked by defining statements that set out the interrelationship of the technical features (comprising, consisting of, containing, including, connected to, combined with, associated with, cinematically connected to, placed under/over, mounted on, secured thereto, bonded to, and, or, and/or).

Statements of purpose or effect are accepted (for use in, which melts at body temperature, to collect the shavings, ...) . These statements may or may not be limiting on the scope of the claim, or may have a conventionally accepted meaning.

"For" in connection with an intended purpose or use means "suitable for" the intended purpose or use.

However "A method for producing chlorine, comprising the steps ..." is interpreted with the production of chlorine (as the necessary end product) as a limiting technical feature of the claim.

Non-defining features are tolerated: "in particular", "such as", "optionally comprising", ...). These recitations are appropriate for exemplifying embodiments within the scope of the claim without limiting to them. This is allowable only if it does not give rise to unclarity.

It is also acceptable to use "identifier" wording which has no effect on the scope but is useful for the definition. For instance, a claim can recite "first means for ..., second means for ..., etc". Here "first" and "second" are identifiers simplifying the later claim wording, i.e. contributing to clarity.

Care is needed with terms like "heating means": this is an acceptable convention to relate to previous "heating means for ...". If there is no functional "for", it would be better to say "heater".

Punctuation and format

Conventionally, each claim is a succinct statement ending with a full stop ".".

This probably originated in the days when the claim followed a formatted statement dictated by legal requirements or tradition, such as:

"What I (or we) claim is:" or "What is claimed is:" or "The embodiments of the invention for which an exclusive privilege is claimed are defined as follows:"

The usual European claim introduction is simply: "Claims".

The "single statement" principle is still widely adopted. Structuring a claim in separate sentences or other deviations may give rise to doubts as to exactly what is being claimed, i.e. lack of clarity.

Short claims can be a single statement without punctuation: "A geometrical device consisting of four equal sides connected together by four equal angles each of 90°."

Punctuation is widely used to divide the claim into segments, usually with a view to improving clarity. Commas, semi-colons and colons are widely used. This extensive use of punctuation departs from Anglo-Saxon legal tradition where punctuation was avoided.

Claims are frequently divided into different features/steps using indented paragraphs, also using sub-paragraph identifiers like (i) (a)

etc. This is convenient for separating definitions of one feature/step from another, enabling a clear definition of a complex arrangement/system/process.

All features (whether in sub-paragraphs or not) should be linked together in a single defining statement.

"Characterised" wording is frequently used as a divider: see under 2-part claims.

"Characterised" has a conventional significance under Rule 29. It is also tolerated as a substitute for "in which" or "wherein" in sub-claims, particularly in French and German.

Generally, the drafter will choose an appropriate claim structure that can be used to present the invention in the best light.

Rule 29(7) encourages the use of reference signs in parenthesis to help relate the claimed technical features to drawings, "if the intelligibility of the claim can thereby be increased". These reference signs "shall not be construed as limiting the claims"

These signs are not meant to, and cannot, cure unclarity of the claim. They are meant to improve the ease with which the claim can be understood. As a rule claims including reference signs are much easier to read and understand.

Essential and Non-essential Features

Rule 29(3) Any claim stating the essential features of an invention may be followed by one or more claims concerning specific embodiments of that invention. This is interpreted to mean that the main claim should state the essential features of the invention.

Standpoints for examining "essentiality" :

Functional

- Essential for making the invention
- Essential for functioning of the invention
- Essential to produce a given advantage
- Essential to set out the problem
- Essential to solve the problem

Legal

- Essential for the claim definition
- Essential to differentiate over prior art
- Essential to support inventive step

At the drafting stage it is safer to assume that all elements in a claim will be regarded as essential features. Subject to imperative instructions from the client/inventor as to what they consider essential, any element not needed to define the invention, to differentiate over the prior art or to support inventive step should be removed from the main claim.

Deleted features can be included in sub-claims, in which case they can be considered as essential features of the sub-claims.

Claims - Novelty/Inventive Step :

The claims define the invention *inter alia* for the purposes of assessing novelty and inventive step.

This function of a claim is important mainly in examination/opposition proceedings at the EPO.

Novelty

Art. 54 An invention (*i.e. the matter for which protection is sought as defined in terms of its technical features in a claim*) shall be considered new if it does not form part of the state of the art.

Inventive Step

Art. 56 An invention (*i.e. the matter for which protection is sought as defined in terms of its technical features in a claim*) shall be considered as involving an inventive step if, having regard to the state of the art (excluding earlier-filed but later-published European patent applications) it is not obvious to a person skilled in the art.

All claims have to cover subject matter that meets up to the requirements of patentability: novelty, inventive step, industrial activity.

Time Factor: Open and Closed Wording

- Art. 54* To assess novelty and inventive step requires comparison with the state of the art before the date of filing (or priority date) of the claim.
- The claim scope should cover the new invention, envisaged extrapolations of the invention and future developments/ improvements, and should exclude the prior art (novelty - the past), and obvious developments of the prior art (inventive step).
- Corollary 1* If the claim scope includes an embodiment which was already in the prior art or which was an obvious development of the prior art, the claim is non-patentable or invalid.
- Corollary 2* Open definitions which are desirable to include future developments also leave the claim open to attack over "remote" prior art.
- Corollary 3* Closed definitions which are desirable to exclude prior art may (unwontedly) also exclude patentable subject matter.

Novelty:

To determine novelty, the defined subject matter of a claim is compared with the state of the art. If the same subject matter is already part of the state of the art, the claim lacks novelty. If the claimed subject matter differs from the state of the art, the claim is novel.

*Technical
Difference*

For an invention to be novel it must be technically different from the prior art, not merely different in a non-technical respect (for instance dimensions, colour, origin, price - unless any of these parameters is linked to a technical effect).

Novelty is frequently easy to determine. In some cases, however, the assessment of novelty is extremely difficult, for instance due to the lack of clarity of the prior art or to circumstances that make it uncertain whether or not a prior teaching was made available to the public.

Under the Case Law, the relevant criteria for lack of novelty is that the subject matter must be "clearly and directly derivable from" the prior art. This can be difficult to ascertain.

Anticipation - Lack of Novelty

Principle: When a piece of prior art fully discloses an embodiment of the subject matter of a claim, the claim lacks novelty.

This implies:

- When an embodiment of a claim is made up of several elements in combination, to establish lack of novelty of the claim the prior art must show all of the elements in combination.
- When the subject matter of a claim covers several embodiments, to establish lack of novelty of the claim the prior art need show only one of the embodiments
- If the prior art falls short of fully disclosing an embodiment of the subject matter of the claim, the claim is novel.

It is not necessary for the prior art to disclose the entire contents of a claim. Lack of novelty of just one embodiment of the claim is enough to invalidate the entire claim.

A combination of integers at least one of which is absent from any piece of prior art is novel.

"Partial Novelty"

It is often convenient to consider the individual novelty of:

- Separate features of a claim
- Separate embodiments
(especially if different parts of a claim are entitled to different priority dates)
- Entire segments of a claim
(e.g. all of the features of the claim except one).
- Relative to different pieces of prior art
(novel over one even if not novel over another).

This is useful for finding out where the novelty of a claim may lie as a starting point for investigating inventive step.

The principle of the two-part claim is that the subject matter of the preamble taken alone lacks novelty over the (closest) prior art. This does not mean to say that it is legitimate to equate the entire subject matter of the preamble with the prior art.

Inventive step

Novelty Inventive step should never be considered
First without having previously considered novelty, i.e.
whether the claimed subject matter is already
included in the state of the art.

If an invention seems inventive, this will not help unless a novel definition can be found.

If the claim is novel, it is important to determine in what respects it is novel. Then inventive step can be considered.

Inventions which are perceived as being inventive without it being possible to pin-point where the novelty lies are usually difficult cases needing careful attention. Until novelty is established, inventive step cannot be approached properly.

Art. 56 An invention shall be considered as involving an inventive step if, having regard to the state of the art it is not obvious to a person skilled in the art.

The assessment of inventive step involves an assessment whether the skilled person, on the basis of his knowledge from the prior art, would reach the invention in an obvious way.

The Skilled Person

*Skilled
Person*

The presence or absence of inventive step (obviousness) is judged with reference to a fictional person skilled in the art. What is obvious to you - or to the EPO Examiner - is not necessarily relevant.

The main characteristic about the skilled person is not his expected level of skill (knowledgeable but unimaginative) but the fact that this person is totally independent of any real person addressing the question of inventive step. Everyone is forced to address the question via this fictional and independent third party.

In some jurisdictions (USA, UK, Germany) parties often equate the fictional skilled person with a real person. This is however not necessary in proceedings before the EPO where, in most cases, the particular attributes of the skilled person are accepted by all parties. See the Case Law 1.D.5, page 100+

Arguments on inventive step focus on whether or not the invention was obvious, using the fictional skilled person as a neutral medium for this often-disputed question.

Inventive Step (continued)

Obvious Developments In a nutshell, Article 56 prohibits the patenting of obvious developments over the prior art. Claims are held to lack inventive step basically in two situations:

- A single prior art reference almost anticipates the claim, except for lacking a minor feature which is known in a different context.
- The claimed subject matter corresponds to the combination of substantial parts of the teaching of two (or sometimes more) prior art references.

Routine Modifications If it is clear that the modification of the prior art which brings it under the claim would occur to the skilled person as an entirely routine matter, the claim cannot involve an inventive step because it includes an obvious development over the prior art: e.g. in the first case incorporation of the missing or modified element was trivial (replacement of a nail by a screw ...) or in the second case if the combination of the two teachings was suggested by or self-evident from the prior art

In drafting claims it is primordial to seek to establish a technical difference over the prior art, i.e. establish novelty. Novelty will be judged essentially by comparing the claim scope with the prior art.

Inventive step (or activity) involves a determination whether the fictional skilled person

would, from the prior art, have reached the claimed invention (any embodiment under the claim scope) by routine activity in an obvious way.

Inventive step is not examined quantitatively; there is no degree or height or level of invention to be reached to merit a patent.

Inventive step, like novelty, is an absolute concept: YES/NO - there is no in-between.

In the first place, the inventive step can stand out from the claim wording.

When it does not, it will be necessary to assess non-obviousness on the basis of support in the description then by extraneous factors, mainly arguments and data.

The burden for showing that there is an inventive step lies on the Applicant. If the inventive step does not emerge clearly from the claims and description, the EPO Examiner will call upon the Applicant to provide arguments and evidence in support of inventive step.

Inventive Step in Claim Drafting

<i>Scope</i>	When drafting claims, once novelty is established, it is important to ensure that the coverage does not include an embodiment that obviously is a routine development over any known prior art. This is a question of the claim scope.
<i>Onus</i>	In European patent law, the responsibility lies with the applicant for making the application comply in all respects with the requirements of the EPC, including the fact that the claimed invention involves an inventive step.
<i>Demonstration</i>	<p>Inventive step can be established and demonstrated by several means:</p> <p>In the claims:</p> <ul style="list-style-type: none">• Claim scope - exclusion of obvious modifications over the (known) prior art• Claim structure - highlighting the inventive step, often using a two-part form claim• Claim wording - magnification of parts relating to inventive step <p>In the description :</p>

- Discussion of background art illustrating a technical problem solved by the invention, or illustrating prior teachings which point away from the invention
- Support in the disclosure of invention for inventive step e.g. solution to a technical problem
- Discussion of technical advantages supporting inventive step, e.g. experimental support in examples

It is also possible to complete the demonstration of inventive step after filing, i.e. during examination or opposition, by:

- Arguments pointing out irrelevance of new prior art, why it points away from the invention (or contains no teaching towards the invention), how the invention is different and/or superior etc.
- New technical support (comparative examples etc)

Note

Expert evidence on the question of inventive step is not necessary under European practice and is usually superfluous.

Inventive Step - Could and Would

Usually, it is possible to show that the subject matter of a claim can be reached by combining together different pieces of prior art. Because the question is hypothetical and has to be addressed in the past - at the application or priority date - we say that the claimed subject matter **could** be reached by the skilled person combining the teachings.

But this is insufficient. To demonstrate obviousness, it must be demonstrated that the skilled person **would** have reached the claimed subject matter by developing or combining the prior art in a self evident way following routine practice. It has to be evident, from the existing knowledge, why he **would** proceed in this way.

For an Examiner or an opponent to make out a case of obviousness, it is necessary to show how the skilled person **could AND would** have reached the claimed subject matter. The corresponding basic lines of argumentation in support of inventive step (non-obviousness) are to show:

(1) why the skilled person **could not** reach the claimed subject matter that way: how it was not possible to reach the claimed subject matter by a combination of the prior art, i.e. the combination falls short of the subject matter of the claim.

or, if the claimed subject matter could be reached by a combination of prior art:

(2) why the skilled person **would not** have developed or combined the prior art in that way: how the prior art taught away from the combination or lacked any

teaching or indication towards it, or provided no incentive to proceed that way.

Unless a basic argument combating obviousness can be made, proof of technical advantages is not enough to establish inventive step. In cases where unobviousness relies on attaining an advantage, it is necessary to substantiate that the invention attains this advantage in an "unexpected" way.

Developing arguments against inventive step is open to the objection that the argument is developed "ex post facto" and is liable to be influenced by hindsight. In other words, knowing what the invention is it is relatively easy to go back and demonstrate why it would have been obvious, even though a skilled person would not have contemplated the invention.*

To facilitate the Office's assessment of inventive step in a systematic way while minimising such objections, the problem->solution approach was adopted. This approach can be used in a neutral way equally to demonstrate the presence of and the absence of inventive step. As a result, it has become widely accepted.

The problem->solution approach relies on a "synthetic" problem devised "ex post facto" after the closest prior art is known. This "objective" problem may be different to the real problem solved by the inventor, or the imagined problem when the patent application was drafted.

*See the Case Law of the Boards of Appeal, 4th edition 2001, page 116+

Problem->Solution - introduction

The EPO has developed the so-called problem-solution approach as a way of systematically assessing inventive step. This approach draws on the traditional concept of the "technical contribution" of an invention in combination with the traditional way of approaching the question of obviousness, and is based on the axiom that all patentable inventions can be expressed in terms of a solution to a technical problem.

Rule 27(1)(c) This Rule specifies that **the invention as claimed must be disclosed in such terms that the technical problem** (even if not expressly stated as such) **and its solution can be understood**. Based on decisions of the Boards of Appeal*, "problem-solution" has been incorporated into the substantive requirements of patentability, and the problem-solution approach has been developed by the EPO as a test for the assessment of the presence or the absence of inventive step.

In preliminary drafting, if the invention can be reduced to a problem-solution (or several problems/solutions) this will help to assess the chances of getting a patent, and in structuring the patent application.

* See e.g. T26/81, OJ 1982 p 211, and the discussion in Case Law of the Boards of Appeal, 4th edition 2001, page 101+

Non-Inventions :

If the invention cannot be reduced to the format of a technical solution to a technical problem, this is a sign that there is no patentable invention. Either:

- The invention is non-technical; or
- The contribution over the state of the art is non-technical.

If the contribution is totally backward and regressive (performs worse than the prior art in all respects) it may be difficult to portray the invention as a solution to a problem. However, backward steps can often be expressed as a problem-solution and may be patentable.

There is no requirement for "technical advance" in the EPC, but if you cannot show a technical advance it may be difficult to establish that there is an inventive step.

Expressing the problem-solution

Any technical difference can be expressed as a solution to a problem. The trick is to express the problem so that the solution is seen to achieve a desirable result:

- Achieving an advantage;
- Reducing a disadvantage;
- Offsetting disadvantages, compensating reduced performance in one respect with improved performance in another respect (poorer but cheaper, less expensive to manufacture, easier to assemble etc);

- Achieving an average combination of several parameters even though the prior art shows better individual parameters;
- Formulation of an unobvious problem (no reason for the skilled person to take this approach);
- Seeking an alternative to a known device or process providing the same or similar effects or which is more cost-effective; etc.

It is not necessary to "inflate" the problem or exaggerate the advantages of the solution.

It is not essential to elaborate on this problem-solution in the description as filed, but before a patent can be granted it is necessary that the invention can be reduced to a problem-solution format over the closest prior art.

For this reason, it is good to have support in the originally-filed description for whatever may turn out to be the "objective" problem.

This problem-solution approach in assessing patentability is an entirely "synthetic" approach based on the closest prior art available during examination. The "objective" problem may have to be developed quite independently of the actual problem the inventor was faced with and overcame (the "subjective" problem).

Claim Drafting : Problem -> Solution, Continued

This approach was devised to permit an objective assessment of the contribution/difference of the invention over the closest prior art, by expressing this difference in terms of a technical problem whose solution leads to the claimed subject matter, thus:

- (1) The claimed subject matter must involve a technical difference over the prior art.
- (2) It must be possible to express this difference in terms of a solution to a problem.
- (3) Going from the prior art to the claimed invention (problem->solution) involves bridging the technical gap.
 - If the skilled person would solve the problem and get to the claimed subject matter in an obvious way, there is no inventive step.
 - If the skilled person would not solve the problem and get to the claimed subject matter in an obvious way, there is an inventive step

Taking into account this problem->solution approach, support for inventive step can be organised by :

- Framing a technical problem with the closest prior art
- Portraying the invention as a solution to the problem
- Demonstrating why the applicant's solution to the problem was non-obvious, or why the formulation of the problem itself was non-obvious
- And pointing out the (unexpected) advantages obtained.

Problem->solution analysis is used by the Office as universally applicable to all inventions. It underlies the assessment of:

- Patentable inventions (technical problem->solution implies that inventions must be of technical character)
- Novelty (no technical novelty = cannot be expressed as technical problem->solution) and
- Inventive step, as outlined above.

An objection against the problem->solution approach is that it applies to improvement inventions over "close" prior art, but not to inventions opening up a new field that arise "spontaneously" without improving over a prior product.

This is not true. Even radical inventions can, retrospectively, be expressed in terms of a problem or fulfilling an unsuspected need or carrying out an unknown function. By expressing the problem in this way, the inventive step stands out because it is obvious that the need would not have been fulfilled or the function not performed on the basis of the prior art.

The problem-> solution approach can be applied retrospectively without a bias to hindsight:

- Where there is an inventive step, this can be highlighted by properly expressing the problem->solution
- Where there is no inventive step, this can equally be highlighted by properly expressing the problem->solution

Another objection to problem->solution is that if during prosecution closer prior art comes in, the

problem originally framed in the patent application is obsolete, and reframing the problem to the new prior art may then be problematic.

Such situations are frequently encountered. The applicant may have problems accommodating to the new prior art, regardless of whether or not there is a statement of problem and solution in the original application.

From the wording of Rule 27(1)(c) it is clearly not compulsory to make a statement of the problem in the application.

Therefore, it is best to include such a statement only in cases where it can confidently be expected that much closer prior art will not be cited. This is the case for instance when the search report is already available.

Otherwise, it is best not to put in definitive statements of problem in such a way as to make various integers essential to solving the problem, when later it may be desirable to remove them if the emphasis of the problem has changed.

In dealing with inventions of marginal patentability (close to business schemes, computer programs, aesthetic creations etc), by properly identifying the technical features from the outset and formulating the invention in terms of a technical solution to a technical problem, the chances of obtaining a patent are greatly increased.

Priority Considerations

Art. 87 When an application is filed claiming priority, this gives the opportunity to modify the description and claims compared to the basic priority application.

Under Art.88(2)(3), multiple priorities can be claimed, and where appropriate different parts of one claim may be entitled to different priority dates (for instance, distinct alternatives; sub-claims depending on earlier claims of different date).

New embodiments/modifications can be added etc. and the claims broadened/narrowed as appropriate.

G 2/98 For the priority claim to be valid, the claimed invention should be the same invention as disclosed (but not necessarily fully claimed) in the priority application. All of the essential elements of the claim should be clearly in the basic application, though identical wording is not required (T81/87; T269/87).

[If the claim is limited by "disclaimer" of subject matter relative to the priority application, without changing the crux of the invention, the priority claim may still be valid : T73/88 - overruled by G 2/98].

Broadening a claim by omitting essential integers of the priority application also leads to loss of

priority. A generic disclosure cannot serve as priority for a claim limited to an originally undisclosed embodiment (T61/85).

G3/93

The effect of claiming priority is to provide an immunity of the claims of the later application which are entitled to priority from intervening publication, either disclosure of the subject matter of the priority application, or an independent disclosure which may differ from the subject matter of the priority document.

Prior to the ruling of G3/93, according to T 301/87 (Biogen) the priority claim was assumed to protect the original applicant against intervening publication corresponding to the original application, even if the claims were broadened or narrowed over the original disclosure to an extent where they no longer were entitled to retain the priority date.

When the application is modified between the priority date and filing, care should be taken to maintain claims entitled to priority by retaining wording properly based on the priority application. There is no need to allocate a priority date to different claims or parts of claims. This is only called for when necessitated by intervening prior art.

When a priority application has been filed and the invention is to be published/commercialised before refiling under priority, it is important to compare

the content of the patent application with the publication/product. If necessary, file a new priority application covering any extra features missing from the original application. Failure to do so may lead to loss of rights to patent the "improved" product.

Having different priority dates for different subject matter is a valid reason for having several independent claims of different wording, which otherwise would be regarded as repetitive.

"Strange" effects occur when a dependent sub-claim is limited to a feature not entitled to priority, while the broad main claim is entitled to priority:

In case of intervening prior art, the prior art may not be cited against the broad main claim which may be novel and inventive. But the narrow sub-claim may fall for lack of novelty or inventive step over the intervening prior art.

Or the broad claim could fall for lack of inventive step over old prior art, while the narrow sub-claim stands up over the old prior art, but falls for lack of novelty over the intervening prior art.

Art. 87(4) Priority is lost if the same applicant already filed an earlier application, before the application from which priority is claimed, for the same invention and this application remained pending or served as basis for a priority claim etc. A typical case is a C-I-P situation in the USA.

If the earlier application is abandoned in time, it is no bar to refileing a new application to serve as a basis for priority claim. It is thus possible to allow the priority date to "slide".

Abandon For European applications, if priority is abandoned before the technical preparations for publication are complete, publication can be deferred to 18 months from the filing date.

Under the PCT Rule 90bis.3, priority for PCT applications can be abandoned during the international phase, up to 20 or 30 months, allowing dates to be re-set to defer entry into the national phase.

Note for candidates preparing for the European Qualifying Exam.:

The Opposition Paper D and the Legal Paper D, Part II (also some Part I questions) contain numerous situations testing your understanding of priority and how to assess entitlement or disentanglement to priority. Insight into this subject can best be acquired by being confronted with practical cases. You can use the Exam questions to gain this insight.

Conflicting European Applications

The EPC deals with earlier-filed but later-published European patent applications by the so-called "**Whole Contents**" approach in the following articles:

Art. 54(3) The state of the art (for assessing novelty) additionally comprises:

- The content of European applications as filed
- Filed prior to the date of filing of the new European application
- and published under Art. 93 on or after that date.

Art. 54(4) The above only applies for the states designated in both applications (territorial overlap).

Art. 56 Novelty only - such documents are not to be considered in assessing inventive step.

Art. 85 The Abstract shall not be taken into account for the purpose of the retroactive publication.

Art. 158 Special case of Euro-PCT applications: must be published and enter the "regional" Euro-phase.

Impact of Whole Contents on Drafting

Competitors

The applicant will rarely have advance warning of competitor's earlier-filed applications until they are published.

These have to be dealt with when they are brought up in examination or opposition.

Self-Collision

The EPC provides no relief for the applicant's own earlier applications. This has sometimes been called "self-collision". During the period preceding publication

(18-months from the first application or

priority, assuming there is no other

publication in the meantime) the applicant is

able to file new applications on developments

which distinguish marginally over the original

disclosure (novelty only

- no need to demonstrate inventive step).

Follow-up

The publication-induced filing of such follow-up inventions is important:

- For technology leaders, protecting a series of improvements over one or more main inventions;
- For joint research programs where the partners exchange patent applications;
- Whenever improvements of an invention are made soon after filing.

Whole Contents - Novelty Barrier

- Novelty* Such follow-up patent applications can claim novel developments of the subject-matter of the earlier-filed application.
- No Broad Coverage* However, the claims cannot validly cover (i.e. protect) any embodiment described completely in the earlier application. If a single complete example or embodiment of a new invention is disclosed in the earlier application, a new application cannot validly include a generic claim protecting that example or embodiment.
- T04/80* Generalisations of the earlier application can be covered if it is possible to specifically disclaim the earlier teaching.
- As there is no means of amending a European patent application before publication, if a broad follow-up invention turns out to be important the applicant may consider:
- Disclaimer* • Possible disclaimer formulations
- Abandon* • Abandoning the earlier application to avoid retrospective publication
- Divisional* • Filing a divisional from which the relevant disclosure is deleted, followed by abandoning the main application to avoid retrospective publication.

Two-part claims:*Rule 29*

Wherever appropriate, European claims shall be in the two-part form, i.e. they contain:

A Preamble or Pre-Characterising Portion

which consists of:

- 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

A Characterising Portion

which is preceded by the expression "characterised in that" or "characterised by" and:

- states the technical features which,
- in combination with the features in the preamble,
- it is desired to protect.

Note

It is strictly speaking incorrect to refer to the preamble or pre-characterising part of the claim as the "prior art" part. The characterising part of the claim may also contain prior art features.

Purpose and Usefulness of the Two-Part Claim*Purpose*

The purpose of the two-part claim is essentially to highlight the technical difference of the invention over the prior art. This should facilitate examination by the EPO, especially the requirement of inventive step, help competitors assess claim validity, and assist the courts in interpreting and enforcing claims.

Usefulness

The two-part claim is a very powerful tool in the applicant's hands for demonstrating the presence of inventive step, especially for magnifying small technical differences over the prior art. This can be done by:

- Framing the prior art in the preamble to bring out the inventive difference.
- Expanding the description of the characterising features in the claim.
- Associating the entire claimed subject matter with advantages or presenting it as a solution to a technical problem in the prior art.

Note

The preamble of the two part claim is a generalised (non-novel) definition which broadly covers the invention and the closest corresponding prior art. The preamble is not necessarily equated with the prior art (as Examiners sometimes assume).

Use and Avoidance of Two-Part Claims:

- Use* The two-part claim should be used whenever appropriate. For instance, the two-part claim is recommended when:
- The invention is based on an improvement of a specific piece of prior art.
 - The invention is of a type which lends itself to this format.
 - This claim format is convenient for highlighting the inventive step.
- Avoidance* The two-part claim may not be appropriate for:
- Combinations of known integers where the selection of any particular one as starting point would give a distorted view.
 - Complex systems of interrelated parts with modifications in several of the parts.
 - Modifications of relevant prior art, e.g. omitting features.
 - Some chemical inventions.
 - New uses.
 - Drafting a claim initially without good knowledge of the prior art.
 - Inventions where the main prior art is an intermediate publication under Art 54(3).

Choice of Preamble

In drafting two-part claims for a new patent application, choice of an appropriate preamble is probably the most critical initial step, because this involves:

- Selection of the prior art for the Background.
- Development of a corresponding description that will highlight the inventive step.

Presenting the invention as a specific solution to a given technical problem lends itself to a "crisp" patent description and claims.

However, when a patent application has been cast this way, and new more relevant prior art turns up during examination, it may be difficult to adjust the description and claims to the new situation.

Therefore, initially using a main claim in two-part form based on specific prior art is to be recommended mainly when the patent draftsman has a good knowledge of the prior art. Alternatively, multiple disadvantages in the prior art can be referred to.

Generalisation As the preamble is part of the claim definition, sometimes it is convenient to generalize the definition of the prior art in the preamble to encompass the invention and desired modifications and variations.

In the corresponding description in the Background Art it is best to include a non-generalised

description of the closest prior art. Do this carefully, to ensure that the Examiner (or later an opponent) will not be able to improperly equate the entire subject matter of the claim preamble with the prior art.

Be careful also not to include claim limitations in the preamble just because they are in the prior art. Don't narrowly define elements just because the prior art is specific, like "helical spring" which was prior art to the Epilady invention.

Such unnecessary limitations create loopholes that can be exploited by competitors seeking to obtain the benefits of the invention while circumventing the claim.

Scope of Two-Part Claims

The scope of a two-part claim is defined by the combination of the entire subject matter of the pre-characterising part with the entire subject matter of the characterising part.

Whether a claim is divided in two parts separated by "characterised" wording, or in one part without such separation, the scope of the claim is the same.

In some former national practices it was assumed that pre-characterising features were give less weight and could freely be omitted or replaced by equivalents. This is not the case now.

Inverted Two-Part Claims

T122/84

Where the claim covers a new application for a known thing, the claim can be formulated with the preamble defining the new field of application and the characterising part reciting prior art features known from other contexts, possibly with an indication of how the known features are modified or selected for the application in the new field.

The same principle of claim structure can be used with a one-part claim where the inventive step is created in the opening words setting out the designation of the claimed subject matter (UK "Workmate" claim).

Combination Claims

Combination claims can be written as one-part claims and, in appropriate cases, in two part form. For instance : "characterised in that it comprises in combination:" followed by a list of features known individually or in sub-combinations in conjunction with the pre-characterising features, but never in the complete combination. This claim structure can be used to highlight the unobviousness of the novel combination of features.

Testing 2-part claims:

- Can you identify the closest prior art encompassed in the preamble?
- Does the closest prior art have all features of the preamble?
- Are all the preamble features essential for the invention or for setting up the problem?
- Can the definitions of the preamble features be broadened without compromising patentability?
- How do the characterising features relate to the preamble - specifying preamble features, adding new features? Do the two parts add up to a full definition?
- Is any characterising feature of the claim a feature of the closest prior art used for the preamble? Should it be in the preamble: possibly generalise in the preamble, specify in the characterising part.
- Does the combination of preamble + characterising features solve the problem?
- Can the problem be solved without any of the features?
- Can any characterising feature be generalised without compromising patentability? (possibly generalise and add a sub-claim for the more specific wording)

One-Part and Two Part Claims and Conversions

Nowadays, most EPO Examiners are less fussy in insisting on two-part claims than they were in the early days of the Office. Nevertheless, one-part claims should be used only when departure from the 2-part format is justified.

Care should be taken when a one-part claim (for example in a US-originating application) is revised for European filing or during examination. It is not safe merely to insert "characterised in that" about half way down.

Frequently, an important part of the inventive step may be concealed in the opening words of the claim. Including this in the preamble of a 2-part claim may be taken as an admission of prior art. Proper conversion to 2-part form may require complete reorganisation of the claim.

Convertability:

When drafting new claims, a test to check whether the claim is reduced to the essential points is this:

Consider the same claim written in two-part form and in one-part form with exactly the same structure and wording, except for the formal exchange of the "characterised" wording for an acceptable alternative (like "wherein").

If it is possible to reach a claim which reads well equally in both formats, this could be a sign of a good claim (but not necessarily the only sign!)

In any event, playing with the claim wording to try and achieve this convertible format gives you the opportunity to test whether each claim feature is essential.

System, (Sub)Assembly and (Sub)Combination Claims

It is sometimes convenient to begin with a claim to a complete system assembly or combination, if this is the best way of making a definition and bringing out the inventive step. The system, assembly or combination claim can then be followed by claims to a sub-assembly or component.

For example, claim 1 covers a plug-and-socket type combination describing their cooperating engagement. The plug and the socket can then be claimed individually with reference to the definition in claim 1. These sub-assemblies or components as claimed must also be novel and involve an inventive step. To achieve this, the definition of the sub-assembly or component may have to be more specific to claim it separately.

In other cases, protection of the individual components may be far more significant than the overall system. For instance, where the components are sold separately, the overall system (though inventive) may not correspond to any need for protection if the overall system is not marketed as such or if the overall system is installed in different patent territories.

Thus, it is possible to separately claim the cooperating elements of a plug-and-socket type combination without having a claim to the overall combination, or with a claim to the overall combination only in last position.

An example is given in the 1998 EQE mechanical drafting, Paper A: Battery charger and battery pack.

Where novelty resides in one element of the combination, it can still be useful to claim the overall combination. A good example to illustrate this is the Windsurf patent in Germany. The Examiner "forced" the applicant to restrict to the rig (sail + wishbone) and to abandon claims to the rig + sailboard combination. As a result, the patentee was unable to charge royalties based on the overall combination, and lost control of the market.

Systems - like TV or radio emission and reception or pay-TV with encryption/scrambling and decryption/unscrambling - where the emission/reception may take place in different countries, require special consideration. Claims to the entire system (or to emission) would cover the activities of the professional TV broadcasters in one country. But the product of greatest commercial significance may be the TV receiver set, or the decoder, sold in millions.

Another example is a wristwatch and bracelet combination with a novel connection. A claim to the combination will cover most sales to the public. A claim to the watchcase will specifically cover manufacture and sale of the watchcase alone. A claim to the bracelet will cover bracelet manufacture as well as sale to the public of replacement bracelets.

A pear-in-bottle combination claim will cover sale to the end user; it also covers the producer/cultivator growing the pear in the bottle. A claim that additionally specifies the pear is immersed in alcohol confers less

protection, because it not enforceable against the initial producer. However, it covers the commercial product which is of much greater value, providing a higher royalty base.

Similar considerations apply to chemical products and intermediates.

It is important to understand the implications of claiming overall systems and sub-components, as this will govern claiming strategies in many practical situations.

With system/combination inventions:

- Identify what is patentable - can parts of the system be patented?
- What is it important to protect? Identify how different parts of the system can be commercialised by the inventor/client or by competitors.
- Claim all patentable aspects; organise the claim structure to cater for the needs for protection.
- Do not omit available useful protection. Take advantage of the possibility under the EPC to obtain comprehensive protection for different aspects of the same invention in one patent.

Hybrid Claims

Claims to apparatus may be defined in functional terms (e.g. "means for function") or to the apparatus in operation.

Claims to methods may include definitions of composition or structure. Indeed, the starting product, intermediates and the end product constitute technical features of a process/method of production claim.

In use claims, the technical features of a product/apparatus/device being used are technical features of the claim.

Claims to (novel) compositions may include features of their manufacturing process (product-by-process).

Changes of claim category have been allowed even after grant (a method of controlling to an apparatus for controlling - T378/86; a method of operating a pacemaker to a pacemaker - T426/69). Good claiming practice commands that initially all possible claim categories should be claimed.

Though it is possible to claim an apparatus/ device in operation, this should usually be avoided as it severely restricts the protection.

Apparatus/devices are usually claimed for their intended purpose and for performing functions when operating, but without limiting to the operating state.

Use Claims

Use claims have become fashionable under European practice. Use claims can be expressed:

- as use to produce a product: "Use of the cell of claim 1 for the production of chlorine".
- as use for a particular application: "Use of the electrode of claim 1 as anode in the cathodic protection of steel structures".
- In special format for 2nd medical indication: "Use of known compound X for the manufacture of a medicament for the (new and non-obvious) treatment of Y".
- Or as a use to achieve an effect, known as "purpose-directed use claim" or "second non-medical use claim": "Use of compounds X for controlling fungi and for preventive fungus control".

The subject matter of use claims must meet up to the requirements of patentability. Therefore, whenever an apparatus/device has an industrially applicable use, it seems wise to cover this in a dependent use claim, as a fall back position to allow for the possibility of prior art that discloses the structure of the apparatus without describing or suggesting the particular use.

In other cases, the main claim may be drafted as a use claim to bring out the inventive step in the broadest possible way and making best use of the

available support. Other claim categories can then come after.

The extent of protection for use claims in different jurisdictions is not (yet) settled. Prudent drafters may, in addition to use claims, include method claims and purpose-limited product claims (see the discussion at the end of the Section "[The Protection Conferred](#)").

Purpose-Directed Product Claims

Claims to the first medical indication have become known as purpose-directed product claims: "Product A for its therapeutic use".

G2/88

In analysing purpose-directed use claims, the Enlarged Board concluded that when the claim covers a new technical effect set out in the description, the attainment of such effect must be implied into the claim as a technical feature.

Novelty is derived from the intended use (Art. 54(5)), but actual use of the product for therapeutic uses is excluded from the claim scope. The claim covers the product intended for therapeutic use but not actually in such use. Here, the word "for" means "intended for use, but not actually in use".

New Name Claims

As a rule, merely giving a new name to an old thing is not sufficient to distinguish over the prior art. Novelty must be brought out in terms of the technical features of the invention.

Where a new and unobvious use is found for an old thing, the novelty may have to be brought out in terms of a new use, or by claiming the old thing in a new combination.

Calling a known compound a herbicide will not confer novelty, even if the compound was not known for herbicidal use.

A claim "Herbicide consisting of (known compound)." lacks novelty, as it covers the known compound.

A claim "Herbicide comprising (known compound)." lacks novelty too, as "comprising" has the dual meaning "including" or "consisting of" and so covers the known compound.

On the other hand, "A herbicidal composition containing (known compound)." is interpreted to mean that the composition necessarily includes at least one further component making it suitable for herbicidal use. Such claim is accepted as novel.

Product-by-Process Claims

T248/85

The subject matter of all claims must meet up to the requirements of patentability. A known product cannot be patented by defining its manufacturing process in a product-by-process claim, even if the process is patentable.

A claim covering a novel product may nevertheless include features implying or defining how it was made.

The office accepts claims to novel products "obtainable by" a process which is deemed to have the same meaning as "obtained by", but clearer (T 148/87).

The claims are interpreted for the purpose of assessing patentability and the extent of protection as covering the product however made and wherever made.

There is an important difference in the protection conferred by a claim to "a product obtainable by such-and-such process" and the extended protection under Art. 64(2) to the product of a process claim.

The protection under Art. 64(2) extends to the product actually made by the process. In infringement proceedings, it is necessary to show that the product was actually made by the process. If the defendant shows that it was made by a different process, there will be no infringement.

A claim to a "product obtainable by" a process in principle covers the product, as defined by the (explicit or implicit) technical features of the product in the claim. It covers the product actually made by the process, and the product made by any different process which leads to the same result.

A product "obtained by" is interpreted by the EPO to have the same scope as "obtainable by" but this distinction is not settled in national courts.

Use of "obtained by" would be broadly interpreted by the EPO for the assessment of patentability, but possibly interpreted as "actually obtained by" in infringement proceedings before a national court.

It is therefore preferable to use the "obtainable" wording if the broadest protection is wanted.

See also [Protection of Product-by-Process Claims](#).

Claims for Inventions by Selection

Invention by selection can be:

- A substance selection of an unmentioned compound or group of compounds in an area covered by the prior art but nonetheless virgin territory. There is no selection if the compound is derived from a described starting substance(s) and reaction product.
- A selection in a sub-range of numerical values from a broader range.

In all cases the choice must not be arbitrary. In practice, if it is possible to show that the selection led to unexpected properties (i.e. is unobvious), the same demonstration serves to show that the selection was non-arbitrary (i.e. is novel).

The required support for novelty (non-arbitrary selection) should in principle be present in the description of the patent application as filed.

For a fuller discussion of selection inventions, see Case Law of the Boards of Appeal 4th edition 2001, page 72+ Also, Singer/Lunzer "The European Patent Convention", Section 54.15B.

These two works also contain extensive discussions of patentability in general, and the fundamental requirements of claims. See in particular the chapter "Claims", Page 156+ of CLBA and Singer/Lunzer's Commentary of Articles: 52 Patentable Inventions, 54 Novelty, 56 Inventive Step, 82 Unity of Invention, 83 Disclosure of Invention, 84 The Claims.

Multiple Independent Claims:

Rule 29(2) Several independent claims in the same category are allowable only as specified in this Rule (effective 02.01.2002):

"a plurality of inter-related products; different uses of a product or apparatus; or alternative solutions to a particular problem, where it is not appropriate to cover these alternatives by a single claim".

Moreover, these claims must meet up to the other requirements of the Convention, i.e. they must be clear and as concise as possible.

Multiple independent claims were often objected to under Rule 29(2) or Article 84, because of repetitive wording which gives rise to unclarity. This is particularly true of many US originating applications. The new Rule 29(2) is designed to facilitate the Examiners work in accepting or objecting to such claims, and is particularly aimed at US originating applications which contain many repetitive independent claims

Multiple independent claims in the same category have always been and will continue to be allowable where the different claims are necessary to capture full protection, where the claims are clearly united by a common inventive concept, and where the applicant can justify compliance with the conditions now expressed in Rule 29(2).

Old Rule 30 Allowable combinations of independent claims in different categories included:

- a)
 - A product
 - A process specially adapted for the manufacture of the product
 - Use of the product

- b)
 - A process
 - Apparatus or means specifically designed for carrying out of the process

- c)
 - A product
 - A process specially adapted for the manufacture of the product
 - Apparatus or means specifically designed for carrying out the process

These exemplary groupings of independent claims in different categories were somewhat arbitrary and have now been deleted from the Rules. Such groupings, and many other groupings, are still possible, subject to the requirement of unity of invention defined by the relationship of "special technical features" in new Rule 30.

Careful analysis is required to investigate all available categories of protection (Product, process, use, etc) and all aspects that need separate independent claims to secure full protection.

See the discussion under "[System, sub-assembly and sub-combination claims](#)".

Rule 29(2)

New Rule 29(2) introduced in 2002 is designed to pass only justifiable combinations of multiple independent claims on unitary inventions:

"A plurality of inter-related products" covers plug-and-socket type inventions, (also referred to as bow-and-arrow) as well as chemical products and their intermediates.

"Different uses of a product" covers new and industrial uses of a (new) product: for example use as toothpaste, use as cosmetic, etc.

"Different uses of an apparatus" would cover different applications, like use of an apparatus for producing fruit juice for immediate consumption; use for producing bottled fruit juice, etc.

"Alternative solutions to a particular problem" is an all-embracing term implying that there are several different unitary solutions. In this case it is necessary to justify that it is not appropriate to cover the alternatives by a single

claim, e.g. the single claim would become complicated and less clear if the alternatives were spelt out.

These possibilities for multiple independent claims in the same category can be combined with several independent claims in different categories. For example:

- Novel product.
- Process 1 for manufacture of the product.
- Process 2 for manufacture of the product.
- Use A of product.
- Use B of product.

Here:

- Process 1 and Process 2 fall under "alternative solutions".
- Use A and Use B fall under "different uses".

Claiming Process 1 or 2 separately is only allowable if it is not appropriate to cover the two processes in a single claim.

Dependent Claims:

Rule 29(3) Any claim setting out the essential features of an invention (i.e. an independent claim) may be followed by one or more claims concerning particular embodiments of that invention.

Rule 29(4) Any claim which includes all the features of any other claim shall contain a reference to the other claim if possible at the beginning e.g. "A device according to claim 1, wherein ..." followed by a statement of the additional features it is desired to protect.

Sub-claims should therefore be of more limited scope than the claim(s) they depend on. Claims to alternatives in the format "Device of claim 1 modified in that feature A is replaced by feature B" are nevertheless acceptable.

Sub-claims can specify a new feature (often worded "further comprising ...") or particularise already-claimed features (often worded "wherein the ..." or "in which the ..."). The added features may refer back to the features of the preamble or the characterising part of a two-part claim.

There is no requirement to use the "characterised" wording in sub-claims.

A dependent claim can refer back to one or more previous claims including previous dependent claims. There is no limitation in European practice to the number of combinations of claims

referred back to. It is permissible to refer back to "any preceding claim".

Interdependent claims shall be grouped together in the most appropriate way usually the most compact way that avoids repetition. A standard format is to group all claims in each category together, starting with the broadest independent claim, followed by an organised series of sub-claims.

It follows from Rule 29(3) that each successive dependent claim must be more specific than the preceding one. In other words, each preceding claim is necessarily broader in scope than any following dependent claim. European patents are not granted with different claims covering identical inventions. All claims whether independent or dependent are supposed to have different scope.

This in particular rules out claims like: "The device of claim 1 wherein the housing is made of metal or any other material".

On the other hand a sub-claim "The device of claim 1 wherein the housing is made of metal" implies that the housing of claim 1 can be made of other materials.

See below under "[The Principle of Claim Differentiation](#)".

Additional Considerations

Rule 29(5) The number of claims shall be reasonable in consideration of the nature of the invention.

A multiplicity of claims to trivial features can be objected to.

Claims shall be numbered consecutively in arabic numerals. When intermediate claims are cancelled, the remaining claims must be renumbered.

Rule 29(7) Technical features in the claims are preferably followed by the corresponding reference signs from the drawings enclosed in parenthesis, if the intelligibility of the claim can be improved. These reference signs cannot be construed as limiting the claims.

In the drafting process, inserting reference numbers in the claims serves as an excellent check, especially when using "means for" language, where it may turn out that the same element is covered by two different "means for", or where unrelated components are capped under a vague "means". Also check for unreferenced features: should the description/drawings be modified, or should the feature be removed from the claim?

Fees

Rule 31 A fee (Euro 40.- per claim) is payable for each claim over and above ten filed with the application (or when the application is proceeding to grant if the fee has not been paid earlier).

Rule 31 If the extra claims fee is not paid in time, or within a grace period of 1 month from notification by the EPO, the claims in question are deemed to be abandoned. The benefit of provisional protection is lost.

If extra fees are paid for some excess claims, but not others, the claims in question should be identified.

If a long set of claims is compacted to save the claims fee, the description needs to be thoroughly checked for support.

Tagging on a set of claims to the end of the description was previously disallowed (J5/87) but has since been allowed (J15/88).

Developing a Set of Claims:

To develop a set of claims involves arranging features of the invention in a formatted hierarchical arrangement.

Claims in each category are separated. Each group of claims in a category conventionally begins with the broadest. Where possible, each category has one broad main claim and the following claims are attached to it.

One feature can be specified in greater and greater detail in a series of sub-claims following after one another.

It is possible to recite preferred features or exemplifications of claimed features, e.g. "at a temperature from 70 to 90°C, preferably from 75 to 85°C". This helps to avoid a proliferation of sub-claims.

The main group of claims presented first is the most important one that the applicant wants searched and examined. The broadest first claim of this first group does not necessarily claim the invention in its broadest aspect (although in practice it frequently does).

Claims in different categories can be written as independent claims. Often it is convenient to refer to previous claims in other categories. This

avoids repetition and can help in establishing unity. For instance : "A method of manufacturing the device of any one of claims 1 to 6, comprising ..."

When there are claims in several categories, avoid sub-claiming features inappropriate to that category. Method claims should recite mainly method steps; apparatus and device claims should recite mainly structural features etc. By paying attention to this, unnecessary claims can be eliminated.

The liberal rules on sub-claim dependencies provide a convenient mechanism for avoiding repetition of claims.

The Principle of Claim Differentiation:

Rule 29(4) Rule 29(4) embodies an old principle that one patent should not have two claims of identical scope, called the principle of claim differentiation.

This means that if a dependent claim has the same scope as a preceding claim for instance:

The device of claim 1, preferably further comprising a keypad and a screen.

The device of claim 1, wherein the housing is made of metal, plastic or any other material.
the claim should be refused.

However, where a dependent claim further specifies a particular embodiment of a preceding claim, for instance by defining an extra integer or by specifying features of an integer already present, this implies that the preceding claim covers further embodiments than those specified in the dependent claim.

When a set of claims is developed (say from one specific embodiment) by having a generalised main claim and by specifying features as particular embodiments in dependent claims, the dependent claims serve not only as a fall-back position in case the main claim is held invalid, but also serve to support the breadth of coverage of the main claim that may cover many undisclosed embodiments (which also solve the same problem).

Unity of Invention:

- Art. 82 The European patent application shall relate to
- One invention
 - Or a group of inventions so linked as to form a single general inventive concept.

Concept of the Generic Claim

A generic claim is one that covers more than one distinct embodiment (or species) of an invention using:

- Open or generalized wording (in this case the different embodiments have to be worked out) or
- Closed or specific wording (in this case the different embodiments are spelt out as alternatives).

Examples of different definitions covering several embodiments:

Open A geometrical device comprising at least three sides connected together at equal angles.

Closed A geometrical device consisting of three or four sides of equal length connected together at equal angles.

Examples of unitary/non-unitary claims are given in the PCT Instructions

- Coverage* A generic claim can theoretically cover a virtually unlimited number of distinct embodiments or species of an invention.
- If each embodiment is novel in the same respect and involves the same inventive step, there is unity of invention. Several embodiments of an invention grouped under an allowable generic claim are regarded as "one invention".
- Apparent Unity* When several inventions or embodiments of an invention have common features that can be grouped together under a general definition, there may appear to be unity. If unity is considered solely from the content of the patent application or from the features of the invention without reference to the prior art, we can call this "apparent" unity (or "unity a priori").
- Prior Art* Unity of invention, however, has to be judged with reference to the state of the art. Therefore, new prior art that makes a generic claim non-patentable can give rise to non-unity "a posteriori".
- Rule 29(3)* An independent generic claim stating the essential features of the invention can be followed by one or more sub-claims concerning particular embodiments. Even if the added features are somewhat unrelated, there should be no problem of unity.

Single General Inventive Concept

In addition to unity by having a single generic claim covering a number of different embodiments of one invention,

there can be unity in several different claims covering several inventions linked by a "single general inventive concept":

- Several independent claims in the same category are allowable where it is not appropriate to cover the subject matter in a single claim, as specified in Rule 29(2)
- Rule 30 defines the concept of unity with reference to "corresponding special technical features".

Rule 30 (effective 1.06.91) codified prior Office practice on unity and harmonized with the PCT. Groups of inventions are considered unitary if there is a technical relationship between the inventions involving one or more special technical features which define a contribution over the prior art. This applies to inventions claimed in alternative claims and alternatives within a single claim.

The Protection Conferred - Extent of Protection and Protected Activities

European patent applications are usually filed with a view to "protecting" an invention.

Art. 84 EPC recognizes this by specifying that the claims shall define the matter for which protection is sought.

The protection given by a European patent is the same as that for a national patent in each Contracting State, Art. 64(1)EPC. Infringement is dealt with by national law, Art. 64(3)EPC.

The definition of the "rights" or protection has not been harmonized in the Contracting States. We can nevertheless work on the assumption that the protection is more-or-less the same everywhere, to be checked in individual cases.

The draft Community Patent Convention contains a useful list of infringing activities (Art. 25CPC - direct use, Art. 26CPC - indirect use, and a definition of the exhaustion of rights in the Community.

Direct Use

Direct use covers the patented invention as claimed.

Indirect Use

Indirect use covers activities which contribute to infringement. This includes the supply of non-patented components to make up a complete infringement.

The right under the patent is to exclude non-authorised persons to perform certain "infringing acts" in relation to the claimed invention, and by

corollary to permit authorised persons to perform these acts.

Infringing acts are defined as manufacture, sale, offer for sale, use, possession, etc. all in relation to the protected invention. Certain activities are exempted: private or experimental use, right of prior possession or use, etc.

An understanding of how courts apply these principles is useful in order to draft claims that will secure adequate protection.

Under Art 69EPC, the national court has to determine the extent of protection by the terms of the claims. For this, the claims are interpreted using the description and drawings.

This interpretation should determine exactly the scope of the claims. How the protection is applied will depend on the national law and the circumstances of the case.

From the standpoint of drafting, we can assume the courts will adopt a reasonably uniform approach. This assumption is safe if we draft on the basis that we can never rely on the lenience of a court to extend the protection to something outside the claims. It is never safe to rely on a court to be generous and broadly interpret a claim to cover something beyond the scope. There is no recognised "theory of equivalents" in European Patent Law*.

* Under the revised EPC, not in force, the Protocol to Art 69 states that due account shall be taken of equivalents. A more sweeping proposal to introduce the theory of equivalents was refused.

This explains why the claims should precisely claim the invention, without any limitations that would compromise the protection. The protection available depends on what is claimed:

The protection obtained = the protection claimed.

Protection of Product Claims

A claim to a novel product or composition covers the product itself, its manufacture (by any method) and use of the product. All commercial activities in the patent territory pertaining to the product are covered: sale, import, export, possession,...

The protection associated with a claimed product is therefore very comprehensive.

A product produced by a claimed process covers the product so produced (anywhere) by the process. Protection still extends to all commercial activities in the patent territory pertaining to the product: sale, import, export, possession, ..., as well as use of the product.

A product "obtainable" by a claimed process covers the product with the defined physical characteristics of the product, made (anywhere) by the claimed process or by any other process that leads to the same result. Protection still extends to all commercial activities in the patent territory pertaining to the product: sale, import, export, possession, ..., as well as use of the product in the patent territory.

A product "obtained" by a claimed process (although interpreted by the EPO as identical to "obtainable") could be interpreted by a court as the product actually made by the process. If this limited interpretation is not wanted, the "obtained" wording should be avoided.

To summarise, product protection is "strong" and wherever possible and appropriate product protection should be sought.

Protection of Purpose-Directed Product Claims

The protection of purpose-directed product claims should in principle be confined taking into account the purpose. This concerns 1st medical indication claims: "A product for use in therapy".

Here the claim has to be interpreted as covering the product for the intended use but excluding the actual use of the product for therapy in line with the exclusion of Art. 52(3)EPC.

The artefact of Art. 54(5) is considered as an artificial creation of novelty where no novelty existed (known product). However, the protection conferred results in a restriction in the normal interpretation of the purposive word "for".

"A product/device/means for specified use" is normally interpreted as covering the product/device/means suitable/intended for the use, and the product/device/means when so used.

The protection conferred by a purpose-directed product claim corresponds more to that of a claim

"product used in therapy, excluding the therapeutic use itself". Such notional claim would cover manufacture of the product for the intended use related commercial activities all directed to the intended use.

Following this approach, outside the excluded therapeutic area it could be possible to have purpose-limited product claims in the format: Product X used as ..., as an alternative formulation of a use claim.

Protection of Apparatus/Device Claims

A claim to a novel apparatus/device covers the apparatus/device itself, its manufacture (by any method) and use of the apparatus/device. All commercial activities pertaining to the apparatus/device in the patent territory are covered: sale, import, export, possession,.... Protection thus parallels product protection.

To secure the full application of the available protection, the apparatus/device must be defined at rest or inoperational and in its operational state. Defining the apparatus at rest means the protection will extend to import/export, supply, sales etc even when the apparatus/device is packaged and at rest. The apparatus/device when in actual use is covered too.

If an apparatus/device is defined in operation or use or in terms of the effect or result actually being achieved, this would compromise the scope of protection by leaving loopholes that invite competitors to step in.

Thus, the claim should aim to cover the apparatus/device in its state where protection is needed, say an electric razor in a box, without batteries or power supply. This presents a challenge when the definition of the invention requires an explanation of the product's operation.

This need to cover the apparatus/device in its passive AND active states makes drafting in this area difficult and leads to roundabout wording like "adapted to receive a battery" or "for receiving a battery" instead of simply reciting the battery as being present.

Use or operational restrictions in a claim can be aberrant because it is difficult to enforce patent protection against users, especially individual purchasers like members of the public in the case of consumer products.

Protection of System/Assembly/Combination/ Installation Claims

A claim to a System/Assembly/Combination/ Installation will in principle protect the entire system/etc.

Protection is available under the principle of "contributory infringement" against suppliers of components. However, this protection applies only where an infringement of the entire system/etc takes place in the patent territory. But this allows loopholes that sometimes are significant.

For example, a supplier of a component from abroad to a patented territory would be a contributory infringer. A supplier of a component in the patented territory to abroad (notably to non-patented territory) could escape.

These considerations will urge the drafter to secure comprehensive protection for all patentable aspects. See the discussion under "[System, Sub-Assembly and Sub-combination Claims](#)".

The principles explained above for use/operation restrictions apply also to big installations (a football field/stadium) etc.

Protection of Process/Method Claims

A process/method claim will be infringed by unauthorised performance of the process/method in the patent territory. The supply of means for carrying out the process in the patent territory is usually covered by contributory infringement.

Industrial processes are often carried out in privacy. Obtaining proof of process/method infringement can be difficult.

Methods that are carried out by a private individual as the end user are also cumbersome to enforce, and it becomes necessary to act against the supplier.

Protection of Claims to a Process/Method of Producing a Product

Under Art. 64(2)EPC the protection conferred also extends to the products directly obtained by such process.

This extended protection:

- is limited to products actually made by the process
- covers products made by the process even outside the patent territory
- applies even if the product is known and was not itself patentable, e.g. common salt
- only applies to "directly obtained products".

Example: A European patent on a process for producing chlorine and caustic soda covers the UK, France and Germany. The patented process is carried out in Spain and the caustic soda produced is shipped to the UK. Knowingly importing, possessing and using the caustic soda (a staple product) would constitute infringing acts.

Suppose the produced chlorine were transported via France to Germany where it is converted to PVC. Transit of the chlorine through France (import, storage, export) comes under the French patent rights

(deliberate action may have to be proven). In Germany, importing and using the chlorine in the industrial production of PVC is under the patent rights. The PVC is however not a direct product of the patented process and is outside the patent rights. Once produced, even in contravention of the patent right, the PVC can freely be sold etc.

Because the extended product protection applies only to "direct products" and because there is room for a legal dispute on what may constitute a "direct product", as far as possible process claims should also extend to the production of downstream products.

Protection of Claims to a Process/Method of Operating, or Performing a Task

Where a process/method claim has no end product, there can be no extension of the protection to products, which limits possibilities for enforcement.

These claims can be enforced by whoever performs the process/method in the territory. The supply of means for carrying out the process/method in the patent territory is usually covered by contributory infringement.

Where the process/method is carried out by members of the public, enforcement can be difficult. Where the means are supplied from abroad (e.g. via the Internet) enforcement may also be difficult.

There has been increased activity recently in the area of patenting "business methods". However - irrespective of problems of exclusion under Art, 52(2)(c) - "business method" inventions should where

possible be formulated (also) as systems or apparatus, because these claims afford better protection than method claims.

Sometimes method claims (particularly those originating from the USA - [see Example](#)) have long recitations of steps to make up an entire process and to introduce all of the components necessary for carrying out the method. A typical preliminary step will be : "providing a so-and-so". Such steps - which often are not carried out by any given operator - can encumber enforcement. Under European practice, a method claim can be drafted covering just a particular action step. Method claims can be drafted (sometimes as use claims) to capture the individual activities of different operators.

Protection of Use Claims

Use claims cover the actual use in the patented territory.

There is no great legal certainty as to what may be the full extent of protection under a use claim. Such claims can be enforced against whoever makes the unauthorised use in the patented territory, and the usual considerations of contributory infringement should apply.

A use claim may often be equated to a method claim, but it is not certain if claims to a use which lead to an end product will qualify for the extended protection under Art. 64(2)EPC. Therefore drafters may play safe and claim a "process".

Claiming use of a device/apparatus for a particular purpose is sometimes much more convenient than developing a method claim with method steps. Such use claims can be easy to enforce since the sole attribute of the claim is "use" for the specified purpose.

Protection of 2nd Medical Use Claims

Because of the need for pharmaceutical product authorisation, potential problems relating to the enforcement of 2nd medical use claims seem to have been attenuated.

The usual claim formulation is "Use of X for the manufacture of a medicament for therapeutic application Y".

Formulation as a method claim has been approved (T893/90; T958/94): "Method for manufacturing medicament X for new therapeutic application Y".

Such method claim may be safer to secure protection in some jurisdictions.

There does not appear to be any reason why such claims could not be formulated as: "Product X used in the manufacture of a medicament for therapeutic application Y". Such purpose-limited product claim could provide a better guarantee for protection (see below).

Protection of Purpose-Directed Use Claims

The availability of protection for purpose-directed use claims, confirmed by G 2/88 and G 6/88, gave rise to concern regarding enforceability when the product itself could have been "inherently present".

Purpose-directed use claims will usually be used for "marginal" inventions where fuller product or method protection is not available. In such cases the specific protection obtained should be confined to commercialising the product for attainment of the new purpose.

It could become fashionable, outside the therapeutic area where use claims are excluded, to reformulate such claims as "Product used for purpose". Such purpose-limited product claim could give protection for the manufacture of the product for the new purpose, its sale, storage, import, export etc as well as the implementation of the use for the purpose. This is the type of protection hoped for in "purpose-directed use claims"; a purpose-limited product claim could provide a clearer basis to obtain such protection.

Protection of Computer Program Claims

It has always been possible to protect software inventions under the EPC. Under recent developments, computer programs that produce a technical effect can be claimed as a "computer program", with specific claims to the program on a particular support. This will increase the flexibility with which European software patents can be enforced because claims to computer programs provide protection for the commercially traded product.

Overview regarding the protection conferred

The protection for a product is usually summarised as manufacture, sale and use.

Manufacture is an industrial activity and can be claimed as a process/method of manufacture. A claim to process/method of manufacture is necessarily less extensive than product protection, because it is a sub-category of product protection.

Sale is a commercial activity. The patent protection also covers other commercial activities like import, export or possession. These commercial activities, though covered under the protection are not per se industrially applicable and will not (normally) be claimed.

Use may or may not be industrially applicable. When a use is industrially applicable it can be claimed. A claim to a use is necessarily less extensive than product protection, because it is a sub-category of product protection.

Where use is not industrially applicable, it cannot validly be claimed. Nevertheless it is included within the extent of product protection (subject to exceptions for private use etc. and exclusions from patentability). In particular, therapeutic use is excluded from protection.

Wherever possible, product protection will be sought for the commercially significant products/components.

Territorial Considerations

Territorial restrictions on patent protection are mentioned above, e.g. relating to import/export. A European patent will normally provide uniform protection in the designated states (and extension states).

Whether or not a European patent is obtained and maintained in all or some states will differ from industry to industry and is a matter for cost-benefit analysis in individual cases.

Good drafting practices aim for maximal protection on any given invention/patent, irrespective of geographic extent. This pays benefits. At a later stage when validation/ maintenance costs force the patentee to restrict territorial coverage, having maximal protection in the maintained territories will help to maintain adequate possibilities for controlling the market.

Provisional Protection

Because provisional protection under Art. 67 EPC runs from publication, and because there is little opportunity to amend European patent applications before publication, the claims as filed should provide the necessary basis for provisional protection, including fall-back positions.

Over-broad claims at that stage can have a deterrent effect. Provisional protection is retroactive from grant or at the end of opposition (Art. 69(2)EPC) in so far as protection is not extended. The granted/upheld claims will preferably have a counterpart in the filed/published claims, to secure the retroactive provisional protection.

The Protection Conferred - Conclusion

As mentioned at the outset, the claims primarily define the matter for which protection is sought. Compliance with legal requirements to obtain a patent is important, but secondary.

As we have seen, a good grasp of the principles underlying the extent of protection is important for successful patent drafting.

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The next chapter [Claim Evolution](#) deals with changes in claims at different stages of the procedure.

Evolution of Claims with Time

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Claim Evolution

Claims are not engraved in rock; they evolve.

In preliminary drafting, claim language is unsettled. The claims are plastic: draft claims can be worded and reworded freely and new claims formulated. The invention to be covered may not have reached its final form. The formal and substantive requirements for acceptable valid claims serve as guidelines for the future, leaving ample room for the claim drafter's personal touch.

Given the available degrees of freedom, for any invention any one claim drafter will find multiple ways of formulating claims. And if the same invention is given to different claim drafters, a surprising variety of claims will emerge - even in Exam conditions where the starting materials are uniform and the instructions guide the candidates to draft in a certain way.

Once an invention has been "captured" in a claim during initial drafting it should continuously be modified up to filing. During the procedure it is still often necessary to modify the claims. Even when the claim wording is rigidified after grant, limitations are still possible and slight adjustment of the claim content is still possible by interpretation.

These modifications of claims over time are referred to as claim evolution.

Factors Influencing Claim Evolution

As time passes, claims need to evolve as a function of the prior art available, developments of the invention, developments by third parties and compliance with the official requirements, namely:

The prior art, as it becomes available from:

- Internal sources
- The applicant's preliminary searches
- The EPO/PCT search
- Complementary searches by the Examiner
- Observations by third parties
- Patent procedures in other countries
- Oppositions
- Infringement/invalidity proceedings

In-house developments of the invention:

- Original perceptions
- First embodiments
- Perceived useful variations
- Developments within the priority year
- Developments after filing
 - Inside the claims
 - Outside the claims
 - Up to publication
 - After publication
- Changes in commercial importance
 - Success
 - Failure
 - Obsolescence

Developments by third parties:

- Evasions and attempts to circumvent
- Dominated copies "infringements"
- Competing technologies
- Emergence of "submarines"
- Evolution of competing patents

Compliance with official requirements:

- Voluntary compliance (accelerated prosecution)
- Objections from the Examiners

The Claim Path

Ending up with a patent that is valid and infringed is no mean achievement.

For any invention, the final claim will depend on its path: how the claim was formulated in the first place taking into account the prior art known initially, then how the claim evolves during the procedure as further prior art comes along.

The result depends not simply on whether the initial invention was new and inventive over the total prior art (as known at the end of the day), but on the sequence with which the prior art became known.

Ideally, if all the relevant prior art is known when drafting, if the final form of the invention is known and all possible modifications worked out, it should be possible to draft an optimum claim.

Candidates for the EQE are instructed that they are drafting under these "ideal" conditions.

In practice, many patent applications are drafted in sub-optimal conditions: inadequate knowledge of the prior art; and a shifting or incomplete invention.

The main problems arising from inadequate initial knowledge of the prior art are:

- Choice of a wrong preamble or an inadequate preamble leading to a badly organised application
- Unnecessarily restricted terminology
- Setting out a problem which is fully solved by later prior art and undermines shifting to a more specific problem
- Emphasising the essentiality of features that are no longer essential for the redefined problem, when new prior art comes in
- Introducing unnecessary features from the initial prior art into the claim
- Failure to anticipate the need to amend (providing adequate fall-back positions), leading to later amendment involving drastic restriction because there is inadequate basis for a slight but sufficient restriction.

- Excessive use of open language and vague terms to obtain "maximum" protection on the basis of the known prior art, leaving the claims open to overbroad interpretation.

A poorly drafted initial application will lead to problems when amending during examination.

An amendment to overcome prior art at the examination stage may unnecessarily compromise final protection if new prior art comes up in an opposition and requires amendment in another direction.

It is important not to introduce limitations that could turn out later to be unnecessary, but without any possibility to remove them.

Problems arise from developments of the invention, because it is difficult to extrapolate information when the initial invention is in state of flux, and any extrapolations may turn out to be unfounded.

Despite these enormous difficulties, a good drafter will anticipate developments in the pipeline, and obtain broad protection for the original concept and all reasonable variations, while leaving room for follow-up patents (useful for the originator, but less useful for competitors).

Evolution of Claims with Time: Overview

- Brainstorming* During the initial drafting process, there is great flexibility in choice of the claim parameters and structure of the claim. The draftsman has complete freedom to establish the claims.
- Priority* Assume an initial application is filed followed by a European application claiming its priority.
- The total content of the initial priority application serves as a basis for establishing the priority of future claims.
- European Filing* The European claims as filed can be established freely - completely reformulated if desired, including broadening to encompass new embodiments and adding more specific claims. New subject matter can be added. Unwanted subject matter can be deleted.
- The total content of the European application as filed - description, claims and drawings - but not the Abstract, nor the content of the priority document - serves as a reservoir on which future claims can be based. This total content will be crucial for the outcome.
- To maintain a valid priority date, some claims or parts of claims must be based on the priority document. In this respect, there is a restraint on the claim wording.

Rule 86(1) Between filing the European application and receipt of the search report there is no mechanism for amendment of the application filed, including the claims. Amendment can be achieved by filing a divisional

Rule 86(2) & (3) After receipt of the search report and up to and during examination, amendment of the claims is possible, providing no subject matter is added (Art 123(2)).

The EPO practice on improperly added subject matter is strict: the applicant is not given the benefit of any doubt. This even applies to limiting amendments where there is no support for the limitation. It is also not allowable to take intermediate values or make a cocktail of different parameters disclosed individually but not in combination ("intermediate generalisation").

Rule 86(2) After receiving the search report and before receiving the Examiner's first communication, the Applicant can amend "of his own volition". This allows amendments which do not have to cure a defect. The whole application can be restructured if desired, providing no matter is added.

Repeating initially-disclosed subject matter is allowed. For instance a feature from the drawings can be added to a claim; a counterpart can be added in the introduction; and another counterpart can be added in the detailed description.

Rule 86(3) After receiving the Examiner's first communication, the Applicant can also amend "of his own volition", but only once, in the reply to the communication.

Later amendments in principle need the Examiner's consent. Amendments are usually entered if they are in reply to objections or if they are made to comply with a requirement of the EPC.

Rule 86(3) Amended claims may not relate to unsearched subject matter that does not combine with the originally claimed invention(s) to form a general inventive concept.

Broadening During prosecution it is possible to broaden protection, e.g. by omitting one or more features from a claim. But if this creates a problem of non-unity with the searched claims, filing of a divisional will be necessary. Broadening protection is only allowable if the broadened claim is fully supported by the original application.

Errors Errors in the description, claims and the drawings can be corrected under Rule 88. The correction has to be obvious in the sense that nothing else would have been intended than the offered correction.

Allowance After allowance, amendment is once more limited to the correction, usually of minor points. Examination can only be reopened exceptionally, for instance if new prior art comes in.

- Divisionals* Divisionals can be filed, while the application is pending, up to the day before grant - Rule 25(1), in force from January 2002.
- Divisionals can "clone" the original application, or be restricted to part of the subject matter, usually with different claims. By filing a divisional, the protection can be re-oriented compared to that of the original application.
- Opposition* If opposition is filed, the claims can be amended but not in such a way as to extend the protection (Art. 123(2)). It is only possible to limit the claims to deal with objections to patentability.
- Rule 57a* Amendments can be made if occasioned by grounds of opposition, even if the ground has not been raised by the Opponents. Only amendments necessary to overcome grounds of objection are allowed. New sub-claims cannot be added.
- Post-Grant* In infringement proceedings before national courts, the possibilities for amendment vary from country to country.
- An interpretation allowing slight broadening/narrowing of the claim relative to the literal meaning may be available, following the Protocol on Interpretation of Art. 69. But no great departure from the claim wording is possible. In any event, no broadened interpretation can make a claim validly cover prior art or obvious developments of prior art.

Impact on Claim Drafting

Claims of a European patent application must be fully supported by the application as filed and, where appropriate, by a priority document. Amended claims must have the same support. There must be adequate support in the description for any potentially useful limitations to the claims. There is no guarantee for broadening claims by amendment. Therefore the claims as originally filed should contain no unnecessary limitations. Usually they will be as broad as the disclosure. During prosecution, it is important not to include avoidable limitations which hamper protection.

Claim Amendments*Flexibility*

The EPO Examiners have been flexible in allowing claim amendments - including shifting features from a claim preamble to the characterising part and vice versa, adding new features to the claim from the description and even omitting claimed features - whenever there is proper support.

The problem is not impossibility to amend, but providing support for all possible contingencies without making the description scrappy and inconsistent. Where claims are shifted and no longer correspond to what was originally searched, a divisional is necessary (G 2/92) - Rule 86(4).

Pre-Filing Review

This is the last opportunity to adjust the claims while still "plastic"!

The responsibility for this review lies solely with the applicant and his representative. The main points for pre-filing review of the claims are:

- Do the claims cover the invention in its broadest aspects?
- Are there any unnecessary features/limitations in the independent claims?
- Are all available claim categories included?
- Are all potential commercial operations covered by the claims ?
- Good support for all claims, including support for inventive step of the main claims?
- Ample support for fall back positions in sub-claims and in the description?
- Clarity and consistency between the claims and description.
- Should anything be left out?

Note: The EPO Examiners may give helpful suggestions during examination, but the applicant decides on the content of the text and supports the consequences of any defects - Art. 97(2)(a). The EPO declines responsibility; professional representatives assume responsibility.

Compacting Claims to Reduce Claims Fees

Particularly with US-originating European patent applications, there may be a need to compact a set of many claims to eliminate or reduce the extra claims fee (€40.- for each claim above 10).

This has to be done at the time of European filing (or filing a divisional) or, for PCT applications, in the 1-month period provided under Rule 109.

Such re-organisation of the claims usually involves sacrificing some protection, but this can be minimized.

The possible strategies include the following, bearing in mind that when a claim is eliminated it is prudent to make sure there is a basis in the description for possible later re-inclusion or for filing divisionals:

- Eliminate non-unitary claims
- Reduce multiple independent claims in the same category - Rule 29(2)
- Convert independent claims into dependent claims and rely on multiple claim dependencies to eliminate duplicate sets of dependent claims.
- Delete trivial claims
- Use multiple claim dependencies to avoid repetitive sub-claims

- Combine together several sub-claimed features as alternatives.
- Combine several sub-claims to cover only the most important combinations (sacrifice individual protection of the multiple sub-combinations).
- Convert sub-claim features into optional features of the preceding claim, e.g. "a body, in particular a cylindrical body".
-

Coping with Lack of Novelty: Claim Shrinkage

When a claim is found to lack novelty, the scope of the claim needs to be restricted to exclude the prior art while still covering useful embodiments of the invention.

Any modification which excludes from the claim something that was included originally is a restriction or narrowing.

This can be done freely in the pre-filing phase. Once the European patent application has been filed, claim restriction depends on support in the original description and claims.

In initial drafting, it is primordial to provide support in the description and sub-claims for all potentially useful limitations to the claims.

For novelty objections based on "normal" pre-published prior art, the limitation must define novel and inventive subject matter and can be completed with supporting arguments for inventive step.

For prior art under Art 54(3), a mere novelty distinction is sufficient to overcome the objection. Even a very slight technical difference suffices. If possible, limit to a small but, in practice, important feature not disclosed in the earlier application.

Claim shrinkage strategies

- Limit by incorporating the features of a sub-claim.
- Limit by incorporating one or more extra features from the description (or drawings).
- Restrict claims to exclude specific embodiments (possibly delete drawings; delete examples or convert to comparative examples).
- Narrow the definition of a claimed feature. Go from generic to specific (halide -> chloride).
- Narrow a range or "reduce" a numerical limit.
- Convert from open wording to closed wording: "A device comprising A and B" to "A device consisting of A and B".
- Convert from open wording to partly closed wording: "A compound comprising A and B" to "A compound consisting of 10-90% A, 10-90% B and 0-20% C" (= consisting of A+B or A+B+C).
- Disclaimer ("rare earth oxycompounds excluding cerium oxyfluoride").
- Change claim category. Convert from product claim to use claim or to 2nd medical use type claim.
- Eliminate overlapping designations to overcome a 54(3) objection.

Coping with Inventive Step Objections: Claim Re-Structuring and/or Shrinkage

It may be possible to overcome an objection of lack of inventive step by argument without amending the claim, or by re-organising the claim without restricting it. Or the claim can be restricted to inventive subject matter, with or without supporting arguments.

Arguing in support of inventive step is frequently combined with reorganising/restricting the claim.

Making amendments without arguments is usual when complying with indications from the Examiner as to what he considers inventive.

The previously discussed claim shrinkage strategies to create novelty are available, but may not be enough to establish inventive step if the limitations are not related to convincing arguments for inventive step (problem->solution approach).

The possibilities for restructuring/restricting the claim include:

- Reorganise the claim to highlight the inventive step, especially for 2-part claims:
 - Shift an inventive statement from the designation of the invention to the characterising part.
 - Include or specify a feature in the preamble to correlate with the problem solved.

- Include or specify a characterising feature to correspond to what actually solves the problem.
- Shift the "characterised" division: possibly turn the claim upside down. Preamble features go into the characterising part, and vice-versa, according to the new problem-solution.
- Restrict by excising unwanted obvious developments of the prior art.
- Restrict to subject matter for which there is support for an unexpected improvement necessary to substantiate inventive step.

The previously-discussed claim shrinkage strategies may suffice, but only if coupled with arguments which make the limitations relevant to the problem-> solution arguments in defense of the limited claim.

Simply including limitation-upon-limitation in the claim usually is inappropriate and can be counter-productive. Include only "necessary" limitations corresponding to accompanying arguments for inventive step.

In summary, dealing with inventive step objections nearly always involves arguments, possibly combined with corresponding amendments. Such amendments may limit the claim or cosmetically restructure it in line with the arguments.

Added Subject Matter

If an amendment adds to the technical content, i.e. has no support in the original application, this is considered as an inadmissible addition of subject matter - Art 123(2).

The assessment for added subject matter is based mainly on the "novelty-test". If the amendment is notionally novel over the original disclosure, there is addition of subject matter. Guidelines, Part C-VI.5.4. Case Law, III.A.3.1

In the case of broadening amendments the novelty-test alone is not regarded as decisive. A broadening amendment which is notionally novel will in any event be refused as adding subject matter; but if the broadening amendment is "not notionally novel", this alone is not conclusive. A second test: "is it essential" was developed for this situation. See the Case Law, III.A.3.2.

Not only broadening amendments, but narrowing amendments or "intermediate generalisations" will be held to add subject matter if there is no support in the original description. Additions, amendments and deletions may all lead to added subject matter as can inappropriate changes of claim dependencies.

It is impermissible to base amendments on external sources such as a priority document or the abstract.

The Guidelines (C.VI.5) list several situations where the addition of subject matter is allowable:

- A description of relevant prior art can be added to the introduction and may serve as a basis for re-defining the problem or for restrictions to the claims (disclaimer).
- Where the amendment constitutes a clarification based on well-known common general knowledge of the skilled person, eg a well known essential ingredient, but not if the ingredient produces an undisclosed effect.
- Where the component is inherent - for example if the description refers to springs and the drawing shows what is obviously a helical spring, the description and claims can be amended to recite helical springs.
- If a technical feature was clearly disclosed, but not its effect, and if the effect can be deduced without difficulty from the description, it can be explicitly mentioned.

The following amendments relating to claims and their support **have been ALLOWED** :

- Generalisation of a term in the pre-characterising part based on close prior art referred to in the application as filed (T52/82)
- Generalisation of a term in the pre-characterising part to cover the invention and the prior art (T6/87)

(Allowed amendments)

- Added discussion of advantages relative to newly-introduced prior art (T11/82)
- Combination of separate features in the description based on a reading of the prior art (T54/82)
- Reformulation of the problem based on new prior art (T13/84) or on "objectively established" facts (T35/86)
- Disclaimer based on new prior art added to the description (T197/84)
- Deletion of an unimportant characterising feature to remove an obscurity (172/82)
- A technical feature was disclosed but not its effect. The effect could be deduced without difficulty. Mentioning the effect was allowed (T37/82)
- Range in claim based on a particular value in a specific example (T201/83)
- Incorporation of details from a reference referred to in the application (T6/84)
- Incorporation of a feature from the drawings (T169/83; T75/82; T205/88)
- Limitation to "one-piece" implicit in description and drawings (T133/83)
- Correction of an inconsistency in the claim without altering the meaning (T271/84)

(Allowed amendments)

- Deletion of an advantageous but not indispensable claim feature (T151/84)
- Claim limited to a first feature described only in combination with a second feature, where the skilled person would readily realise that the first feature could operate independently (T17/86)
- Inversion of parameters in a claimed range based on obvious error (T113/86)
- Broadening of claims to cover embodiments shown solely in the drawings (T66/85)
- "Piston compressor" replaced by "reciprocating plunger compressor" based on drawing (T182/82)
- Removal of a feature from claim: not described as essential; not indispensable for function; and whose removal does not modify the remaining features to compensate for the change (T331/87)
- Generalisation of an unclear restrictive term of a claim during opposition (T371/88)
- Replacement of a restrictive term in a granted claim by a less restrictive term based on interpretation under Art 69. with reference to the description, and reference to the examination procedure (T371/88)

The following amendments were DISALLOWED :

- New characterising feature of claim not originally disclosed (T7/80)
- More specific definition of claim feature not disclosed (T18/83)
- Deletion of claim feature based on content of the priority document (T32/85)
- Modified claim features more specific than general description (T165/84)
- Dimensions of schematic drawings are not part of the disclosure and cannot be inserted in claim (T92/84)
- Generalisation from "rigid disc" to "partially rigid disc" lacked support (T147/85)
- Generalisation from "circular" to "substantially circular" lacked support (T210/83)
- Generalisation from "natural cellulose fiber" to "cellulose fiber" where the description emphasised "natural" (T194/84)
- Deletion of a claim feature presented as essential in the description but not in the priority document (T260/85)

(Disallowed amendments)

- Disclaimer of a claim feature ("without internal fittings") based on schematic drawings (T170/87)
- Symbolic drawing did not provide support for an amendment removing ambiguity from claim (T221/81)

See also "Case Law of the Boards of Appeal 4th Edition 2001, page 197+, and Singer/Lunzer's commentary under Article 123.

Disclaimers:

Subject matter can be excluded from a claim by using positive terms to restrict to given subject matter, by using more restrictive terms (eg limiting "cellulose" to "natural cellulose") or resorting to "closed" wording ("comprising" to "consisting"). Subject matter can also be excluded by using negative wording ("netless", "non-opaque", "non-opiate addicted mammal"), or by excising given technical subject matter (possibly using excluding wording: "excluding", "except", "without", "with the exclusion of" and so on, e.g : "where n is from 1 to 5 except that n cannot take the value 4 when A=B").

Disclaimers can be used in initial drafting (though they are not usually referred to as disclaimers at this stage) or in amendments.

In European practice, a claim must define the invention in terms of its technical features. Disclaimers must accordingly also be in terms of technical features. Where a disclaimer is needed to overcome prior art, a description of the prior art can be imported into the description. This then serves as basis for the disclaimer.

In appropriate cases, the original description itself can serve as a basis for a disclaimer, to excise an unwanted part. For instance, in case T170/87, had there been proper support, the disclaimer to "without internal fittings" would have been allowed.

T4/80

A disclaimer in the format "excluding formoses directly produced from formaldehyde-containing synthesis gases" was allowed.

A disclaimer wording "excluding formoses produced according to UK patent No. XXX" is not allowable because this is not in technical terms.

Such disclaimers are regarded mainly as useful in overcoming an objection of lack of novelty. However, in appropriate situations a disclaimer can be used to excise non-inventive subject matter (contrary to the statement in T170/87)

The practice on introducing disclaimers that had no support in the original description is under review by the Enlarged Board of Appeals in G01/03 and G02/03.

Interpretation of the Claims of European Patents and Patent Applications

Article 69EPC and its Protocol

Art 69 The extent of protection conferred by a European patent or a European patent application shall be determined by the terms of the claims, and the description and drawings shall be used to interpret the claims.

The Protocol to Art 69 - which is an integral part of the Convention - specifies a "middle way" of interpretation somewhere between a strict and narrow literal interpretation of the claims, which was supposed to be the old British approach, and a broad approach such as was permissible under the old German practice, where the claims could serve only as a guideline and the actual protection conferred could be extended to what the patentee had contemplated.

The "middle way" is based on the concept of an interpretation which combines fair protection for the patentee with a reasonable degree of certainty for third parties, a balance which may be difficult to achieve in some cases.

The object of the Protocol is to avoid too much emphasis on the literal wording of the claims when considered in isolation, and also to avoid emphasis on a general inventive concept that may emerge from the description when compared to the prior art, without paying regard to the defining features set out in the claims.

Though Art 69 and its Protocol are subject to interpretation and leave room for differences of opinion, in practice they can assist in ascertaining a uniform claim coverage of most European patents/applications in all states.

The Protocol was adopted to provide a mechanism for harmonisation between the diverging national laws and practices as they stood when the EPC came into being. Doubtlessly, some degree of harmonisation has already been achieved.

The Protocol makes it clear that the description and drawings should not be used merely to resolve ambiguity in the claims but should be used to interpret the true meaning of the claims.

Note: interpretation with reference to the description could be broader or narrower than a literal claim interpretation.

Extent of Protection

The "matter for which protection is sought" in other words the claim scope - which is the claim's definition of the invention in terms of its technical features - needs to be distinguished from the rights or the "extent of protection conferred" by the patent/patent application.

Art 64 The rights conferred by a European patent are the same as those that would be conferred by a national patent.

If the claims cover a process, the protection conferred extends to the products directly obtained by the process.

The claimed subject matter and the protection conferred clearly are not co-extensive.

The rights conferred extend to such matters as the right to prevent unauthorised use, the right to claim damages etc. These are all matters for national law (Art 64(3)).

Conferred Rights - Infringing Acts

Art25-27CPC The Community Patent Convention (not yet in force) contains a useful definition of direct and indirect infringing acts as well as reservations.

These conferred rights - in each country - apply to the subject matter of the patent as defined in the claims and as interpreted under Art 69.

National Courts dealing with an infringement action must first interpret or "construe" the claims to determine the protected subject matter, then assess whether actions such as manufacture, sale or possession by unauthorized third parties constitute an infringement of the patentee's rights.

Provisional Protection

Art 67 For the assessment of the provisional protection given by a European patent application from its date of publication or from the date when the translation of the claims is filed or presented to the third party, the extent of protection conferred is determined by the latest-filed claims in the official publication under Art 93.

Art 69(2) But the claims of the European patent as granted or as amended in opposition retrospectively determine the protection conferred. This places a burden on third parties who need to assess, from the date of publication, whether any claims of the published application may be invalid and whether they will be able to work outside any claims that will ultimately be granted.

Retrospective protection does not apply to broadened claims. Of course, for divisional applications with claims of broader or different scope, the provisional protection will run from the date of publication of the divisional.

Interpretation at the EPO : Examination/ Opposition/ Appeal

Art 69 EPC is intended primarily for the national courts in interpreting the "extent of protection conferred". But the extent of protection is closely related to the technical matter for which protection is sought - the claim scope. Art 69 EPC is also used for interpretation in proceedings before the EPO.

The following summaries from Board of Appeal decisions illustrate how Art 69 has been used.

- Because the description is used to interpret the claims under Art 69, the description must be brought into conformity with the claims in order to ensure a proper balance between fair protection for the patentee and a reasonable degree of certainty for third parties. (T150/85 - Romero-Sierra - unreported).
- This contrasts EPO practice with US practice where there is no requirement to align the description with the amended claims.
- The application of this EPO practice is subject to variations from case-to-case with different Examiners.
- If the description specifies a feature to be an overriding requirement of the invention, the claims may be interpreted as requiring this as an essential feature, in accordance with Art 69, even though the wording of the claims when read in isolation does not specifically require

such a feature. (T416/87 - Block Copolymer/JSR - OJ1989/11).

- Although Art 69 EPC allows the description and drawings to be used to interpret the claims, if a claim is unclear because a particular feature is not mentioned, the claim should be amended, if possible, to include the feature rather than relying on Art 69. (T 373/88 - Toshiba - unreported).
- A known product cannot be rendered novel by a claim with a product-by-process definition. The function of the claims is to define the matter for which protection is sought, not to define the extent of protection. The function of the patent when granted is to confer protection the nature of which is determined by Art 69 by reference to the terms of the claims. But the claims do not define the extent of protection; they define the matter for which protection is sought (T 248/85 - BICC - OJ1986,261).
- A change of claim category (compound to use) of granted claims does not involve addition of subject matter if it does not result in an extension of the protection when the claims are interpreted in accordance with Art 69. For this, the national laws relating to infringement should not be considered. The extent of protection under Art 69 is a determination of what is protected in terms of the claim category plus technical features. The rights conferred are a matter solely for the Contracting States and are related to how such subject matter is protected (Gr 2/88 - Mobil Oil III - OJ1990,93).

- The claim category for a granted European patent was changed from "A method for controlling the output quantity of an extruder..." to "Apparatus for controlling the output quantity of an extruder (defined in functional terms; various apparatus features were added to differentiate over prior art). It was found that the extent of protection of the original method claim interpreted according to Art 69 encompassed the apparatus. Therefore, the change of category was allowed as not extending the extent of protection (T378/86 - Moog - OJ1988,386).
- A similar change of category was allowed in T426/69 - Siemens - OJ1992/172. The claim was changed from "Method of operating a pacemaker for arresting a tachycardia + functional steps" to "Pacemaker for arresting a tachycardia + the same functional steps". The Board held that the original claim, interpreted correctly under Art 69, did not define a method, but, in functional terms, the structural features of a pacemaker.
- For a purpose-directed use claim (new use of an old compound), where the description sets out a technical effect which underlies the use, the proper interpretation of the claim under Art 69 requires that a functional feature - the actual attainment of the particular effect - should be implied into the claim as a decisive technical feature which will impart novelty if the effect was not previously available to the public (G 2/88 - Mobil Oil III - friction reducing additive - OJ1990,93; and G 6/88 - Bayer -

fungicide/plant growth regulation -
OJ1990,114).

- If a restrictive term in a claim of a granted patent is not so clear in itself that it is necessary to refer to the description and drawings to interpret its meaning, and if it is clear from the description and drawings, and also from the examination procedure, that it was never intended to exclude an embodiment not embraced by the literal wording of the restrictive term, the claim can be amended to replace the restrictive term by a less restricted term giving the full intended coverage, without extending the protection (T371/88 - Fuji - OJ1992,157).
- In examining a claim, the EPO considers the complete claim, i.e. all of the features in combination. It is not up to the EPO to determine how the claim may be interpreted under Art 69 and the Protocol to define a broader extent of protection. The EPO does not consider possible broadening of the claim by omission of inessential features, or by replacement of equivalents. This is a matter for the national Courts (T175/84 - Kabelmetal - OJ1989,71).
- Every Examining Division and Opposition Division has to determine the extent of protection of a claim before it can decide such essential issues as novelty and inventiveness. The Board (in deciding "water-soluble" was clear) saw no reason why the positive requirement of Art 69(1) that "the description and drawings shall be used to interpret the

claims" should not apply at those stages too, save where the claim is self-contradictory. (T860793 - Aqualon - OJ1995 1-2).

- Some EPO Examiners insist on the fact that the claims must be self-explanatory, without reference to the description, because only the claims of the granted patent are published in the two other official languages. Definitions in the description must sometimes be imported into the claims.

See also Singer/Lunzer's commentary, Article 69.

Note:

In principle, claim interpretation is uniform before all instances of the EPO: Examining Divisions, Opposition Divisions and Boards of Appeal.

Particularly in oppositions, patentees may have an option in order to avoid an objection of lack of patentability:

- *Argue for a narrow claim interpretation under Art 69, based on the description; or*
- *Limit the claim into conformity with the description.*

Where a patentee argues for a narrow claim interpretation before the EPO, this should normally form part of the written record. This written record can be provided to the National Courts with a view to preventing the patentee from seeking a broader interpretation in national litigation.

Interpretation by National Courts

Art 64(3) Infringements of European patents are dealt with by national law and are handled by the national courts. There is no central, supra-national body such as a Court of Appeal for reviewing or harmonising decisions of the national courts.

Under the future Community Patent Convention, there will be a central court ("COPAC") as final instance with exclusive jurisdiction for deciding all matters relating to infringement and validity, on appeal from the national courts or from the special revocation department of the EPO.

Art 69 and its Protocol apply when national courts interpret European patents. The national laws have been harmonised to place national patents and European patents on an equal footing. Therefore, the principle of Art 69 should apply equally to the interpretation of European and national patents by the national courts.

National courts are not bound by jurisprudence from the EPO; likewise the EPO is not bound by jurisprudence from the national courts. But national courts may take account of decisions from the EPO Boards, and vice versa.

Outline of UK Claim Interpretation:

Historically, in the UK, since the introduction of claims, there has been a tendency towards a narrow literal interpretation. Importance was placed on the patentee's duty to clearly define the scope of monopoly: "What is not claimed is disclaimed". Claim broadening could only be contemplated for inessential claim integers, but in principle virtually all integers in a claim would be regarded as essential. Importance was placed on the intention of the patent draftsman: what did he intend by the claim wording?

The Catnic case introduced rephrased the old case law in terms of the concept of "purposive construction", allowing essential elements to be interpreted based on the technical function, as explained in the description, not on a purely grammatical meaning.

The UK procedure places heavy reliance on the use of expert evidence, supplied by the parties. Main UK Cases :

- EMI v Lissen: The clear meaning of claim wording cannot be altered based on explanations in the description.
- Van der Lely v Bamfords: If the description makes it clear that the patentee regards a particular feature as essential, then it must be treated as essential.
- Rodi & Wienenberger v Showell: Replacement of two U-shaped elements, regarded as essential features of the claim, by one C-shaped element, held not to infringe.
- Catnic: "Vertical" for an essential claim integer held to include approximately vertical.
- Epilady: Claim for a depilatory device with a helical spring held not infringed by a like device with a grooved plastic cylinder: technical equivalent excluded from claim wording.

Outline of German Claim Interpretation:

Old law:

- Direct subject of the invention
- Technical equivalents
- General inventive concept.

New law:

- Technical equivalents are included if patentable over the prior art, but there is no longer a basis for "general inventive concept".
- When assessing the scope of protection with respect to equivalents, the prior art may be taken into account.
- Obvious equivalents are generally included in the claim scope. But if the equivalent is inventive (could not obviously be derived from the first patent) it will be outside the claim scope (Ion-exchange case - OJ1991,115).
- It is a defense that an alleged equivalent would not be patentable over the prior art (like the old so-called "Gillette defense" in UK law).

Comparison with U.S. Claim Interpretation:

The basic premise of US claim practice is that claims must define a clear boundary defining the "metes and bounds" of the invention, like a fence around a field.

Literal claim scope can however be broadened under the theory of equivalents. Technical equivalents may be included in the claim scope if patentable over the prior art, subject to the absence of "prosecution history estoppel" (or "file history estoppel" or "file wrapper estoppel"). This means that statements made by the applicant during prosecution, e.g. that a particular feature is necessary to distinguish the invention over the prior art, are binding on the patentee and prevent a broadened interpretation of the claim, even if it turns out that such statements were not necessary to patentably distinguish over the prior art.

Theoretically, in the US, "pioneer" inventions are entitled to a broader range of equivalents than follow-up inventions.

The so-called "reverse doctrine of equivalents" means that claims must sometimes be narrowly construed and limited to what was actually described.

Note on Japanese Claim Interpretation:

Claim interpretation in Japan is peculiar in that Courts tend to narrow the literal wording of claims to cover only what was really disclosed, possibly finding that a broad claim is not infringed by something that falls under the claim wording but is not well supported.

Such narrow interpretation is also possible under Article 69EPC.

Summary of Claim Evolution

The claim wording evolves with time. Each time a new influence appears - a new piece of prior art, a development of the invention by the applicant or a competitor, or a legal development - the claim wording is reviewed and amended if appropriate or its scope interpreted.

At the beginning the claim is like a jelly; during the procedure it gels temporarily or permanently and each opportunity for improvement will be taken; after setting, the claim integrity needs to be vigorously defended.

From the drafter's perspective claim drafting is a dynamic long-term process during which the claims keep coming up for review.

Officials are usually confronted with claims at one particular stage: search Examiners while the claims are on average over-broad; Examiners who actively promote claim shrinkage; members of the Boards of Appeal who determine the fate of many a claim; and Judges who are confronted with interpretation issues between parties with diametrically opposed interests.

To secure effective protection, the drafter needs to master the initial drafting and all stages of claim evolution. This comes with experience.

Novice drafters can accelerate getting to grips with all these stages through Exam preparation and through lessons learnt from the misfortunes of others reported in the Case Law.

The next Chapter deals with [The Description](#) as a counterpart to the claims, i.e. for disclosing the invention, providing the necessary support for the claims and serving as a basis for claim interpretation.

The Description

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Introduction

Emphasis on drafting is naturally on the claims. The description contains a disclosure of the invention and support for the claims. The claims and description are closely related. Correspondence and consistency are the hallmarks of a good description and claims.

The content of the description will be influenced first and foremost by the information on the invention and the prior art; the legal requirements provide a framework for organizing this information.

The draftsman thus has great flexibility in formulating the description within the recommended legal structure, taking into account the client/inventor's wishes.

The description is analysed here from the standpoint of practical drafting where lengthy prior art discussions and evasiveness on problem-solution or solving multiple problems can be used to advantage. Candidates for the EPO would be well advised to adopt a standardized introduction corresponding to the basic legal problem-solution presentation, as instructed by their client.

General Requirements of the Description

Sufficiency
Art. 83EPC

The European patent application must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. Failure to do so is a ground for refusal of the application or revocation of the patent.

The skilled person reads the application/patent in the light of general knowledge so not all routine details need be supplied. Exact reproducibility is not required: a proportion of failures is permissible. However, if successful performance depends merely on chance and cannot be repeated with adequate certainty, the disclosure is insufficient.

Support

The description must support the claims (Art. 84) and serves to interpret the claims (Art. 69).

Structure

Rule 27 lists the contents of the description and the normal order in which they should be presented. These parts, which will be dealt with in turn, are:

- Technical Field
- Background Art
- Disclosure of the Invention
- Brief Description of Drawings
- Detailed Description
- Industrial Applicability (rarely used)

Technical Field

Setting

The description should start by stating the technical field to which the invention relates, in order to place the invention in its proper setting.

This may include a word-for-word repetition of the opening of the main independent claim (conveniently a repetition of the "designation of the subject matter of the invention"), or could be a general statement of the broad technical area in which the invention falls.

Many drafters introduce at this stage a counterpart to the different claim categories: device, method of manufacture, use etc.

Drafters using 2-part claims sometimes introduce into the Technical Field a counterpart to the claim's pre-characterising part here.

Note: the fact that an invention must relate to a technical field corroborates the necessarily technical nature of patentable inventions.

Background Art

Rule 27(1) (c) The background art known to the applicant, which can be regarded as useful for:

- Understanding the invention
- Drawing up the European search report
- Examination

shall be indicated. The documents reflecting this prior art should preferably be cited.

Relevant Art It is mandatory to indicate the relevant prior art the applicant is aware of. There is no sanction for deliberate non-compliance in respect of prior art within the Applicant's knowledge (in contrast to US practice).

However, failure to include a discussion of the most relevant prior art at the request of the Examiner is a ground for refusal of the application. Typically, where relevant prior art is located by the official search, the Examiner will request insertion of a corresponding factual summary in the description, and this normally has to be complied with.

Only the most relevant prior art reference need be referred to. This could be a single prior art reference embodying all of the features of the pre-characterising part of the claim.

More usually, the applicant will know of and want to refer to other prior art which places the invention in a favourable perspective.

*Unpublished
References*

References to documents unpublished at the date of filing are problematic (see below). For example, cross references to pending US applications may have to be deleted.

An applicant may want to refer to his own earlier unpublished European application that will form prior art under Art 54(3). This can arise when a series of patent applications are filed on the same theme.

These unpublished applications often witness different approaches to the same problem or reveal problems not known from the state of the art. Even though, legally, these documents cannot be opposed to dispute the inventive step, the applicant may want to rely on them in support of inventive step or to illustrate a new technical problem to be solved.

When a document of this type constitutes the most relevant prior art, the EPO cannot insist on a two-part claim having its pre-characterising part based on such a document.

New Citations

If relevant prior art is cited during the search/examination procedure, a corresponding discussion may have to be added. Examiners insist on a factual recital and are reluctant to allow the addition of any critical assessment of the prior art. The insertion of

a factual summary of prior art does not constitute "added subject matter".

Comments about the performance or problems of the prior art can be included in written arguments which become part of the public file.

If there is adequate basis in the original description, it may be possible to reformulate the problem/solution as stated in the application, or the statement of advantages, as a function of the new prior art.

Disparaging Statements

Criticism

Rule 34 disallows statements in the patent application which disparage the products or processes of any particular person other than the applicant, or the merits or validity of other persons' patents or patent applications.

Mere comparisons with the prior art are not considered disparaging.

Criticisms of prior art should therefore be made without naming or criticising the proprietor, but should be framed as comparisons of technical features. The same applies to comparative Examples.

Examiners are not always in a position to know whether statements about prior art may be misleading or untrue.

Sometimes misleading or untrue statements are inserted and not objected-to by the Examiner.

But competitors are sensitive if their technology is, in their view, unfairly treated in public. Competitors sometimes retaliate by filing an opposition, in which case the inaccurate description of the prior art/problem can be used in their arguments (particularly if the problem alleged to be solved is not a real one or if the performance of the prior art is underestimated).

Own Improvements

When patenting improvements over the Applicant's own earlier inventions, avoid making destructive statements about your own earlier inventions that could be taken out of context by a competitor.

Applicants frequently acknowledge or praise the contribution made by their own earlier inventions before discussing aspects that could "still be improved upon".

Dominant Patents

There is no requirement to make any acknowledgement that performing the new invention would involve a risk of infringing an earlier patent.

Applicants for improvement patents over a competitor's basic patent will often want to demonstrate technical superiority over the earlier patent, and may further be tempted to set out why the basic patent cannot validly

cover their improvement, why its disclosure is insufficient etc.

Such statements usually will not comply with Rule 34. The same Rule also generally prohibits any statement or other matter obviously irrelevant or unnecessary under the circumstances.

Another approach adopted frequently by third party developers is to remain silent on the relevant basic patent and instead construct a problem based on secondary references, possibly the developer's own patents.

Evasion

Where a new invention circumvents an earlier patent, the description can highlight the disadvantages of the elements that are omitted or replaced.

The claim preamble can be based on a generalised definition encompassing the common parts of the prior art and the invention. The description can then particularize the elements which are specific to the prior art and emphasize their disadvantages.

Emphasizing the genuine disadvantages of an earlier patent (overcome in a non-obvious way by the invention) can sometimes help in establishing that the new invention cannot be encompassed as a technical equivalent falling under the first patent's claims.

Disclosure of the Invention

Art. 84 The description must support the claims.

Rule 27(1) (d) The invention, as claimed, shall be disclosed in such terms that **the technical problem** (even if not expressly stated as such) **and its solution can be understood**. Any advantageous effects of the invention with reference to the background art should also be stated.

*Setting up
a problem* Most usually, the setting up of a technical problem will already have been worked into the background art discussion, by mentioning various disadvantages or drawbacks.

Providing there is a technical difference between the claimed invention and the closest prior art, it should be possible to express this in terms of a technical solution to a technical problem.

Inventions are often developed by an inventor who is unaware of the closest prior art. The successful patenting of such inventions may reside in locating the most relevant prior teachings and formulating the invention as a technical solution to problems or disadvantages inherent in the prior teachings. In other words, synthesising technical problems from the background art, to which the new invention is a solution.

The officially-preferred "European" style description includes a simple statement of the

problem before reciting how the problem is solved by the invention as claimed: eg :

"The invention aims to solve the problem of inadequate lifetime of the filament, by providing a lamp, as set out in the claims, in which ...(repeat or paraphrase claim wording and/or set out how it solves the problem)".

This approach is good where the applicant knows the most relevant prior art when drafting the application. It is also appropriate to amend to this form during examination.

*Tiny
Inventions*

In initial drafting, the problem-solution approach is particularly effective for inventions where a slight technical difference over the prior art can be pin-pointed and associated with impressive technical advantages.

Wishy-Washy Approach

*Multiple
Disadvantages*

To begin with, it is often convenient to describe multiple disadvantages of several prior art documents and simply state that the invention sets out to overcome these disadvantages.

This should allow greater flexibility of amendment. Several properly formulated american-style "objects of the invention" have the same effect: redundant objects can be deleted later.

Playing Safe

If the Applicant does not have a good knowledge of the prior art at the time of filing, it is not recommended to portray the invention as solving a very specific problem related to a given piece of prior art if it is likely that more relevant prior art will turn up.

There is no requirement to define the invention in terms of problem->solution in the initial application.

When the description has not been framed following the problem->solution approach, it is still possible during examination to highlight the technical difference of the invention over new prior art by considering this as the solution to a technical problem. This can be done when arguing patentability once the state of the art has been established.

Even if the problem solved is not initially highlighted, the description will preferably contain ample materials that can be used later in the formulation of the problem solved.

Advantages

"Technical advance" is not prescribed as a condition for patentability in substantive European patent law. Rule 27(1)(d) nevertheless requires that any advantageous effects over the background art shall be stated. The widely adopted problem->solution approach can be regarded as an acceptable expression of the idea of "technical advance".

Stating advantages in the description will often help to demonstrate the required

inventive step. Therefore, any advantages over a relevant prior art reference should be included in the description, possibly together with the discussion of the broadest claim providing this advantage. Data supporting an advantageous effect can also be included in the specific description or examples.

For a selection invention, where the advantage is an essential ingredient of the invention (i.e. to establish non-arbitrary selection), the advantage should be present in the description as filed.

For most other inventions it will still be possible to rely on advantages presented in supporting arguments during prosecution.

It is important to avoid incorrect statements of advantages in support of inventive step. This could open the patent to an attack for lack of inventive step.

Support for the Claims

To comply with Art 84, it is not necessary to repeat the claims word-for-word. This is nevertheless a common and safe way of proceeding. When claims are repeated, it is good style to divide long claims into several sentences, and add explanations of technical effects and advantages of the different features.

It is also possible to refer to the claims without repeating the claim wording. The description can simply relate the claims to the given technical problems and their solutions and advantageous effects. For example:

"The invention, as set out in the claims, solves the problem of inadequate lifetime of the filament based on the realisation that ... (statement of insight or advantageous effect without repeating the claim wording)".

Sub-Claims

Sub-claims should also be supported in the description*. Conveniently, they can be recited as preferred or specific embodiments. Where appropriate, special features, explanations or advantages associated with sub-claims should also be discussed. This can be important if it becomes necessary to limit the claims during examination or opposition, as this supporting material may be needed to demonstrate an inventive step in the limited claim.

* This is not a requirement in the EQE drafting paper.

If a claim sets out a preferred feature or range it may also be useful to set out further characteristics of the feature, or still preferred narrower ranges to allow for possible amendments at a later stage.

When a claim is supported in the detailed description, there is no need to duplicate support in the disclosure of invention.

*Claim
Categories*

Where there are claims in several categories, e.g. product + process + use, or two or more independent claims in the same category, it is convenient to introduce these in an appropriate manner. For example:

According to one main aspect of the invention, there is provided a lamp comprising a filament and ...

In a preferred embodiment, the lifetime of the filament is further improved by ...

Another main aspect of the invention is a long life filament suitable for incorporation in such a lamp, this filament comprising ...

The invention also provides an advantageous method of manufacturing this filament by ...

*Support/
Consistency*

The main principles for the disclosure of the invention are: support and consistency. All claims should be adequately supported and the wording should be consistent between the description and claims.

Interpretation of the Claims Based on the Description

- Art. 69* The description is used to interpret the claims to come to the exact technical meaning of the claims, not just to avoid ambiguity. Care should be taken to avoid statements in the description that conflict with the claims or could lead to an undesired interpretation.
- If necessary, during Examination, the description/claims may have to be amended for clarity and consistency. In particular, where the claims are amended during Examination, the description may have to be amended into conformity.
- T416/87* Features portrayed as essential in the description, may have to be imported into the claims, or the claims interpreted narrowly to incorporate such features. This applies particularly to the technical effect achieved by the invention.

Definitions

Defining terms used in the claims has been a long-standing feature of national patent practices. Definitions are frequently included in the disclosure of the invention.

Under former practices the claims could include a reference to the description: "a filament (as hereinbefore defined)". European practice departs from this on the basis that the claims need to be self sufficient.

If terms used in a claim are defined in a specific way in the description, the Examiner may ask for

the definition to be imported into the claim. In drafting the description, avoid including unduly limited definitions.

Hierarchy in the Description

Given that the main independent claims recite the essential features of the invention, and the dependent claims set out the features of particular embodiments - in terms of the essential features of those particular embodiments - the description needs to respect this hierarchical arrangement of more-or-less essential features by making clear which features are essential for the main claims and which features are alternative or preferred embodiments.

This can be done as indicated above under "sub-claim" and "claim categories". The drafter needs to realize that adopting this style is not simply copying old practices; it is dictated by the role of the European patent specification in interpreting the claims.

A well constructed description will contain a graded redundancy of information including recitations of the main claims in their generality and associated with particular advantages, down to recitations of specific embodiments (claimed in dependent claims or not) arranged in a hierarchy. This subtle hierarchy serves both for support and interpretation of the claims, and constitutes a legal armour making up a "strong" patent.

Prior Art in Support of the Invention

References References to prior art are not confined to the "Background Art" section, contrary to a common misconception equating the claim preamble with the prior-art and the characterising part with the inventive contribution, along with the idea that all prior art discussion should precede the disclosure of invention.

References to patents and other documents may be made to provide support and background information concerning claimed features. If the reference contains essential information for performing the invention, the essential teaching should be summarised in the description, and the document referred to for further details.

The European patent should be self-contained as regards all the essential features, without reference to other documents. References should be used as a means of streamlining the drafting to avoid unduly lengthy descriptions of known details, while giving the reader the opportunity to consult the sources. It is also in line with scientific ethics to properly acknowledge sources.

*Unpublished
References* A reference to unpublished material necessary to support the claimed invention is perilous unless a copy is filed with the application (or is already pending in the EPO) and is made available to the public by the time the application is published. If the information is necessary, but turns out to be unavailable, the application is open to an objection for insufficiency.

Correspondence of Description and Claims

When the description is assembled on the basis of a preprepared set of claims (which is one of the most common ways of proceeding, given the choice), the disclosure of invention can easily be made to correspond to the claims in technical content, terminology and sequence.

Ideally, the disclosure will not just be a sterile repetition of the claim words merely linked by standard wordings:

"In a preferred embodiment ...

"In another preferred embodiment ...

"In yet another and still preferred embodiment ... etc.",

When technical support is available, the disclosure can include technical explanations of the advantages obtained and give further technical details which could be used later to provide a fall back position.

If the statement of invention is already drafted and a set of claims is prepared (for example filing a European patent application based on a US or Japanese originating patent application), the main points to be checked are formal support for all claims, and consistency of the description with the claim language.

It is not required to rearrange the description into exactly the same sequence as the claims.

Brief Description of Drawings

Each Figure of the drawings should first be briefly described in general terms and described in greater detail later.

Drawings

Details for the presentation of drawings are given in Rule 32. Good photocopies and computer-generated drawings are acceptable. The drawings can include photographs.

Flow sheets and diagrams are assimilated to drawings. Text appearing in the drawings should be limited, e.g. to catchwords, as frequently used in block diagrams. Chemical and mathematical formulae should be included in the text.

Patent drawings should illustrate the principle of construction; they are not meant to be technical drawings for production to scale.

Models

Physical models or specimens should not be included in the application which needs to have a self-sufficient disclosure.

However, Examiners are usually receptive to seeing physical models or samples at informal interviews during Examination.

A list of reference numbers is not required, but can be filed.

Detailed Description

- Rule 27(1) (f)* The description shall describe in detail at least one way of carrying out the invention claimed using examples where appropriate and referring to the drawings, if any.
- Best Mode* There is no "best mode" requirement in European patent law. But applicants seeking protection also in the USA, directly or via PCT, will need to take this into account.
- Scope/Support* For many inventions, a single embodiment or example may be sufficient. In any given case, the number of embodiments or examples required to give adequate support will depend on the scope of the claims : Guidelines, Part C II 4.9:
- "In many cases, a single example or single embodiment will suffice, but where the claims cover a broad field the description should not usually be regarded as satisfying the requirements ... unless it gives a number of examples or describes alternative embodiments or variations extending over the area protected by the claims."*
- T19/90* The onco-mouse application was refused for insufficient disclosure because it was unlikely that the skilled person could carry out the invention successfully on all non-human mammals, as claimed, based on examples on mice, but this was reversed by the Board of Appeals.
- Developments* Bearing in mind that the application, when published, will be prior art against new

inventions by the applicant, possibly with retrospective effect under Art 54(3)EPC, it is important to avoid unnecessarily disclosing details of new developments.

Know-How

When the application is filed at an early stage of development, it is possible to describe the then preferred working example or embodiment ("best mode" under US practice) while still leaving room for further improvements and the development of know-how that can be maintained in confidence or that can form the subject of follow-up patent applications.

In joint research arrangements, there may be an obligation to keep the partner's results confidential, which could influence the selection of materials for inclusion in patent examples.

*Comparative
Examples*

There is no official requirement for comparative examples illustrating poorer results either following a given prior art teaching, or working outside the claimed invention, e.g. showing poor or average results outside a claimed range and an improvement inside the range. However, if such data is available at the time of filing, the inclusion of comparative examples is a powerful way of indirectly supporting the claims and demonstrating inventive step.

If during prosecution prior art is cited and it proves necessary to supply comparative data in support of inventive step, this comparative data

can be supplied during proceedings before the EPO, and it is the applicant/patentee's duty to provide it. This data is not incorporated into the description, but remains part of the file.

*Description
of Figures*

Drafting a description of Figures requires a systematic approach to numbering the various parts. It is wise to keep a check-list of the references and the parts they designate, possibly leaving gaps.

The same reference numerals should be used throughout to designate the same elements. For complex drawings with many numerals a systematic correspondence can be used: 111 in Fig. 1 = 211 in Fig. 2 = 311 in Fig. 3 etc.

In a properly constructed description, the reference numerals are introduced in numerical sequence. Making the description of embodiments correspond closely to the claim wording and structure unifies the description and is a convenient way of proceeding from preprepared claims.

Moreover, the Figures/Embodiments/Examples should be in a logical order.

The initial discussion can set out the general principles, possibly related to the claim wording and possibly with reference to schematic drawings or a block diagram. This is a useful introduction to complex embodiments going into much more details than in the claims.

*Structure/
Operation*

In mechanical cases, the description can be streamlined by first describing the construction, then the operation.

*Micro-
Organisms*

Inventions involving new micro-organisms not available to the public, and that defy written description, must follow a special procedure for depositing the culture at a recognised institute - see Rule 28.

Units

Units should be in the metric system. Another system may be used together with a conversion into metric. Obviously, it's best to adopt metric from the outset. Metric is accepted by all patent offices throughout the world. If the claims or a priority document contain round-number figures in non-metric units, e.g. 20 - 50 psi, it's best to keep these units as the primary ones and indicate the metric equivalent in brackets.

The Office requires SI units (see Guidelines Part C II - Annex 1); however a Board of Appeal has ruled that other metric units are acceptable.

Industrial Applicability

Rule 27(g)

When the way in which the invention is capable of exploitation in industry is not obvious from the description or the nature of the invention, the description should end by an explicit indication setting out this.

This formal requirement is of little practical use. For most inventions, the industrial applicability is clear. For inventions where industrial applicability is doubtful it would be a good idea to make industrially applicability very clear from the description itself.

The Abstract

Rule 33

The Abstract is a precise summary, usually less than 150 words, of the disclosure in the description, claims and drawings. It begins by the title.

The Abstract should indicate the technical field and give a clear understanding of the technical problem involved and how it is solved by the invention. The principal use of the invention should be mentioned.

Where there are drawings, the Abstract should include reference numerals in parenthesis after the main features.

In the application form, the applicant indicates which drawing should be used with the Abstract.

Defective Abstracts are corrected/rewritten by the Search Division before publication.

It is not necessary to file an Abstract to secure a filing date.

Art. 85

The Abstract merely serves as technical information. It cannot be used to interpret the claims. It is not included in the state of the art retrospectively published under Art. 54(3).

In practice, it may be convenient to draft the Abstract starting from one of the main claims, and exemplifying the claimed features, e.g. as set out in principal sub-claims.

When the Abstract is written as the last thing, check for correspondence with the text.

Sometimes when the Abstract is done last in freehand fashion, the drafter finds a better way of describing the invention or certain features. This can then be imported into the description/claims.

The Title

Rule 26(b)

The title should clearly and concisely state the technical designation of the invention, excluding all fancy names. The title appears on the application form and on the Abstract. There is no need to begin the description with the title.

Vague titles like "Method" or "Device" are not acceptable and may be amended by the EPO before publication. It is no longer necessary to recite all claim categories (device, method etc) in the title.

If the Title is changed by the search Examiner, check for accuracy and complain if the amended Title is wrong. Make sure the Title is corrected for the later proceedings. Also check the translation of the Title prepared by the EPO in the two other languages, and request correction if necessary.

Under European practice, the Title is not made available to the public until publication 18 months after filing/priority. For this reason, it is not advantageous to adopt a vague title to try and avoid disclosing the invention before publication.

Form & Style :Standard Sub-Headings

Within the prescribed layout of an application it is possible to use standard sub-headings (based on Rule 27) or tailor made sub-headings. The EPC makes no recommendation on this.

When sub-headings are used, as a matter of style it is important to confine each section to what is announced in the sub-heading. For instance, it is self defeating to have a section entitled "Background Art" if it talks about embodiments of the invention.

Standard sub-headings are useful when drafting from scratch to assemble different parts of the patent applications at different times. For example, when starting with a skeleton draft.

Materials from inventors are often technically helpful but badly organised. Using standard sub-headings facilitates arranging different parts of a disclosure into the most appropriate place.

Non-Standard Sub-Headings

For long texts it can be helpful to sub-divide the subject matter under more specific headings, for example "Filament Materials", "Filament Manufacture", "Assembly Procedures", "Operating Conditions" and so on.

When the patent application is to be submitted to management or to interested parties who may not be too familiar with reading patents, a breakdown into sub-headings can be helpful.

A long text properly organised in this way is modular and can be reorganised or compacted relatively easily (e.g. before filing, if new embodiments are added, or later if divisionals are filed).

Non-Standard sub-headings are also useful if it is convenient to depart from the prescribed normal order.

Obscurity

Obscurity invites problems for the applicant during prosecution and for the patentee seeking enforcement. Making a patent deliberately obscure is self-defeating.

Length

The length of a patent application seems to be more a question of the patent applicant's or draftsman's style than the basic content required to cover any given invention.

Lengthy discussions of prior art are not required. But if the Background Art is pertinent and if the discussion places the invention in a favourable (but true) perspective bringing out the inventive

step, a long prior art discussion will be perfectly justified.

A lengthy discussion of prior art can be included in a European patent application as filed, which means that the prior art can be "placed in perspective" at this point of time. After filing, only a factual summary of the most relevant prior art can be added to the description.

It is not necessary to repeat all claims word-for-word; a brief reference to the claims and a discussion of the problem solved or advantage obtained by the claimed features is enough.

Multiple objects are likely to give rise to problems of unity or lack of clarity; but they may be included (or maintained in a US-originating application) to allow different fall-back positions.

Sometimes a single embodiment or example may suffice; further embodiments/examples should be included only if useful.

Broad claims need support by describing many embodiments, leading to a long (and strong) patent.

When the claims are compacted using allowable multiple dependencies, the description can set out individually the various combinations, or can refer to the claims for "self-support" for the various combinations.

Points of Style

- It is unnecessary to refer to the person skilled in the art simply to say what is well known or readily apparent. It suffices to state that something has been published or used.

Refer to the skilled person only occasionally.

- Avoid excessive cross-referencing to other documents for basic information.
- Avoid excessive cross-referencing to other parts of the description.
- Avoid making excuses about what is not shown or not described.

If something is essential, it should be shown or described. If it is not, there is no need for an excuse.

- Use simple technical language.

The text has to be translated into different languages and should be meaningful in each language.

- Avoid excessive use of "fillers", especially when starting off paragraphs:

Advantageously, in another and even more preferred embodiment of the invention which, as will be readily apparent to the average person skilled in the art from the preceding discussion of the preferred first and second embodiments, is a development of said hereinabove described ..."

- Avoid excessive use of patent jargon: "said", "screw means", "a first end and a second end"....

If these words are used in the claims, avoid them in the description. Replace them by more commonplace words: "the", "a screw", "at one end and its other end".

- When claims are quoted in the text, they read better when broken down into shorter sentences, with claim jargon replaced by ordinary words.
- Be consistent in the way references are identified, the order that groups of elements or components are listed, in the units used, and so forth.
- Avoid unnecessary legal matter, for example explaining that the reference numerals in the claims are not intended to limit the scope of the claims, or explaining that the scope of protection is set out in the claims or is intended to embrace technical equivalents etc.

European patent applications should describe and claim the technical content of the invention.

The Description - Final Thoughts

The content of the description, claims and drawings as filed is all important for the ultimate fate of the patent application.

Preferably the description will adequately support the claims as filed and contain plenty of materials that can be used as fall-back positions in case new prior art is revealed.

Clarity is a requirement of the claims and by extension also of the description, because the description is used to interpret the claims.

Conciseness - subordinated to clarity - is a requirement of the claims but not of the description; common sense nevertheless requires that unnecessary repetition and an abundance of "padding" should be banished. A well constructed description contains a graded redundancy of information corresponding to the claims in their generality down to their specific embodiments, arranged in a subtle hierarchy that provides legal armour making up a "strong" patent.

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The next Chapter [General Considerations](#) contains comments about drafting trends, prior traditions and influences.

General Considerations

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The Importance of the Client's Policies and Instructions

Most patent applicants have a strategic reason for filing their patent application(s). See "[Policies and Purposes](#)" (Preliminary Considerations).

A patent application drafted out of tune with the applicant's policies and purposes is unlikely to be successful.

Different drafting styles may result from:

- Different applicants (companies/individuals)
 - specific needs for protection
 - traditions ("company style")
 - budgetary considerations
 - the available materials
- Different Patent Attorneys / Draftspersons
 - national traditions
 - professional training
 - perception of the applicant's needs
 - perception of the legal requirements

As a rule, the client's motivation and means will provide the underlying driving forces. The draftsperson will amalgamate his/her perception of the applicant's needs/invention with the legal requirements.

Accommodating the applicant's style to the legal framework:

- The legal requirements for patent applications constitute a framework allowing ample scope for individuality in expressing any particular invention.
- Applicants are induced to comply with the legal requirements, or face difficulties in obtaining protection.
- Different claim drafting practices can be accommodated in the legal framework.

Reconciling the client's needs with the legal requirements for grant/validity allows for a systematic approach to claim drafting:

- What the client wants to, and needs to, protect will govern the content of a patent application and its claims.
- The content of a patent application and its claims have to (ultimately) meet up to the legal requirements if the applicant's aim is to achieve valid protection.
- Knowing the legal requirements helps to obtain the requisite information from the applicant, and frame it in a proper way.
- Departures from the legal requirements are sometimes justified to fit the situation.

Patent "Culture"

More important than the size of the applicant company is the company's experience and background in patents, their "patent culture".

- Numerous large companies were founded based on a successful invention:
 - Patenting frequently contributed to the company's growth.
 - Over the years the company accumulated experience of the patent system, both as patentee and by facing problems with competitors patents.
 - The sum total of these experiences makes up the company's patent culture.
 - Generations of patent attorneys contribute to the company's patent culture.

Drafting for established Companies / experienced applicants:

- The style (type of introduction, discussion of prior art, problem & solution approach or other presentation, detail of examples, number of claims, length) will almost always be dictated by the company's tradition.
- The standard approach is to obtain a few recently drafted patent applications, and copy the pattern.
- Candidates for the European Qualifying Examination would be well advised to follow the same approach: Study the past papers and Examiner's comments: What drafting style meets up to the client's expectations?

Individuals and newcomers to the patent system have different motivations:

- Emulation of patent success stories.
- Fear of "losing" their invention to unscrupulous operators.
- Upcoming publication would mean irreparable loss of rights.
- Need for protection in view of negotiations with targeted partners.
- Need to capitalise R&D investments.
- Need to establish freedom to exploit by preempting patenting by others.

Drafting for Individuals / Small Companies:

Where the applicant has no set style, the attorney/draftsperson will either:

- Impose his/her own style.
- Copy another style, say following a standard pattern meeting up to the EPC/PCT layout, problem-solution approach etc.
- Choose an appropriate style depending on the circumstances of the individual.
- Follow basic legal requirements (e.g. to obtain a date of filing to establish priority).

Making Use of the Client's Input

It is important to make good use of the client's input: e.g. examples, drawings, statements of advantage, as appropriate.

Most clients recognize the need for an attorney's special skills to transform their input into a legally acceptable format to achieve good protection. The drafter should do this so the client will appreciate the improved presentation, without losing the invention's identity.

Wholesale deviation from the client's materials can lead to the unsatisfactory situation where the client believes his invention has been mutilated. When difficulties are encountered - which is a usual situation - the drafter is liable to be blamed.

Where the client's information is incomplete, the attorney/draftsperson will complete the information using available sources: questioning the inventor, searches etc. See "[Preliminary Considerations](#)".

Candidates for the EQE should be aware that they are expected to make full use of the client's materials, but not to use their own special knowledge, nor make unwarranted extrapolations.

Remember, in Exam conditions, it is not possible to confer with the client. This focuses on the need to make maximum use of what is given, assimilating the relevant facts by proper "purpose-directed reading". Exactly the same technique is all important on a "real" client's materials, before asking questions to fill the gaps.

When choosing generic terminology or suggesting new examples, it is necessary to confer with the client and obtain approval.

Examples of Drafting Styles of Different CompaniesCOMPANY A - MULTINATIONAL

- Discussion of only the closest prior art as needed for patentability.
- Statement of the technical problems with the Prior Art.
- No "objects of the invention".
- Most claims paraphrased in the description and advantages discussed.
- Reference where appropriate to the Company's and competitor's trademarked products, in the Examples and specific description.
- About 10-20 claims; multiple claim categories.
- Claims frequently cover applications or developments of the applicant's commercial products.
- Mainly one-part claims.
- Claims initially follow US practice; adapted later for filing outside USA.

COMPANY B - MULTINATIONAL

- No discussion of prior art initially. A minimum prior art discussion is added where necessary to satisfy the Examiner.
- Statement of Invention followed by advantages.
- Extensive inventive and comparative examples.
- About 10-20 claims; multiple claim categories.

Drafting European Patent Applications
General Considerations

- Claims frequently cover new applications of known products.
- Mainly one-part claims (chemical area).
- Claims initially follow EPO/PCT practice.

COMPANY C: (Small patent-oriented company; relies on patents for potential licensing to big industry)

- Carefully worded lengthy discussion of prior art.
- Extensive cross-referencing to the applicant's earlier patents (package effect).
- Competitors patents discussed objectively (all competitors are potential partners/licencees).
- Referred-to patents identified by inventor(s).
- Multiple Statements of Objects of the Invention.
- Statement of Invention followed by list of multiple advantages.
- Claims paraphrased in the description and advantages discussed at length.
- Consistency in listing elements/compounds.
- About 20-80 claims; multiple claim categories.
- Claims cover combinations with the applicant's earlier inventions (package effect).
- Claims follow PCT rules; same set of claims to be used for all countries (+/- minor local adaptations). Emphasis on meeting US requirements.

COMPANY D - Medium Sized (Competitive Consumer Products Industry)

- Praiseworthy discussion of own prior art; critical discussion of competitor's prior art.
- Statement of further advantages to be achieved over own prior art; Critical statement of problems with the competitors prior art.
- Referred-to patents identified by numbers.
- No recitation of the claims. Short statement that the problem is solved by the various claims.
- About 10-30 claims.
- Two-part claims.
- Reference numbers in the claims.
- Claims follow EPC rules.

COMPANY E - "EOE Examination Board & Subsidiaries"

- Strict Compliance with the EPC & Guidelines.
- Brief summary of closest prior art and the (given) problem associated therewith.
- Support the main independent claim(s) only. Explain how the problem is solved + advantages.
- Claim broadest possible protection useful to the client, meeting EPC requirements and based on the given facts.
- Keep dependent claims to a reasonable number. In all, about 10 claims for mech/electrical; 15-20 claims for chemistry usually including several independent claims in different categories.

The Reader's Viewpoint

Patent applications and patents are addressed to a limited audience. Different readers take different viewpoints. The drafter needs to consider these different viewpoints in order to produce a desired effect and to anticipate possible feedback.

Typical readers include:

"In-house" Readers:

This includes the drafter's supervisor, the inventor, technical directors, business managers. Generally, these readers are privy to a pre-filing review, and provide positive feedback including useful scope of protection, meeting up to official standards, anticipating competitor's reactions, compliance with company style and standards etc.

The EPO search examiner, substantive examiner, Opposition Division, Board of Appeal

Appraisal from the point of view of compliance with the official requirements including the Guidelines. Special features of official review:

- If an opposition is filed, the main substantive examiner is likely to be a member of the opposition division. This makes examiners wary to accept anything that could be problematic for them in an opposition.
- Substantive examiners have to base their objections on the documents in the search report. This leads to allegations that claim features are non-essential/unclear in order to introduce an objection of lack of novelty, to force a claim limitation.

- Examining divisions are composed of three examiners. The fact that an examiner cannot take a decision alone has made practice relatively uniform.

Publication of the Guidelines and Board of Appeal decisions has contributed to make the official's viewpoint predictable. If the drafter knows the official requirements and follows these, there should be few surprises during the procedure.

- Feedback from the EPO comes as Search reports, communications (mainly negative feedback, i.e. lack of compliance with official requirements) and decisions. The main feature about feedback from the EPO is its relatively long time delay.

Competitors

When published, patent applications are open to scrutiny by competitors who are on the lookout for loopholes in the protection, or ways of developing their own competitive version of the invention.

Competitors may be deterred if faced with dominating strong claims. This is the patent's "deterrent effect".

Competitors get upset by broad claims based on a limited example, where they are working or would like to work in the expanded area. Competitors are also sensitive to the way their own prior patents/publications may be discussed.

Feedback from competitors comes as Third Party Observations and Oppositions.

- The fact that competitors bother to oppose means they are affected by the patent. This may be interpreted as reflecting the patent's value.
- The drafter rarely receives a copy of third party validity/infringement opinions.

Potential Backers; Venture Capitalists

Some patent applications are furnished to potential backers. A properly constructed development of an invention's advantages and a display that its protection covers all commercial activities help to convince potential backers.

Start-up company's patent applications are significant elements in their "sales pitch".

Licencees and Friendly Third Parties

In normal circumstances, licencees and partners are not overly critical of a licensed patent's content. When a patent comes under attack, licencees are in an ambivalent position:

- If the patent is upheld, they are happy because the patent will continue to keep competition out.
- If the patent falls (or looks like it may fall), they would like to be placed on an equal footing with everyone else, i.e. make no more payments.

Professional colleagues

Colleagues scrutinize competitive patent applications located by surveillance, cited as prior art against their own client's/company's patent applications, or to make an evaluation of potential infringement or opposition.

The progress of competitor's applications and the evolution of their claims is monitored by file inspection, where colleagues evaluate all papers in the file.

Colleagues are quick to notice deficiencies, but also to recognise quality drafting.

In case of change of agents, colleagues entrusted with continuing an existing application review past mistakes as well as achievements from the file history.

Based on these experiences, colleagues make value judgements of the applicant companies, professional firms and individual attorneys.

EOE Examiners

EOE candidates work is read by expert Examiners whose task is to determine if the writer is "fit to practice" based on the evidence of the written answers. To succeed, candidates should present work up to the client's expectations: maximum valid and useful protection and compliance with all official requirements.

Unlike drafting for a normal client where dialogue is possible, and where the work passes through

various drafts in cooperation with the client/inventor who assist the drafter to bring the patent application up to standard, this "client" is testing the candidates expertise and is looking solely to see if the given instructions have been properly followed.

Also unlike "normal" drafting, there is no follow up procedure. The claims/description are assessed as submitted, assuming the prior art is complete.

Feedback from the Examiners is slow (about 6 months) and unsuccessful candidates receive only an indication of the mark obtained, with practically no indication as to where they individually went wrong. General feedback is however available from the Examiners Reports.

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In summary, it can be expected that patent applications will be scrutinized by a limited number of individuals from different perspectives.

In preliminary drafting and when refiling, it is necessary to anticipate how others will react to the patent application.

Claim Drafting Traditions

Claim drafting practices evolved over the years in different jurisdictions, as a result of Case Law decisions and legislative changes.

A review of old patents from different jurisdictions reveals the trends. For example:

Claim format from the 1800's:

A method of producing salt substantially as herein described.

1920's UK 222 604 Logie Baird:

A method or system of transmitting views, portraits, and scenes, by projecting each section of the picture in succession on a light-sensitive cell, and utilising the varying current from this cell at the receiving station to light a succession of small lamps arranged to form a screen upon which the varying illumination of the lamps constitutes the picture to be viewed.

Product-by-process claim, UK, pre-1978:

Salt when produced by the method of claim 1.

The 2-part claim format became widely used especially in Continental Europe. In the USA this was referred to as "European type claim; in the UK it was referred to as a "Continental Claim".

Under some former practices, the 2-part claim was thought of as having a preamble defining the prior art, and a characterising part defining inventive features. Compare this with the definition in Rule 29EPC.

In French/Italian/Spanish practice the "characterised" wording was frequently used in independent and dependent claims, without however serving as a reliable "divider".

In some countries, it was impermissible to frame a dependent claim with features that referred back to the 2-part claim's preamble. Only "inventive" features could be the subject of dependent claims. Such requirement was not taken over by the EPC.

A feature of old Dutch and Scandinavian practice was the discouragement of dependent claims, leading to a "monoclaim" presentation, where the single claim frequently recited alternatives and preferences (that would be included in dependent claims in other countries).

Under the EPC, most applicant take advantage of the possibility of 10 claims without extra fees. It's rare to see a granted European patent with a single claim. Moreover, the limited possibilities of amending a European patent after grant dictates the need for dependent claims.

As late as 1968, French patents had no claims, merely an "abrégé descriptif" to help the Judge settle the protection.

Several countries like France and Italy had a tradition that the Judge had great power to interpret claims in the patentee's favour, based on the description. This led to a reluctance of claim drafters to pinpoint the protection, which could best be left later to the Judge.

Countries like Germany and the Netherlands had a tough examination which led to narrowing of the claims, whereas the Courts had power to broadly interpret the granted claims based on the "general inventive concept" or the "theory of

equivalents". This led to the practice of including limitations to achieve grant, in the expectation that the limitations would not be binding.

Long-developed UK law laid emphasis on the patentee's responsibility to clearly define the boundaries of the protection, giving decisive weight to the drafter's intention expressed in the claim wording. Combined with an examination limited essentially to novelty, this led to the formulation of broad claims stripped of useless limitations, but vulnerable on formal grounds: ambiguity, lack of fair basis, insufficiency, inutility, "false promise" etc. All this dictated great precision of claim wording.

When the EPC came into force, many traditional practices were accommodated under the general wording of the definitions in the EPC and the Implementing Regulations.

In particular, different traditional approaches to drafting were accommodated in the EPC by Article 69 and its Protocol. See "[Evolution](#)".

This Protocol recommends a "middle-of-the-road" approach to the dilemma between fair protection for the patentee and the public's legitimate expectation of reasonable certainty. The Protocol thus represents a continuation of old practices, but tuned within a reasonable common "bandwidth".

Traditional practices were also summarised in the Guidelines. In particular the old national Case Law from different countries* served as a basis for quoting examples of allowable or unallowable practices. The Guidelines were followed by applicants and examiners alike, leading to a "consecration" of old principles.

* Mainly the UK: the original Guidelines were largely influenced by Mr. Wallace, the first Vice-President of DG2.

The Emergence of a European Claim Drafting Practice

When filing of European patent applications began, there was a tendency to continue drafting according to prior national practices. Drafting habits evolved as a function of:

- Adapting to the new rules as perceived from the EPC itself, the Implementing Regulations and the Guidelines.
 - Various old practices were abolished e.g. "omnibus" claims - Rule 29(6).
- First experiences from examination. In the early "anmelderfreundlich" years:
 - Many old practices were allowed.
 - Unity of invention was generous: "one search - one patent"
 - Multiple dependent and cross-referenced claims acceptable Rule 29(4).
 - "In a --- " claim wording following US practice generally unallowable (lack of clarity, Article 84).
 - Multiple independent claims allowable if justified (no repetition; clarity) Rules 29(2)/30.
- It took several years to realise that fundamental changes had taken place and for the new European Claim drafting practice to emerge, as witnessed by the growing body of Case Law.

Impact of the Case Law of the Boards of Appeal:

Early experiences from the examination and opposition procedures were put to trial on appeal. The resulting Case Law had a major impact on European claim drafting practice.

- See the "Case Law of the Boards of Appeal", 4th Edition 2001, especially Chapter II B "Claims", page 156+ and Singer/Lunzer "Article 84".

Various points from the Case law are summarised below.

- Claims should normally recite positive features, not negative terms stating what is not included in the claim. Disclaimers occasionally permissible, but must recite technical features (T 4/80; T 11/89).
- Technical features - physical entity/physical activity - claim categories (G 2/88).
- Claim must recite all features necessary to solve the technical problem (T 32/82).
- Claim omitting feature described as essential, lacks support (T 133/85).
- Claim may be interpreted to include a feature described as essential (T 416/87).
- Extent of the protection should correspond to the technical contribution to the art (T 409/91; T 484/92; T 659/93).
- Essential features comprise those necessary to distinguish over the closest prior art (T 61/94).

- Sub-combination, without all essential features of the main combination, may be patentable, like chemical intermediates (T888/90).
- Apparatus claim need not recite process feature essential for the process (T435/89).
- Product-by-process claims must meet up to the substantive requirements of patentability, hence be *per se* novel (T 150/82; T 248/85).
- Product not rendered novel by its process of production T 219/83.
- Product-by-process definition allowable if the product cannot be described another way (T 320/87; T 130/90; T 487/89).
- Product *obtainable*, rather than *obtained*, by process (T 148/87).
- Combination of product and process features (T 148/87; T 129/88).
- New use of a known measure (T 39/82).
- Combination of inter-related known features (T818/93).
- Purpose-directed non-medical use (G 2/88 and 6/88).
- 1st medical use: "purpose-related product claim" (T 128/82; G 5/83).
- 2nd medical use claim format "Swiss type claim" (G 1,5 & 6/83).
- Kit-of-parts (T 9/81).

- Necessity for use of 2-part claim and correct delineation over closest prior art (T 6/81; T 13/84; T 162/82).
- When 1-part claims are acceptable instead of 2-part claims :
 - chemical compounds (T 36/83);
 - new uses (T 36/83; T 144/83);
 - to avoid complex formulation (T 170/84);
 - to avoid incorrect picture of the state of the art (T 120/86; T 137/86);
 - when the closest prior art is remote technology (T 419/88);
 - non-use of 2-part form is not a ground of opposition (T 4/87);
 - See also the Guidelines: complex systems etc.
- Functional features defining a result are permissible if they cannot be defined more precisely without restricting scope, and if it is clear how to reduce them to practice (T68/85; also T 361/88; T 243/91).

The allowed wording was "in a quantity producing a synergistic herbicidal effect". The same principle applies to "Means plus function" claims.

- Functionally defined claim covering variants that may need inventive skill to implement - claim clear, disclosure sufficient (T 292/85).

- Broad claim supported by more specific description (T 939/92).
- Degree of generalisation permitted (T 391/91; T 19/90 - oncomouse).
- Speculative claims going way beyond the description - insufficiency (T 770/90).
- Problem-solution approach for assessing inventive step (T 1/80; T 20/81 etc.).
- Problem inventions (T 2/83; T 225/84).
- Combination inventions (T 818/93).
- Inclusion of reference numerals (T 237/84; T 145/89).

Decisions relating to Claim wording:

- "consisting essentially of" (T 472/88).
- "consists of" is exclusionary wording so proportions must add up to 100% (T 711/90).
- Use of Trademark unclear (T 762/90).
- Definition by parameters (T 94/82).
- Broad claims not *per se* unclear (T 238/88).
- Relative term (water soluble) not unclear (T 860/93).
- "such as" does not limit broad meaning (T 688/91).
- Objection to "approximately" (T 194/89).

- Essential features define borders of invention and may broadly indicate a new principle or idea (T 630/93).
- Parameter expressed by numerical value clear if method of measuring identified (T 92/82; T 124/85).
- Thickness defined by parameter depending on the skill of the operator - unclear (T 227/91).
- Cross-reference between claims in different categories allowable (T 688/91).
- A range with unspecified upper or lower limit may be allowable (T 487/89).
- Lack of clarity can result from lack of conciseness:
 - 10 independent claims (T 79/81);
 - >150 claims (T 246/91).
- Claim unclear if *per se* contradictory:
 - Article 69 cannot be relied on as a substitute for amendment (T 2/80; T 454/89).

Summary of European Claim Drafting Practice

The present fashion in European claim drafting is:

- Broad main claims which are a generalisation over one or several examples or embodiments, often using functional wording.
 - It is important for the patentee to be able obtain claims of broad scope covering the generality of the invention.
- A set of dependent claims of varying scope, supporting the broad claim, linked by single or multiple claim dependencies.
 - Multiple dependencies allow multiple combinations in a compact set of claims.
 - Dependent claims are needed because of the limitations in the possibilities to amend before the national authorities in revocation proceedings (even during opposition).
- Different aspects of the invention covered by independent claims grouped under one concept related to a given technical problem/ solution (Rule 29(2)).
 - Generous unity of invention allows comprehensive coverage in one patent, which partly offsets the high costs.
- Claims use positive recitation of technical features, while inferential recitation of implicit features is tolerated.
 - Not all features of a claim must be limitations; optional or alternative features can be claimed.

- Alternative expressions like "or" or "and/or" are allowed.
- Negative limitations like disclaimers are allowable.
- Structural features and activity/method features can be mixed where needed.
- Overall, this allows great flexibility in drafting.
- Various claim formats are allowable:
 - 2-part claims are compulsory in the mechanical area where appropriate.
 - 1-part claims are allowable in many stereotyped situations (see the Case Law).
 - Claims in one sentence, but may be structured into sub-paragraphs.
- Use claims are in fashion:
 - purpose-directed use, 2nd medical use, etc.
- No omnibus claims.
- Each and every claim must fulfill the requirements for patentability.

All in all, the current European practice offers great flexibility for the practitioner in drafting claims to achieve optimum protection.

Compatibility with PCT Requirements

The EPC and the PCT entered into force simultaneously (1 July 1978) and were designed to be entirely compatible with one another.

There are a few differences:

Definition of the state of the art: PCT Rule 64. The PCT examination is confined essentially to printed publications.

PCT Rule 5 prescribes "best mode" if required by national law, which is the case in the USA.

PCT Rule 6.2(b) states that reference signs (in parentheses) shall preferably be used in claims, but then states that this should not be done if it does not particularly facilitate quicker understanding of a claim, and that reference signs may be removed by a designated Office for the purpose of publication by that Office.

PCT Rule 6.3 recognises Jepson-type claim wording "wherein the improvement comprises" as an alternative to "characterised".

PCT Rule 6.4 contains limitations on claim dependencies. Multiple dependent claims should refer to previous claims in the alternative only ("according to claim 1, 2 or 3" instead of "according to any preceding claim") and shall not serve as a basis for any other multiple claim (Claim 4 cannot depend on claim 3 if claim 3 depends on claim 1 or 2).

PCT Guidelines* :

The PCT International Search Guidelines give useful insights into how the search examiner interprets claim wording like "comprising" and "consisting" - see Chapter III-3.12 onwards

The PCT Guidelines for the examination of novelty and obviousness/inventive step follow closely the EPC Guidelines.

In particular, based on PCT Rule 5.1(a)(iii), the PCT Guidelines for the examination of inventive step follow the problem-solution approach. This has resulted in the problem-solution approach gradually being used more by USPTO Examiners.

PCT Rule 13 and the corresponding Guidelines on unity of invention are like those of the EPO, and we are working (slowly) to harmonization.

The PCT Guidelines on Unity (Annex B to the Administrative Instructions) contain a host of examples illustrating various allowable (unitary) and unallowable (non-unitary) claim groupings. This is an invaluable document. If claim groupings are framed according to one of the allowed formats, this will help to combat non-unity objections in later national proceedings.

* Published in the PCT Gazette and available on Internet.

Comparison with US Practice

US drafting practice has had a major influence on EPO practice.

USA-origin applications have always been #1 in European filing statistics. US practitioners were reluctant to re-write their applications to comply with European practice, which in the beginning was in a state of flux.

As a result, a large number of US-originating applications have been filed in typical US style, and left to find their way through the EPO.

In the "anmelderfreundlich" era, many features of US practice were accepted by the EPO Examiners. Attempts to force US applicants to change their ways simply created too much work.

Moreover, numerous European practitioners have adopted points of US style, due to translating/ filing US-originating applications in their own countries, and in adapting European-originating applications for filing in the USA, traditionally the #1 country for filing outside Europe.

Some differences in practice stem from divergences in US and EPC substantive law:

- 35 USC 102 defines the state-of-the-art for novelty purposes in a different way to Article 54 EPC's "absolute novelty":
- 1 year immunity or "grace" period before publication if the inventor can prove earlier invention.
- Prior non-public sale is a bar.

- No statutory exclusions on computer programs, business methods, therapeutic use etc. (like that in Article 52(2)(4)EPC).
- The US concept of utility is like "industrial application" but plays a greater role

In the USA, the "first-to-invent" system encouraged deferring the filing of new patent applications. Moreover, the "best mode" requirement and case-law precedents set stiff requirements on sufficiency of disclosure. US patent infringement suits can be tried by juries who are receptive to "filler" wordings. The presence of multiple independent claims has saved many a patent in court.

A combination of these factors has led to US-originating patent applications on average being noticeably longer than those originating elsewhere.

The length of the patent application and the number of claims are not penalised via PCT filing : moderate extra fee over 30 pages, but no extra claims fees. This has encouraged US applicants to maintain their lengthy US applications for international filing including the EPC.

The main problems arise at the PCT 30-month deadline (31 months in Europe) when entering the national/regional phase where translations and excess claims fees are required. In Europe, translation costs are deferred until grant and claims fees can be reduced by compacting.

USA - Unity/Divisionals

The legal concept of unity of invention is similar between the USA and Europe, but practices still diverge.

Traditionally, filing divisionals was commonplace in the USA, formerly encouraged by low fees. US Examiners also have an incentive to provoke divisionals.

In Europe, however, the high costs (including designation fees and back annuities) discouraged filing divisionals and this was comforted by the generous official attitude on unity.

Many companies have a pattern of obtaining two or more US patents for each European. This results from:

- The different official attitudes to unity.
- Lower/higher cost for obtaining patents in the USA/Europe.
- Great importance attached by many companies to the US market, covered as a single US patent, whereas the European market and patent protection are fragmented.
- The perception that several patents are better than one, when it comes to enforcement.

Further points from US practice:

US claim drafting style reflects examination practice. The US Examiner rejects a claim for obviousness in view of prior art (assertion); the applicant has to rebut the rejection.

In the EPO, the Examiner questions the inventive step and invites the applicant to place the application in conformity with the EPC, and in particular to demonstrate the presence of inventive step.

Though there are differences from case to case, as a generalisation, in Europe, claim structure (2-part form, or accepted formats like use claims, analogy process claims), combined with use of the problem-solution format for arguments, plays a greater role in the demonstration of inventive step.

In the USA, more reliance is placed on extraneous factors such as commercial success, and declarations from experts, which in Europe are regarded a secondary.

For claim interpretation, the US has an accepted judicial doctrine of equivalents. In Europe such a doctrine is not uniformly recognised: interpretation is based on Article 69 and its Protocol: See "Evolution".

In the USA there is no requirement to adapt the description to the claims in case of amendment. Reliance is placed on the "file wrapper" or "prosecution wrapper" for the interpretation of claims. The doctrine of "prosecution wrapper estoppel" precludes broadening of a claim against a limitation introduced to overcome prior art.

Typical features of US claim drafting style are:

- Large number of claims.
- Several independent claims in the same category, of different scope ranging from broad claims to "picture" claims or "fingerprint" claims.
- Limitations on multiple claim dependencies.
- Multiple "objects of the invention".
- Mainly 1-part claims.
- 2-part claims can allowable in the format "In a ---, the improvement comprising ---" ("Jepson" claims), disliked by some US attorneys.
- "In a ---" wording also used for sub-combination claims.
 - In an electrolytic cell for the production of chlorine, an anode, the anode comprising ---".
- Positive recitation of claim features, i.e. that avoids introducing features by implication:
 - "a string having a first end and a second end, a conker attached to said first end of the string..." (instead of "a string having a conker attached to its end...").
 - Inferential recitation of holes or "absences of something" by defining what creates the hole/absence:
 - "means defining a hole" for "hole".

"a pipe having therein a circumferential groove".

- Circumlocuted wording to avoid the word "or" which formerly was (and by some Examiners still is) regarded as indefinite:
 - "Markush" groupings: "a member selected from the group consisting of a, b and c".
- Methods of therapeutic treatment can be claimed as such.
- Methods nearly always recited step-by-step.
- Features of combination claims frequently listed in separate sub-paragraphs ("outline format").
- Use claims not favoured.
- Including references in parentheses is allowed but disliked by some US attorneys:
 - as a rule, leaving references out often makes claims harder to understand, and this seems to meet the objective of many an attorney!

Adapting US Claims for European Filing

The following points require attention:

- Claims can be compacted, making use of multiple dependencies, to avoid excess claims fees when filing in Europe or entering the PCT regional phase.
 - T 246/91 held that the inclusion of 157 claims was contrary to Rule 29(5)
- Convert multiple independent claims in the same category to a set of dependent claims without losing features.
- Add reference numbers in parentheses where appropriate.
- Eliminate "In a --" wording.
- Where appropriate, when restructuring to 2-part format, reorganize to correctly acknowledge the closest prior art in the preamble.
- In the therapeutic area, avoid claims covering a therapeutic use; convert to 2nd medical use claim where appropriate.
- In the area of mathematical methods, business schemes, computer programs etc., beware of claiming subject matter specifically excluded by the EPC*. Concentrate on technical solution to a technical problem.

* Example from US 4 887 543 (see over)

Drafting European Patent Applications
General Considerations

* US 4 887 543 "Unforgettable Umbrella Method":

A method to aid the memory in remembering to retrieve an umbrella on leaving a building from a location where the umbrella was placed upon entrance in the building, the method comprising:

- (a) providing an eye means with an opening to provide a clip means, on a handle of the umbrella,
- (b) providing a member having a perceptible surface with a clip means to detachable mount onto the eye means,
- (c) providing identification means on the umbrella and on the member to visually indicate that umbrella and the member go together,
- (d) attaching the member to the eye means on the umbrella,
- (e) removing the member by detaching it from the umbrella upon entering a building,
- (f) placing the umbrella at the location where the umbrella is to be temporarily left in the building, and
- (g) attaching the member to a key ring on which automobile or residence door keys presently in use are attached,

wherein the member is of sufficient size and shape that it will readily be noticeable when the keys are next used.

This claim illustrates a number of the features of US claims mentioned above.

Adapting European Claims for US Filing

The following points require attention:

- In case of multiple dependent claims, simplify the claim dependencies, *inter alia* to avoid excess claims fees.
- When filing via PCT, follow the accepted PCT format (helpful especially for unity of invention - see the PCT Guidelines on Unity).
- Positively recite the claim features (this is also allowable under the EPC).
- In the therapeutic area, therapeutic use can be claimed; 2nd medical use claims can be reformatted.
- In the area of mathematical methods, business schemes, computer programs ... broader claims may be permissible.
- You may expect your US attorney to propose cosmetic changes to adapt the claims to US standards. The degree of changes is variable.

Special Conditions for Claim Drafting in the European Qualifying Examination

In the conditions of the European Qualifying Examination, the claims must:

- Achieve the broadest possible coverage covering the client's interests.
- Meet up to all requirements of the EPC and Guidelines and Case law (be legally valid).
- Be based on - and restricted to - the information provided by the client: assume the prior art is exhaustive (don't deviate from the information given, e.g. by covering imagined embodiments that would need specific support).

Meeting up to these three requirements simultaneously in the time allocated is a difficult challenge, especially as it usually goes against work habits.

Candidates are well advised to familiarise themselves with the past Exam papers and other material in the Compendium.

The past Exam papers are a rich source of education on claim drafting. Much can be learnt from doing the past papers, preferably not under simulated Exam conditions.

Instead, first invest time to familiarise yourself with the Exam philosophy and learn from the Examiners' comments. Spend plenty of time to analyze your mistakes (and the good points) in your solution.

Doing the Exam papers can be an ideal complement to on-the-job drafting.

The Exam papers test fundamental drafting techniques that may only rarely be encountered in a trainee's work.

The trick is to adapt your drafting skills to the Exam situation, while learning new skills from the Exam papers that will be useful on the job.

Sitting the Exam in modules is to be recommended, because this enables the candidate to concentrate on drafting/amendment and consequently substantive patent law first, and concentrate on procedural law later.

The techniques for rapidly assimilating and reorganising information, necessary for drafting and amendment, provide a sound foundation for the Opposition and Legal Opinion papers.

More detailed comments for Exam candidates are given in the Chapters: "[Paper A](#)" and "[Paper B](#)".

**Paper A of the European Qualifying Examination
(Drafting)**

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Introduction

To succeed in the Drafting Exam, the basic skills we use in everyday practice need to be applied to the task set in the exam under the specific exam conditions.

These course materials aim to relate the drafting exam to everyday practice, so that experience gained at work can be applied efficiently to the exam situation and, while preparing for the exam, you gain a better understanding of the techniques used to draft claims and defend patentability in everyday practice.

Candidates with extensive practice in drafting at work will have to adjust their working habits to the Exam conditions.

Candidates with little or no prior drafting experience (for instance EPO Examiners) can learn to draft under Exam conditions, then broaden their spectrum of drafting skills later.

The Exam papers offer a rich source of materials which - if properly used - can help beginners to acquire a good level of drafting proficiency in a reasonable time, and at the same time learn or reinforce their understanding of the basic requirements of patentability. "Proper" use means spending plenty of time to analyze your answers and assimilate the lessons contained in the Examiners Reports.

Candidates sitting the Exam in modular fashion have the advantage that their initial exam preparation can concentrate on the drafting/amendment papers and the underlying substantive law on patentability, and can leave detailed legal preparation until the first module is over, leaving a complete year for legal preparation.

Candidates taking all four papers at once should not underestimate or diminish their preparation for the drafting/amendment papers.

Candidates will naturally concentrate on the papers in their specialty: Chemical or Mechanical/Electrical, but can gain insight and learn a lot by tackling one or two papers "on the other side".

Those who are undecided which specialty to sit can try a few papers on both sides for practice, then concentrate on the chosen specialty. Chemical claim drafting requires extensive practice in pin-pointing patentability and handling the data in support. Mechanical claim drafting requires extensive practice in choosing the right terminology and formulating the claim.

"Real life" drafting work vs Examination

USUAL WORKING CONDITIONS	EXAMINATION CONDITIONS
BASIC DRAFTING SKILLS	EXAMINATION TECHNIQUES

How is the Examination different ?

- Instructions to Candidates.
- Who is the Client?
- Conditions of the Exam.
 - Timing, handwriting ...
 - No dialogue with the client ...
- Stereotyped "synthetic" questions.
- Marking.

Problems with the Drafting Exam:

- Failure to understand the Instructions.
- Inability to apply the instructions.
- Failure to adapt to the Exam situation - difference between working style and the Exam situation.
- Motivation - who is your client?
- Insufficient training for the drafting Examination (false assumption that working experience is enough).
- Time pressure: inefficient reading - organising - slow writing.
- Inability to extract information accurately and quickly from written instructions.
- Incomplete mastery of drafting techniques from limited work experience.
- Poor comprehension of novelty/inventive step. Incomplete knowledge of Decisions that impact claim drafting (esp. Chemical).
- Mental blockage in aiming for the broadest allowable claim.
- Main claim insufficiently worked out. Self-satisfaction with a poorly developed main claim (mechanical).

Problems with the Drafting Exam
(continued):

- Improper choice of claim category to achieve broadest protection; failure to use several independent claims where appropriate.
- Wrong choice of claims considering the support for inventive step / Case Law (chemical)
- Indiscriminate/useless multiple claims (Chemical)
- Inappropriate claim format: two-part/one-part claim (impact on use of the materials, the introduction, problem-solution).
- Unnecessary re-writing of the description. Use of terminology departing from that in the client's instructions. (Simplify : use the client's terminology as far as possible in your claims and description).
- Devoting too much effort to sub-claims (low marks).
- Loss of time on the description by inefficient cutting and assembling. (Practice doing this very fast to allow maximum time to work out your main claims. Practice using "lubricators" to edit the client's text).

What are you asked to do?

Your task is to draft an independent claim or claims offering the applicant the broadest protection possible - assuming the given prior art is exhaustive - while at the same time having a good chance of succeeding before the EPO, i.e. meeting up to all the requirements for acceptance by the EPO.

The number of sub-claims should be "reasonable". Sub-claims should provide realistic fall-back positions in case of failure of the preceding claims.

You are also asked to draft an introduction - see Rule 27(1) (a) (b) (c).

You are asked to draft claims and an introduction for only one European patent application.

The application presented should meet the requirement of unity. If useful extra protection could be obtained for non-unitary inventions by filing one or more separate applications, a note should be made identifying the subject matter of the main independent claim for each extra invention.

You can explain any actions, inactions or choices in brief separate notes.

You may need to indicate in which language you studied the question.

The Drafting Exam Scenario:

You must accept the given facts and base your answer on these facts.

The invention has been carefully worked out: the specific description, embodiments, drawings/examples have been drafted.

You cannot question the client or the inventor. You are expected to complete the job on the basis of the information supplied.

The client presents you with an invention that is novel over the given prior art and provides ample support for an inventive step.

The invention presented is quite different from the prior art. There is plenty of room to generalise the invention over the embodiments presented by the client.

The gap between the prior art and the invention presented is such that it is possible to cover:

- at least one broad generalisation, and
- several specific embodiments

for all of which the client has provided support for inventive step.

Normally, it should be possible to cover all embodiments/examples with a single (generic) claim, or with several unitary independent claims, even if to obtain the fullest protection for all aspects several patents may be needed.

The Client?

In the Exam you may consider that your client is the Examination Board:

- The Examining Board has supplied you with instructions. Normally, you should act under the instructions of your client.
- You may give explanations to your client by writing notes on your choice of solution etc. These notes go to the Examiners.
- The Examiners will judge your work in much the same way as any client would, by looking to see whether you have performed the job they asked you to do in the way they expected you to do it.

Note that this particular client:

- Is professionally competent (knows the Convention, Guidelines etc).
- Has given you definite instructions about the job you are expected to perform.
- Expects you to perform the job on the basis of the information supplied, without questions or further consultation.
- Knows exactly what sort of claims and introduction are to be considered a satisfactory solution to the problem set

(the question has been set up to test your ability to reach a satisfactory answer).

- Expects you where necessary to give brief explanations about what you have done.
- Expects you to obtain the maximum available coverage on the basis of the facts given, without leaving the application vague, and to create extra fall back positions in case the original essential distinguishing features turn out to be known.
- Cannot be expected to read illegible handwriting.
- Expects you to carry out the job you have been instructed to do.

Paying attention to the client's wishes :

In the drafting paper, the client's letter usually includes clear indications setting out the client's instructions as to what are the most important aspects to be protected.

Read the client's letter carefully: it contains clear guidance as to what the client expects to obtain protection for.

The letter also spells out the problem(s) in the prior art to be solved and the client's solution(s).

The client's letter sets out a description of the new invention and comments on the closest known prior art (which may be an earlier invention of the client).

The letter may also comment on the commercial situation e.g. "the heating cartridge can also be manufactured and sold separately from the glue gun".

It is important to follow as closely as possible the client's wishes, in particular to cover all important aspects of the invention as set out by the client.

Failure to follow the client's instructions will lead to a loss of marks. It is dangerous to deviate from the client's instructions and to seek protection for other aspects you think may be meritorious. All points of interest or importance to the client should be covered.

The information provided is very condensed. It requires time to study the papers carefully.

It's best to start by browsing through all of the papers and looking at the drawings (for the mechanical paper) to get a general idea of the invention before beginning to read systematically through the papers.

The client's letter has to be read very carefully. The difficulty is to extract all of the relevant information quickly. Highlight or mark all parts where the client indicates what is wanted, also all advantages/ disadvantages and everything relevant to problem-solution.

A few "Don'ts" :

- Don't amend or tamper with the specific description. You will need to extract sub-claims from the specific description. But leave the specific description intact.
- Don't prepare separate full sets of claims or separate introductions for divisionals (at most include a note regarding possible divisional claims).
- Don't extrapolate beyond the given facts.
- Don't present speculative claims.
- Don't present vague claims.
- Don't include non-allowable claims to keep open better possibilities for amending later.
- Don't include unnecessary limitations in your claims.
- Don't write sub-claims for trivial features that could not be expected to support an inventive step if the preceding claims failed.
- Don't write long notes. Beware of writing notes to explain choices: many choices will be judged on their face value, irrespective of what you may say in a note. Writing a note can sometimes make things worse.

Obtaining the broadest possible (valid) protection involves :

- Aiming for the most general definition of non-obvious subject matter covering all embodiments/examples.
- Careful choice of the main claim category and if necessary several independent claims in the same or different categories.
- Consideration of the scope of the technical subject matter of the claim and the extent of protection conferred by the claim (e.g. "Product "obtainable" by the process ... ").
- Consideration of how the invention may be commercialised. Make sure all patentable aspects of the commercial operation are covered (intermediate products, sub-combinations or sub-assemblies, manufacture, sale, method of operation, repair operations, purpose-directed use, pharmaceutical products, cosmetic products/methods ...).
- Maximum permissible generalisation of all technical features of the claim by careful choice of wording. In the case of a 2-part claim, this applies equally to all features in the pre-characterising part (the "designation of the subject matter" and any features in common with the prior art) as well as the features in the characterising part.
- Use of functional wording where appropriate.

- A distinction between essential features and inessential features. Include only essential features in the claim; eliminate inessential features from the claim - possibly include them in sub-claims.
- From the Examiners Reports, "essential features" means principally features that are essential for the problem-solution.
- Ask yourself the question, how could anyone obtain the same advantages outside the wording of your draft claim? Can the same effect be obtained with equivalent technical means? If so, broaden the claim wording to include the equivalents.
 - Never rely on the possibility that a Court or administrative body will interpret your claim under Article 69 to include something outside the plain wording of the claim (no doctrine of equivalents).
 - If technical equivalents are to be protected, they should be included in the claim wording.
- Correlation of the claimed subject matter with the available support for inventive step (unobvious/advantageous technical solution to a technical problem). Eliminate non-novel subject matter and subject matter that obviously can be reached from the prior art without an inventive step.

Compliance with the Requirements:

The claims and introduction need to comply with all requirements of the Convention and recommendations in the Guidelines. Here are comments on a few:

Rule 29 : wherever appropriate, the 2-part claim format should be used. Be sure you understand the definition in Rule 29! Make sure the features are properly located in the pre-characterising part or in the characterising part. In the introduction, relate the pre-characterising part to the closest prior art. When inserting reference numerals under Rule 29(7), insert the reference numerals of the invention in the pre-characterising part and in the characterising part.

Rule 29(1) : the claims are a definition of the subject matter for which protection is sought in terms of the technical features of the invention. Avoid non-technical features and "padding".

Lack of clarity is in contravention of **Article 84**, as is non-conciseness. Delete all superfluous wording. Be precise, avoid ambiguity.

Rule 27(1)(b) : the relevant prior art has to be cited in the introduction in a factual way with, if appropriate, a statement of problems/disadvantages.

Rule 27(1)(c) : recommends use of the problem-> solution format in the introduction by setting up a technical problem (as pointed out by the client), framing the claim around a non-obvious solution to the problem, and stating advantages of the claimed solution. This applies to the main independent claim or claims. Advantages may also be stated for the features of sub-claims, but little or no credit is given for this in the Exam.

Article 82, Unity, specifies that the European patent application shall relate to one invention only or to a group of inventions so linked as to form a general inventive concept.

Rule 29(2) (in force from January 2002) sets out exclusively when it is permissible to have more than one independent claim in the same category (when these claims cover unitary inventions):

- a plurality of inter-related products;
- different uses of a product or apparatus;
- alternative solutions to a particular problem, only if it is not appropriate to cover the alternatives by a single claim.

Rule 30 defines the concept of unity in terms of the technical relationship among inventions involving one or more of the same or corresponding

technical features, i.e. features which define a contribution which each of the claimed inventions considered as a whole makes over the prior art.

- The Exam Rules require you to propose the maximum valid coverage available for the principal invention, and if necessary explain the need for one or more further patent applications.
- Be prepared to quote Rule 30 to justify unity if you propose a set of claims including several independent claims, or a claim covering alternatives.
- Be prepared to quote Rule 30 to justify non-unity, if you propose to file a further patent application.
- For examples of unitary/non-unitary claim groupings, see the PCT Administrative Instructions.

Preliminary draft claims (mainly mechanical):

Given the time constraint, it is practically impossible to defer writing your claims until you have fully understood all aspects of the invention and the given prior art.

Therefore plan to draft a rough "main" claim as soon as possible, and improve this claim as you go along.

In drafting your first claim you could aim to:

- Cover all embodiments
- Achieve novelty over the prior art
- Cover something which is directed to **solving the main problem pointed out by the client.**

Drafting a claim assists you to :

- Identify technical features; start defining the technical features; and examine whether or not each feature is essential
- Correlate the claimed subject matter with support for inventive step
- Consider the appropriate 2- or 1-part format

Your first draft claim may be a detailed recitation of many features (too narrow) or may be a broad generalisation (too broad or vague).

Do not be satisfied with your first draft. Use it to check whether the features are properly defined, whether the features are essential, whether there is proper support for inventive step. Is anything vague? Eliminate anything that could be reached in an obvious way from the prior art. Check that the claim is complete.

Don't be afraid at this stage to consider several independent claims. Check each for support for inventive step. If necessary, be prepared to deal with non-unity in an appropriate way (Propose non-unitary claims + note; or make the claims unitary, but point out the possibility for a divisional).

Insert reference numbers at an early stage. This is a good check to avoid vagueness, especially if using generalised wording like "means for ...".

Allocating reference numbers helps to reveal unjustified broadening and confusion of functions (claiming two or more separate elements as a single generalised means; or claiming the same element twice). It may also help to locate features as appropriate in the pre-characterising part or the characterising part.

If you are developing a 2-part claim, pay great attention to the pre-characterising part. Avoid unnecessary limitations from the prior art. When developing the pre-characterising part, work also on the problem with the closest prior art, for the introduction.

Make the pre-characterising part a generalised definition covering the features of the invention common with the prior art.

Contrast the characterising features of the invention (and the associated advantages) with the corresponding features of the prior art (and the associated disadvantages). In this way, it is possible to highlight the problem->solution in terms of the different technical features of the invention compared to the prior art. The claim can thus be directed to the technical features necessary to achieve the solution.

Check whether each and every feature is essential. Eliminate limitations which unnecessarily restrict the protection. Eliminate features not necessary to solve the technical problem.

Is any essential feature missing? i.e. any feature necessary to achieve the solution to the technical problem, or necessary to define the context in which the problem arises.

Don't go into sub claims until you are reasonably satisfied with your main claim(s).

Mechanical/Electrical Drafting

In mechanical/electrical, one of the main difficulties in drafting resides in the choice of the appropriate wording to achieve the broadest protection, often using a mix of precise structural terms and generalised functional terms.

Possibly make an outline of your introduction (prior art statement, problem->solution development) before going into the sub-claims. Remember, most credit is for the independent claim(s).

It is unlikely that your main claim will be perfect before you start the sub-claims. When developing features for sub-claims, always check back to the main claim and if necessary adjust the main claim as you go along.

Chemical drafting:

For the chemical drafting paper in particular, a thorough understanding of the Case Law on novelty/inventive step, and the application of the principles from the Case Law to practical situations, is decisive for success.

In chemical drafting, the choice/selection of the claim wording is usually "easier" than with the mechanical subjects; the difficulty resides in correlating a claim of given scope (for instance the formula of a compound given by the client) with what is novel and inventive and supported by the client's data.

Also, chemical drafters are usually confronted with drafting and supporting several useful independent claims, all of which requires meticulous, systematic organisation.

"problem->solution approach"

Test the claim features by developing a problem-> solution format for the introduction.

Are there advantages or does the claimed combination overcome any technical problems? If so, build these into the introduction.

Is the claim scope commensurate with the technical effect achieved?

If there are no advantages or no technical problem is solved, where is the inventive step? How can the application comply with Rule 27(1)(c)?

Test all potential sub-claims for problem-solution too.

Don't develop sub-claims for trivial features that do not contribute to the solution of a problem. Such claims cannot provide a good fall-back position.

The problem->solution analysis goes hand-in-hand with drafting the main independent claim(s). Write the introduction along with the main claim.

When writing the introduction in problem->solution format, make sure it is in harmony with the claims. If necessary, change the claim wording as a function of the proper support you have for inventive step.

Note: In the Exam, avoid making up your own problem->solution. Give preference to problems/solutions which are clearly stated in the client's instructions. You are asked to base your answer on the facts in the paper. Statements of problem->solution and advantages are facts. Use these facts.

Sub-claims :

By selecting and arranging features for sub-claims :

- The main claim can be adjusted by refining or simplifying its wording.
- Non-essential features can be shifted to sub-claims.
- The main claim can be reinforced to counter weaknesses that become apparent from the sub-claims.
- The hierarchy of support for patentability can be checked; only sub-claims providing a fall back position should be included:

By tabulating or comparing the technical features of the prior art and of each embodiment of the invention to be protected, and by noting which features bring advantages or solve problems, it is possible to arrange the features in a hierarchy to show which combinations of features are:

- Novel
- Advantageous
- Essential
- Common to all or several embodiments
- Belong to certain embodiments only (preferred)
- Trivial (no advantage)

Then you can organize your set of claims:

- Arrange your sub-claims in a logical sequence.
- Keep them as compact as possible.
- Restrain yourself to sub-claims which form genuine fall-back positions.
- Note the support you have for additional inventive steps related to the features of the sub-claims.

As a "rule of thumb":

- a good mechanical answer can have about 10 claims;
- a correspondingly good chemical answer will have 15-20 claims, including several independent claims.

Remember, the points awarded are not proportional to the number of claims! The more claims you write, the less marks each claim can gain.

"claim category approach"

What claim categories can be covered?

- Device ...
- Apparatus...
- Thing (signal, bottle, animal, gun, cell ...)
- Installation ...
- System ...
- Sub-combination of an apparatus/system etc
- Method/process of manufacture
- Method of doing something/operating/measuring/
displaying/storing/retrieving
- Use ... purpose-directed use/cosmetic use/2nd
medical use/product-directed use ...
- Chemical compound ...
- Intermediate compound ...
- Substance or Composition for use in therapy ...
- Mixture/kit-of-parts
- Product obtainable by process (the product must
be patentable) ... etc ...

Criteria for selecting claim categories :

- Usefulness of protection
- Breadth of protection
- Patentability
- Problem->solution

Notes:

- The "designation of the invention" in the opening words of
the claim is critical to the scope of protection.
- Only by considering the different possible claim categories
can you check that you have the maximum available protection.
- Do not "throw in" superfluous claims in different categories
indiscriminately! Only claim useful protection.

Non-useful claims:

Particularly in the chemical paper, hard gained credit for one or two good independent claims can be lost by including useless and/or unpatentable independent claims, showing that the candidate has not reached the level of professional proficiency.

Before the Exam, you should be familiar with the usefulness of the protection conferred by each type of claim.

Throwing in claims which lack novelty or inventive step goes directly against the client's specific instructions.

Throwing in multiple independent claims which are useless from the point of view of protecting the client's interests is waste of time and undermines the candidate's credibility.

Concentrate on claims that give useful protection for the client.

Unity/Non-Unity :

You may be faced with several inventions requiring different treatment, or an invention having several aspects where, to obtain full protection for each, several patents would be required.

The set task is to draft claims and an introduction for a single patent application. The application as drafted should meet the requirements of the Convention as to unity.

A "multiple invention" situation should be handled as follows:

- Propose a unitary set of claims, directed to the main invention the client is interested in, and giving the broadest possible protection to this main aspect.
- Discuss in a note the possibility of filing one or more additional applications.
- For each additional application clearly identify the subject matter of the main claim, for instance by combining the features of different claims ("The pre-characterising part of claim 1 with the characterising features of claim 7").

Do not propose a set of non-unitary claims, and explain in a note the need to divide later.

The Introduction :

You are expected to develop an introduction comprising:

- Field of the Invention
- Discussion of prior art
- Problem* and/or discovery
- Solution and advantages

Make maximum use of the client's materials by cutting and pasting.

Avoid lengthy rewriting in your own words (waste of time; source of errors).

Practice using short standard wordings ("The invention relates to") to introduce the passages taken from the client's letter or the claimed features ("According to the invention, this problem is solved as set out in claim 1 ...").

Always discuss the annexed prior art (unless there may be a good reason for not doing so - write a note). Possibly also discuss other prior art mentioned in the client's letter.

Relate the claims/sub-claims you have developed to the advantages etc as explained by the client.

Practice cutting/pasting quickly so you can do the introduction efficiently as time is running out.

* Most of the available credit for the description is for a good problem/solution presentation.

MARKING OF PAPER A

- The main task is to draft one or more independent claims.
- Candidates with full marks on the independent claims have (almost) achieved a pass grade.
- Candidates with less than half-the available marks on the independent claims have difficulties in making up the missing marks on the sub-claims and description.
- Candidates with high marks on the independent claims can easily make up the missing marks on the sub-claims and description, and go well above the pass grade.
- By concentrating your efforts to the main claims, and "carrying over" these efforts into the sub-claims and description, you should achieve a high mark.
- Avoid writing an excessive number of sub-claims. 1991 mechanical awarded 12 marks for sub-claims, i.e. on average up to 1 mark each if you write 12 sub-claims, or only 1/2 a mark each if you write 24 sub-claims!

Marking Distribution

The distribution of marks varies from year to year and from the Mechanical/Electrical paper to Chemical. Marking is now based on a scale of 100 marks.

The pass mark is 50.

45-49.5 is a "compensable fail"

The marking distribution for 2001 was:

A Chemical 2001 :

Independent claims	65
Dependent claims	15
Description	20

A Mechanical/Electrical 2001 :

Independent claim(s)	50
Dependent claims	35
Description	15

How to benefit from drafting at work as Exam practice?

- Analyse the starting materials you work with and compare with the Exam materials.
- Analyse your working situation and compare with the Exam instructions.
- When you draft a patent application, analyse what you have done and what you may have done differently in the Exam (and why).
- Adapt your work to the Exam conditions. Write the examples/specific description first, then a set of claims and the introduction. Avoid "building up" the draft with multiple re-writing.
- Follow established practice (Rules, Guidelines, Decisions) as in the Exam; deviate only if you are aware of a good reason for doing so.
- Always concentrate on your main claims; make sure all possible claim categories are considered and covered if appropriate.
- Make a habit, when you are drafting claims, of "simultaneously" working on the wording for the introduction.
- When developing sub-claims, always refer back to and if necessary adjust the main claim.
- Check and re-check whether each feature of the main claim is essential or should be transferred to a sub-claim.

The next Chapter deals with [Paper B](#).

Paper B of the European Qualifying Examination
(Amendment)

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Introduction

If the Examining Division is of the opinion that a European patent application meets the requirements of the Convention it shall decide to grant the patent (Article 97(2)). If not, it shall refuse the application (Article 97(1)).

Most applications as filed do not initially comply with the Convention, so the Examining Division raises objections. It is then usually possible to bring the applications into conformity by suitable amendments backed up where necessary by arguments.

It is the duty of the applicant/representative to place the application into conformity with the requirements of the Convention and where necessary to demonstrate by arguments why the application complies. If this is done, the Office has no option but to grant the patent.

Paper B of the examination is designed to test the candidates' ability:

- To assess the residual patentable subject matter in a patent application after the main claim(s) has/have been shown to lack patentability.
- To amend the application into compliance with the EPC, salvaging the maximum possible valid protection of interest to the client.
- To argue in support of patentability, in particular using the problem->solution approach.

Background to the Procedures used by EPO Examiners

The EPO Examiners work on a productivity basis based on the numbers of 1st communications and acceptances. Examiners do not get credit for prolonged prosecution with several communications/responses.

The Examiner's first communication should be a comprehensive statement of all objections. It may contain pages of criticism ending with a statement that the Office sees no prospect of grant. Sometimes the objections are founded, sometimes not. Even if the first communication contains emphatic objections, it usually can be regarded as an invitation to reply with convincing arguments that the application complies with the Convention, if necessary with amendments.

Before accepting an application, the Primary Examiner must convince his two colleagues that all requirements of the EPC are met, in particular that the claimed subject matter involves an inventive step, i.e. why it involves an unobvious solution to a technical problem. The reasons for acceptance have to be written up on an internal EPO form called the "Votum for Grant".

Arguments in support of inventive step, in particular with a statement of the problem involved and its unobvious solution by the claimed invention, help the Examiner complete this form.

Placing an application into order when replying to the first communication, with convincing arguments in support of patentability, is in line with the EPO policy on productivity. This corresponds closely to what you are expected to do in the Exam.

Contrasts with Everyday Work:

The B paper concentrates into one afternoon a series of operations that could be spread over several months or years: reporting the search report, analysis of the citations, discussions and plans to go ahead, reporting the communication, further discussions etc.

To meet this "tight schedule", the exam papers rule out supplying drafts and discussing with the inventor/client. Instead the client gives "clear" instructions to the candidates how to proceed, and asks the candidates to follow the instructions carefully.

For the amendment paper B, candidates are told what is needed : maximum valid protection of interest to the client. This contrasts to common practice, where a compromise may be made in accepting "sub-maximal" protection that is sufficient for the clients purposes. Sometimes, it is sufficient to accept the examiner's suggestions, without arguing for broader scope. In other cases the examiner's objections must be contested vigorously, and broad claims (possibly of questionable validity) maintained on file.

Usually, in everyday practice, if there are several different possible ways of amending, they would be submitted to the client or inventor for instructions before proceeding with an amendment. The Exam instructions now take account of this reality, and the client may provide guidance for replying to the Examiner's objections. But bear in

mind that the client's specific guidance has to be implemented in accordance with the overall instructions to maintain the broadest possible valid protection.

The examination amendment exercise is different in these respects to much amendment work in practice. The set task in the Exam however does correspond to the real-life scenario where you have taken over the file of a colleague close to the reply deadline. This is something a competent European Patent Attorney should be able to do, even if (hopefully) this is not a standard work pattern.

In Paper B, the situation you are faced with is standardised, so you can make the following assumptions that are not always true in everyday practice:

- Some, at least, of the objections are well founded so you will have to amend.

Statistically, from the past papers, the Examiner's objections are usually well taken, on the basis of prior art document(s) that destroy the patentability of the (main) claims on file.

- The application contains residual subject matter that is patentable over the prior art.
- To obtain claims of the maximum possible scope it will be necessary to justify patentability by supporting arguments.

Therefore, the amendment paper can be approached in a systematic way which is good also for everyday practice.

Problems with the Amendment Exam:

Failure to understand the Instructions.

Inability to apply the Instructions.

Failure to adapt to the Exam situation - difference between working style and the Exam situation.

Motivation - who is your client?

Insufficient training for the amendment Examination (false assumption that working experience is enough).

Time pressure (inadequate preparation, inefficient reading/slow writing).

Inability to extract information accurately and quickly from written instructions.

Incomplete mastery of amendment techniques from limited work experience. Poor comprehension of novelty/inventive step.

Incomplete mastery of presenting arguments/ making a convincing demonstration of inventive step.

Difficulty of coordinating the emendments and arguments.

What are you asked to do?

Your task is to draft a full response to the official letter offering the applicant the broadest valid protection possible - assuming that the prior art given is exhaustive.

All amendments to the claims should meet up to all the requirements of the Convention. No amendments to the description are needed.

You are expected to supply arguments regarding the relevance of the prior art and establishing that the amended application meets all requirements of the Convention.

You may make a proposal to make any part of the application the subject of a divisional application. If so, clearly identify the subject matter of the main claim for the divisional and, where appropriate, set out the grounds why such claim is acceptable. There is no need to propose an introduction for a divisional.

Your response should be a letter to the EPO. Amendments can be clearly set out in the letter or in a separate document (copy of the claims with indication of amendments).

You can explain any actions, inactions or choices in brief separate notes.

You may need to indicate in which language you studied the question.

The Amendment Exam Scenario:

You must accept the given facts and base your answer on these facts. A complete answer can be made without bringing in extraneous facts.

You cannot question the client or the inventor. You are expected to complete the job on the basis of the information supplied.

The client may give specific instructions. Pay attention to these instructions!

The new prior art cited by the Examiner almost certainly destroys the novelty or inventive step of the broadest claims.

The application - for sure - contains subject matter that is novel over the prior art and has support for inventive step (which is not always the case in practice!)

It may be possible to obtain comprehensive coverage for all embodiments/examples with a single (generic) claim or several independent claims linked by a single inventive concept.

To obtain the fullest protection for all aspects, several patents may be needed, or guidance given to the client for one or more divisionals.

It may be necessary to cover only a part of the subject matter.

The Client?

In the Exam you may consider that your client is the Examination Board:

- The Examination Board has supplied you with instructions. Normally, you should act under the instructions of your client.
- You may give explanations to your client by writing notes on your choice of solution etc. These notes go to the Examiners.
- The Examiners will judge your work in much the same way as any client would, by looking to see whether you have performed the job they asked you to do in the way they expected you to do it.

Note that this particular client:

- Is professionally competent (knows the Convention, Guidelines etc).
- Has given you general and specific instructions about the job you are expected to perform.
- Expects you to perform the job on the basis of the information supplied, without questions or further consultation.
- Knows exactly what sort of amendments and arguments are to be considered a satisfactory solution to the problem set (the question has been set up to test your ability to reach a satisfactory answer).

- Expects you where necessary (and only where necessary) to give brief explanations about what you have done.
- Expects proposals for the broadest available protection without consideration of the extra costs of filing divisionals.
- Expects you to justify the patentability of any main claim of a proposed divisional.
- Cannot be expected to read illegible handwriting.
- Expects you to carry out the job you have been instructed to do.

Paying attention to the client's wishes :

In the drafting paper, the client's letter usually includes some indications as to the client's wishes: what are the most important aspects to be protected etc.

Prior to the 1995 Exam, the amendment paper did not include an indication of the client's wishes apart from what was said in the patent application itself.

Under the present rules (since 1995), the client may give instruction for reply to the objections. If the client desires to protect a given embodiment, it is all important to obtain protection for the chosen aspect. But it may equally be possible to save extra protection by rescuing a broader claim, or to advise on possible divisionals for other patentable embodiments.

See for example, the 2000 B mechanical paper, where the client introduced facts relating to a newly developed embodiment that necessitated broadening the claim, to secure protection.

If several patentable approaches are possible within the client's wishes, the lack of communication with the client is compensated by the possibility to propose claims for divisional applications.

If the client does not give any specific instructions, this means you must implement the client's general instruction that the amended claims should afford the maximum valid protection. You then have to work out from the patent application and the prior art what allowable "residual" patentable subject matter offers the best protection in your judgement.

The client requests that a justification of divisional claims should be set out in a note. This means that a divisional should only be proposed where you can justify patentability of the main claim. In particular, it seems advisable to equate each divisional with a problem-solution.

The guidance (maybe) provided by your client as to which aspect(s) is/are to be pursued will most likely allow some flexibility in presenting different solutions, all of which may be more or less acceptable. The main aim is to rescue the maximum subject matter of interest to your client from the prospect of refusal with relevant arguments in support of the main claim(s).

Obtaining the broadest possible valid protection when amending involves :

- Aiming for the most general definition of novel and non-obvious subject matter covering all of the embodiments/examples or those which are important for the client, within the confines of the application as drafted.
- Proposing where necessary one or more divisionals in order not to lose any available valid coverage of interest for the client.
- A distinction between essential features and inessential features :
 - All features of the initial claims should be considered essential unless it can be deduced from the description that they are not.
 - It is not permissible to delete essential features. If you remove any feature from the claim, be careful to ensure that there is adequate support in the description for the broadened claim.
 - All new features you introduce in the main claim(s) need to be essential in distinguishing over the prior art or in defining/solving the problem-solution.
 - Since all features of the claim are regarded as essential, introducing superfluous features limits the claim unnecessarily in contradiction to the Instructions.
- Correlation of the claimed subject matter with the best support for inventive step (unobvious/ advantageous technical solution to a technical problem).

- Presenting convincing arguments in support of inventive step in your reply. Credit is given for the claims and the arguments (equal pre-1995; more-or-less equal since).
 - The Exam situation is set up so that obtaining a claim with the broadest possible valid scope necessarily calls for supporting arguments. If the claim is so limited that it would be accepted without supporting arguments, the claim is too restricted.
- Possibly taking advantage of the provision of Article 123(1) and Rule 86(3): This allows amendment at the applicant's initiative, i.e. without being restricted to replying to objections raised by the Examiner in the first office communication, which is the case in the Exam. The amendment need not be restricted to replying to an objection raised: the task is to obtain the broadest valid protection available. New claims can be "extracted" from the description. The claim may have to be broadened in certain respects, to comply with the client's needs.
- New Rule 86(4) provides that amended claims may not relate to unsearched subject matter which does not combine in unitary fashion with the originally claimed invention(s). In other words, if the invention shifts, a divisional must be filed. This may now be tested in the Exam.
- More than one independent claim in the same category, only as allowed under Rule 29(2).

Compliance with the Requirements:

The amended claims need to comply with all requirements of the Convention and recommendations in the Guidelines. Here are comments on a few:

Rule 29 : where appropriate, the 2-part claim should be used. 2-part claims can be amended :

- By incorporating relevant features from novelty-destroying cited prior art into the pre-characterising part: shift "characterising" down to the bottom of the old claim.
- By introducing extra features from the "old" prior art into the pre-characterising part, to better define the problem and place the characterising features in a novel context.

Be sure you understand the definition in Rule 29! Make sure the claim features are properly located in the pre-characterising or the characterising part.

When inserting reference numerals under Rule 29(7), insert reference numerals of the invention in the pre-characterising part and in the characterising part.

Rule 29(1) : the claims are a definition of the subject matter for which protection is sought in terms of the technical features of the invention. Avoid non-technical features and "padding". The

limitations you add should be decisive technical features.

Lack of clarity is in contravention of **Article 84**, as is non-conciseness. Avoid superfluous wording in your amendments. Be precise, avoid ambiguity. But be cautious about deleting any apparently superfluous wording from the existing claims.

Rule 27(1)(b) requires that the closest prior art be cited in the description. When relevant prior art is cited, a factual statement can and must be inserted in the description, but the Exam instructions require no modifications of the description. Consequently, in the Exam your letter to the EPO could/should contain a corresponding summary of the prior art compatible with the (amended) claim preamble.

Rule 29(2) (in force from January 2002) sets out exclusively when it is permissible to have more than one independent claim in the same category (when these claims cover unitary inventions):

- a plurality of inter-related products;
- different uses of a product or apparatus;
- alternative solutions to a particular problem, only if it is not appropriate to cover the alternatives by a single claim.

Rule 6 of the **Code of Conduct** for professional representatives requires us to act courteously in all dealings with the EPO, including written replies to communications. Avoid attacking the Examiner's integrity. It is not necessary to overdo courtesy: "I am, Sir, your humble and obedient servant": But an occasional "respectfully" will not hurt when contesting objections.

Rule 27(1) (c) : use the problem->solution format by setting up a technical problem (possibly based on the cited prior art, but usually with the discussion of prior art restricted to the characteristics which give rise to the problem). Frame the amended claim around a non-obvious solution to the problem, making use of any statements in the application of the advantages of the claimed solution.

Rule 27(c) concerns the disclosure of the invention in the description. It must be possible to reduce any patentable invention to a problem-solution format even if this is not expressly stated as such in the description. Because the description should not be amended, this means that you ought to set out the problem-solution in the covering letter, with a definition of the new problem, disadvantages of the prior art and the advantages of the solution according to the invention.

In other words, in your covering letter, you should set out a statement of the problem-solution as

would normally appear in the description, plus full supporting arguments. This diverges from normal practice, where a statement of problem-solution could go into the description, with a mere reference to this in the covering letter.

Article 123(2) stipulates that a European patent application cannot be amended in such a way that it contains subject matter which extends beyond the content of the application as filed. (See the Guidelines C-VI 5.3 and 5.7 to 5.7c)

Because of Article 123(2), it may be necessary to keep claim limitations which strictly speaking are no longer decisive in distinguishing over prior art or which do not contribute to the problem/solution, i.e. if there is no good basis in the description that the features are inessential.

Be careful with:

- Deletion of claim features (justify always why the deleted feature could not be interpreted from the description as an essential feature).
- Rewording of claim features (especially major re-writing of the claims in your own words using more or less specific terms)
- "Intermediate generalisations"
- Re-organising the claim structure

- Change of claim category
- Changing claim dependencies (covering combinations that were not originally disclosed)

The basis for all amendments should be explained. Where an amendment is "borderline" a thorough explanation of the legal basis for compliance with the requirements is needed.

Article 123(1) and **Rule 86(3)** allow the applicant an opportunity, when replying to the first communication, to make amendments of his own initiative, i.e. without being restricted to replying to objections raised.

This includes the filing of new claims (independent claims or sub-claims), re-directing the scope of claims based on the description or drawings (may possibly need filing of a divisional), broadening the scope of the claims, and "tidying-up" amendments in the claims.

In other words, in justifiable cases your amendment need not be restricted to a reply to the communication limiting the existing claims, but could present a different invention disclosed in the application. Divisionals can also be based on inventions not covered by the original claims.

Rule 30 defines the concept of unity in terms of the technical relationship among inventions involving one or more of the same or corresponding technical features, i.e. features which define a contribution which each of the claimed inventions considered as a whole makes over the prior art.

Be prepared to quote Rule 30 to justify unity* or to justify the need to file a divisional.

For examples of unitary/non-unitary claim groupings, see the PCT Administrative Instructions.

Rule 86(4) provides that amended claims may not relate to unsearched subject matter non-unitary with the original, searched claims. A shift of the invention will require filing a divisional, or at least a discussion of Rule 86(4) in your reply to the EPO or in a note.

If prior art is cited under **Article 54(3)**, this requires consideration for novelty, not inventive step (Article 56).

Be careful in assessing novelty : overlapping ranges, specific claim not anticipated by a general disclosure etc.

* If your set of amended claims includes several independent claims linked by a common inventive concept, you should explain in the covering letter why these claims conform with Art 82/Rule 30/Rule 29(2).

"problem-solution approach"

An axiom of European patent law is that it must be possible to express all patentable inventions in terms of a solution to a technical problem (Rule 27(1)(c)).

The problem-solution approach can be useful in assessing different possibilities for amended claims :

- Are there advantages, or are any technical problems or drawbacks of the prior art overcome or avoided?
- What technical features (structural characteristics; method steps) contribute to obtaining the advantage/overcoming the problem?
- Can the main claim be restricted to something which provides an advantage/solves a problem and cannot be reached from the prior art in an obvious way?

The proposed claims need support for inventive step in arguments in the accompanying letter. What support is there? Select the approach with best support giving broadest coverage. Consider possible divisionals for other approaches with good support.

If there are no advantages or no technical problem is solved, where is the inventive step? How can the application comply with Rule 27(1)(c)?

Avoid making up your own problem-solution. Give preference to problems/solutions which emerge clearly from the application itself and from the cited prior art. You are asked to base your answer on the facts in the paper. Statements of advantage are facts. Use these facts.

State the problem as precisely as the given facts allow. Stating a vague problem like "to overcome the disadvantages of the prior art" is not given good credit. Specify which disadvantage.

What are arguments?

An argument is a reasoned presentation of information (facts) in support of a conclusion.

Argumentation involves :

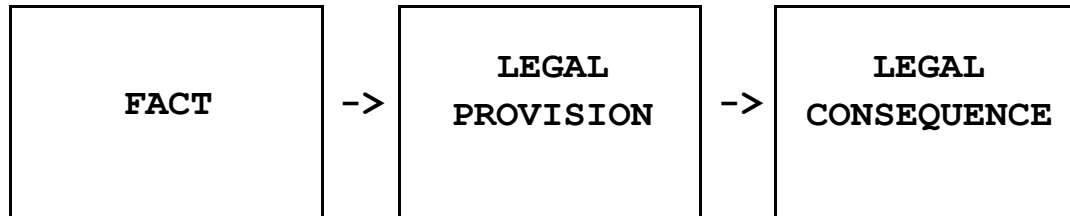
- Reasoning
- Proof
- Demonstration
- Persuasion

Developing an argument requires :

- Identifying the conclusion (the claimed subject matter involves an inventive step over the prior art).
- Selecting the facts in support of the conclusion.
- Presenting the facts in a sequence which leads to the conclusion.

Selecting facts and presenting arguments in this way is a fundamental aspect of the Patent Attorney's job, not only in amendment, but in opposition (why claims lack patentability), drafting (a properly drafted patent application incorporates arguments supporting patentability, and may be accepted/upheld without having to rely on additional materials) and legal opinions (selection of facts leading to a legal consequence).

Basis/structure of arguments.



Skeleton structure of an answer:

- Introduction
- Basis of Amendments
- (Legal Issues: clarity, unity...)
- Novelty
- Inventive Step:
 - Closest prior art
 - Problem
 - Solution
 - Non-Obviousness
- Conclusion

**Possible Format for a Reply with an Amendment and Arguments
Supporting Inventive Step** (Exam Situation)

1. Begin with a standard opening phrase (e.g. "In reply to the communication dated ----- the applicant herewith submits the following amendments and observations." Or "In reply to the official communication the applicant requests grant of a European patent based on the amended claims submitted herewith.")
- 2 . Introduce and explain the amendments, especially their formal basis. Refer to Article 123(2) as appropriate.
- 2a. If the communication has raised other issues like an objection to clarity, deal with this separately.

Likewise, if you have several independent claims or if the communication hints that unity requires special attention, you may need to separately justify unity or compliance with Rule 29(2).

Generally, be prepared to "slot in" an argument on any legal issue in a separate statement.

Use appropriate sub-titles to segregate the different legal issues in your reply.

3. Novelty.

Bring out the technical differences over the prior art. Draw the conclusion that the claim is novel over each relevant prior art document.

Even if novelty is straightforward, explain briefly why the claim is novel.

Always include a factual reason justifying the conclusion that the claim is novel.

If necessary make a detailed explanation and back up your reasoning by reference to Case Law, eg for novelty by purposive selection.

Where appropriate, discuss the novelty in relation to each prior art document.

Keep the discussion of novelty separate.

4. Inventive step

Discuss the subject matter of amended claim 1 in terms of a solution to a problem.

A) Closest prior art

Sometimes, the selection of the "closest" prior art stands out, and needs no explanation. If you give an explanation make sure your reasons are good and if possible brief.

B) Set up the problem

(a) For 2-part claims, equate the closest prior art with the pre-characterising part of the

claim. Discuss the problem the invention aims to solve.

Because the description is not being amended with the insertion of a factual description of the closest prior art, such a description can conveniently be included in the letter.

- (b) introduce the features of the characterising part of the claim in terms of a solution to the problem.
- (c) For 1-part claims (chemistry) make a corresponding (short) argument justifying the closest prior art.
 - This part of your letter should emphasize the disadvantages of the prior art; such statements can go beyond a purely factual summary than would be permissible in amending the description.
 - At this point you may need to argue against an erroneous interpretation of the prior art in the communication.

C) The solution

Explain how the invention solves the problem. Equate the solution with the entire claim. For 2-part claims, explain how the combination of the characterising features with those in the pre-characterising part solves the problem.

This is a good point to set out the advantages of the claimed subject matter over the closest prior art. Advantages may be "positive" or "negative" (reducing a disadvantage etc).

- Most or all of the advantages you claim should be already in the description. Quote or refer to the relevant parts of the application to show advantages. It is insufficient to expect the Examiner to find the relevant support in the application. The advantages in the application must be pointed out and highlighted in the letter.
- Be cautious about inserting your own advantages without relying on support in the application. The instructions ask you to base your answer on the given facts.

Make sure your advantages correlate with the problem-solution you have set out. It's no use to set out advantages that are not associated with the solution to the problem.

D) Non-Obviousness

Demonstrate why the claimed solution is non-obvious over the prior art:

- How the prior art teaches away from the solution or contains no guidance towards the solution,
- Why the solution goes against a general trend or a prejudice in the art, why it could have

been expected to lead to a disadvantage, etc
...

Summarise : explain why the advantages were unexpected/could not be predicted from the prior art.

E) Draw the conclusion that the claimed subject matter involves an inventive step within the meaning of Article 56.

7. Extend the main argument to any further independent claims or claims in different categories.

In the chemical area (more rarely in mechanical), you should make a separate case for patentability (novelty/ inventive step) for each independent claim.

Given that you may have several claims and different documents are relevant for the novelty and/or inventive step of each independent claim, developing a well structured answer requires a lot of practice, to be able to adapt to the facts of the day.

Recommendation: study the structures of the different Chemical specimen answers; coordinate developing this skill with structuring of the arguments for Opposition Paper D.

In principle, adopt a claim-ground-document sequence as the basic approach for novelty-inventive step (as for the opposition).

Example : Claim 1 novelty over D1 and over D2;
inventive step over D2; Claim 4, novelty over
D1,D2, inventive spep over D1 and D1 +D2)

Other sequences are possible.

5. You are not asked to point out further inventive features in the sub-claims.
 - As a rule, it is not necessary to put any effort into the defense of sub-claims. But this could be useful if you are suggesting the features of a sub-claim as possible subject matter for a divisional.
 - In the amendment Exam, many candidates devote considerable effort to defending the inventiveness of all features of all sub-claims, to the detriment of their arguments in support of the independent claims.
 - The Exam instructions do not ask you to put forward a weak main claim and defend the sub-claims for possible fall-back during later prosecution.
6. Be prepared to deal with any special points raised in the Communication that require reply (this may be included as part of the preceding arguments, in particular legal issues like clarity objections raised by the Examiner should normally be dealt with early on (before novelty) as mentioned in 2a.

Any specific points raised by the Examiner about the interpretation of a document, or

alleged obviousness, can often be integrated into the above format.

- As a rule, it is not necessary to make a point-by-point refutation to a communication, especially when amendments are made which remove the objections. But if an objection has not been removed or avoided by the amendment, a reply may be needed.
 - The job is to place the application in order. Objections which have been removed by the amendment do not have to be dealt with point-by-point.
7. End with a standard concluding phrase to the effect that the amended application meets all requirements of the Convention apart from conforming the decryption to the amended claims.
- A precautionary request for oral proceedings under Article 116 is recommended in daily practice to prevent the possibility of an abrupt decision to refuse the application.
 - A request for oral proceedings is not needed in the Exam, because the reply should meet all requirements. The Exam regulations do not provide for a later oral procedure where the candidates can explain their case and make further amendments! The written answer needs to be complete.

8. If necessary, explain in a note to your client about possible divisionals. For each divisional you propose, identify the subject matter of the main claim and give reasons why it is patentable.
9. Avoid writing notes. Your reasons for your choices should stand out from the amendments and supporting arguments. Writing a note to explain a bad choice will not help matters!

Develop your own structure for presenting arguments on Basis of amendments (Art 123(2); Novelty (Art 54; and Inventive Step (Art 56), along the lines of the above.

Practice using this structure in your answers to the Exam amendment papers, and above all, as often as possible at work.

Don'ts for the Exam reply

- Don't make a point-by-point refutation of all objections in the communication. This is usually a waste of time. You are not expected to have a boxing match with the Examiner. The job is to place the application into compliance with the EPC.
- Don't merely point out the novelty of the claimed subject matter, showing how it is different, and nothing else.
- Don't bring in advantages without making it clear how the claimed subject matter is unobvious (unobvious --> unexpected advantage).
- Don't spend time making detailed arguments in support of sub-claims :
 - If your argument in support of the main claim is weak, an argument in support of a sub-claim will make it look weaker.
 - If your argument in support of the main claim is strong, an argument in support of a sub-claim is unnecessary.

This leads to a loss of credit and a loss of time.

- Don't put in arguments in support of the original claim and then offer amendments.
- Don't make arguments in support of inventive step that do not correlate with the claimed subject matter (claim broader or narrower than argument; argument related to features not in the claim ..

- Don't submit arguments that do not correspond to the amended claim. Specifically, don't argue that a feature is essential without including it in the claim. Don't emphasize a given advantage without limiting the claim to the feature that procures the advantage.
- Don't remain silent on why any feature of the claim has been amended. If you include an amendment you should explain why it is decisive.
- Don't personalise arguments against the EPO Examiner:

("The Examiner's statement in paragraph 3 is ridiculous ..." or ... "The Examiner has obviously misunderstood document 3 ...").

- Don't leave out essential features from the claims without good reason, or unnecessarily alter the claim wording .

There is a danger of contravening Art. 123(2).
All claim amendments must be properly based.

- Don't unnecessarily re-write parts of claims or the prior art.

There is a danger of errors slipping in. Make maximum use of cut-and-paste.

- Don't introduce claim limitations that do not help to establish novelty or to exclude non-inventive subject matter.

Unnecessary limitations lead to a loss of protection and a corresponding loss of marks

for the claims. They may also weaken your arguments, leading to a further loss of marks.

- Don't amend the description or set out a list of amendments in your covering letter. You are not asked to do this.

This does not mean to say that you should not include in the letter statements which could form the basis of an amendment (statement of the cited prior art; statement of problem etc).

- Don't offer amended claims that could not be supported by an amended description (deletion of features portrayed by the description as essential etc).
- Don't abandon claims unnecessarily. Keep all the sub-claims you can.
- Don't rely on EPO decisions to "prove" inventive step. Inventive step is a question of fact in each case. Base your reasoning on case law by all means, and quote case decisions where appropriate (mainly in the Chemical paper), but avoid "Claim 1 involves an inventive step because of such-and-such decision".
- Don't develop divisionals beyond proposing a claim and support for patentability.
- Don't explain the administrative steps for filing divisionals, paying fees etc.
- Don't propose divisionals for unsupported trivia or without setting out the main claim

Unity/Non-Unity :

Once the non-patentability of the main claim has been demonstrated, you may be left with several inventions requiring different treatment.

The set task is to reply to the communication presenting allowable claims giving the maximum valid protection with supporting arguments.

Assuming the client's main interest can be covered by amending the main application,, it is in order to propose one or more divisionals to obtain full protection. Such a "divisional" situation may be handled as follows:

You are not required to file a divisional ("The applicant hereby files a divisional in respect of ... ") or to propose full papers for a divisional.

Under Rule 25(1) divisionals can be filed while the application is pending up to the day before grant. It is sufficient to point out the possibility for the applicant to file a divisional:

- Propose a unitary set of claims, and discuss in a note the possibility of filing one or more divisionals.
- For each proposed divisional identify the subject matter of a main claim, where appropriate by combining the features of different claims ("The pre-characterising part of claim 1 with the characterising features of claim 7").

- For each proposed divisional, briefly set out the reasons for patentability (novelty, inventive step, problem/solution).
- Where appropriate, for instance where the divisional incorporates features of sub-claims in the main patent application, in your arguments in support of the main application you may include support for patentability/ problem-solution of the sub-claims, and then refer to these arguments in your note discussing the divisional.
- It is insufficient to make a vague proposal for a divisional : "The cartridge should be made the subject of a divisional". This does not gain credit.

Note: the EPO practice on unity of invention up to now has been quite "relaxed". It was not unknown to obtain claims on several relatively disunitary inventions in one patent.

In the Exam, you are not expected to take advantage of the fact that the Examiner may not notice disunity or may turn a blind eye. Rule 30 has been amended to clarify the concept of unity and for the Exam, you must assume this rule is applied.

In the Exam, you will be expected to judge what is unitary (i.e. the maximum subject matter in one application) and propose divisionals where legally necessary to obtain maximum protection.

In practice, because of the high costs, filing divisionals or even proposing divisionals has been rare. Knowing where the client's interests lie, it is often easy to compromise on the protection instead of proposing divisionals.

In the Exam, you are not expected to compromise the protection by confining to a single application. Costs are not a decisive factor for this client. In any event, proposing a divisional is not expensive - there is plenty of time for the client to weigh up the costs by the time the text is ready for grant.

If the Exam question is such that there are several possible patentable solutions complying with the client's wishes, presenting a well-justified proposal for one or more divisionals could give you a back-up position in case the main solution you have chosen turns out not to be one of the best solutions the Examiners had in mind.

If, to achieve the coverage needed by the client, it is necessary to shift to an invention disclosed in the application as filed, but outside the original claims, it may be necessary under Rule 86(4) to propose the filing of a divisional to protect the main aspect!

Notes:

Don't propose multiple divisionals indiscriminately. Restrict yourself to what is necessary to avoid loss of protection of interest to the client.

If you include several independent claims in the amended application, your arguments should explain why the unity requirement is met and why multiple independent claims in the same category comply with Rule 29(2).

The Description :

Under the current Examination instructions you are not expected to amend the description into line with your amended claims. No credit is given for doing this; instead credit could be lost, and time wasted.

In former times, credit was available for amending the description. Now, it is necessary for the candidates to check for themselves that all amendments are properly based on the original description, claims and drawings, without submitting the required amendments to the description. The amended claims usually require corresponding amendment to the description, and the candidate has to satisfy him/herself that this is possible.

Credit for the time spent on checking the feasibility of amending the description can be gained only by an appropriate explanation of the basis of the claim amendments in the letter to the EPO.

Do not, however, amend the description itself.

All support for inventive step must be in the letter. It may be necessary to include in the letter statements of prior art and statements of problem that, in practice, could be included in the description.

However it is possible in the letter to quote from the description the basis for arguments. Not being able to amend the description should encourage candidates to refer in their letter to the appropriate parts of the description used in support of inventive step etc.

MARKING OF PAPER B

The main task is to amend the claims and provide supporting arguments for the main claims.

Credit in the amendment paper has roughly been divided equally between the amendments and the arguments (50/50) with minor deviations.

It is difficult to obtain good marks for arguments if the claims are poor. Proposing well amended claims unsupported by good arguments is insufficient.

Good claims backed with corresponding good arguments are needed to obtain a good grade.

From past marking it was noted that in the chemical paper, candidates who detected the correct support for the residual patentable subject matter, by the same token found the appropriate claim limitation and supporting arguments. Those candidates were able to obtain well above the pass mark. Candidates who did not detect the correct support for the residual patentable subject matter failed badly.

In the mechanical paper, many candidates aim towards an acceptable solution, but there are difficulties in coordinating the claim limitations and arguments. Marking in the mechanical amendment paper tends on average to be more evenly spread with plenty of candidates just above or just below the pass mark.

How to benefit from amendments at work as Exam practice?

- Analyse amendments you deal with at work and compare with the Exam materials.
- Analyse your working situation and compare with the Exam instructions.
- Do you have freedom to amend without following the client's instructions?
- Do you propose divisionals to secure all available protection?
- Do you usually need to submit detailed arguments in support of inventive step? etc.
- Do you include an explanation of the basis of your amendments
- Do you argue for inventive step, even when there is none, and expect several rounds of correspondence with the Examiner?
- When you prepare an amendment, analyse what you have done and what you may have done differently in the Exam (and why).
- Where appropriate, in your work, present detailed arguments for inventive step and consistently use the problem-solution approach following the suggested outline.
- If you make amendments, explain their basis, as you are expected to do in the Exam.

- Follow established practice (Rules, Guidelines, Decisions) as in the Exam; deviate only if you are aware of a good reason for doing so.
- In your letters to the EPO, quote the EPC Articles/Rules/Guidelines/Decisions from the Case Law.
- Always concentrate on your main claims and the corresponding arguments.
- Avoid point by point refutation of the objections in the communication unless there is a good reason for doing this (the Examiner may have misunderstood the invention/prior art; you initially want to defer amending the claims, even though some amendments may be needed later ...).
- Generally, try and adapt your working style to be as close as possible to what is expected in the Exam.
- Use the Exam letter format as a basis, amended case by case where appropriate.
- For example, even if you don't amend, use the same structured approach for your arguments in support of novelty/inventive step.
- If you amend but don't need to argue for novelty or inventive step because the Examiner agrees on patentability, still include a detailed explanation of the basis of the amendments (also for amendments to the description, not required in the exam).
- Practice - if done properly - makes perfect.

Summary of the B Paper

The amendment paper tests the candidates ability:

- to quickly assimilate new information: the application filed, prior art, the communication.
- to detect residual patentable subject matter (and understanding of novelty/inventive step)
- to amend claims in compliance with the requirements
- to structure and present arguments in support of legal consequences: compliance with Art 123(2); novelty; inventive step.

Because of the short time allowed, to achieve a level of proficiency corresponding to a safe pass, candidates need to practice these skills at work and in their exam preparation.

The quick assimilation and organization of information is a basic skill of a European Patent Attorney, tested in all papers of the Exam.

The development of arguments is an essential skill, already tested in the drafting paper (introduction supporting the inventive step of claim 1) and tested further in the opposition paper (negating patentability) and in the legal paper Part II: the presentation of a legally reasoned analysis.

The structured organization and presentation of the arguments in the amendment paper is a foundation for the corresponding structure and organization in the opposition paper and the legal advice question of Paper D Part II.

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This is the end of the Drafting / Amendment materials.

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