

# PACKING YOUR PATENT APPLICATION FOR EUROPE: AVOIDING PROBLEMS UNDER EUROPEAN PATENT LAW

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**Packing Your Patent Application for Europe: Avoiding Problems Under European Patent Law**

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Planning an extended European vacation for your patent application? A lengthy stay in Munich with possible outings to The Hague, Berlin, Vienna, or Brussels? While your patent application won't be strolling through the Marienplatz, the Brandenburg Gate, or the Schoenbrunn Palace, packing will still be essential. "Packing" in this case does not mean preparing for the weather or to be properly dressed for dinner. By "packing," we mean preparing a U.S. patent application or PCT application for eventual examination at the European Patent Office (EPO). U.S. and European patent practices are different. Unwary U.S. applicants can draft a patent application perfectly suited for familiar U.S. rules that will encounter complications in Europe. There are ways to "pack" a U.S. patent application to make it is easier to prosecute before the EPO. This article will provide some suggestions to avoid common problems with patent applications in Europe.

## **I. Eligible Subject Matter**

What is considered a patentable invention is slightly different in Europe compared to the U.S., so evaluate what claims are packed into a patent application that is eventually destined for Europe. While some of the items packed into the claims or specification may not be used until you reach European shores, other items may be helpful in the U.S. too.

### **A. Software**

Software is patentable in Europe. The legal framework of Art. 52 EPC states that in Europe, computer programs "as such" are not inventions, but this is not a blanket prohibition on computer or software related inventions. A significant body of EPO case law has developed to clarify what is, and is not, patentable in this field. The invention is not excluded by Art. 52 EPC as long as there is some degree of

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technicality to the claim - even if it is trivial. The degree of technicality can be explicit, such as the inclusion of a computer, or implicit, such as a technical effect resulting from working the invention. This is referred to as the “any-hardware” approach.

The result is that (contrary to popular belief) the exclusion of Art. 52 EPC is rarely used by the EPO these days, and is interpreted narrowly. The exclusion will not apply if the claim has any technical character or involves a technical teaching. The EPO explicitly states that “inventions having a technical character that are or may be implemented by a computer program are not excluded from patentability.”

The question of patentability of software has more recently been shifted into the realm of inventive step, which is where many software-related inventions run into problems at the EPO. The EPO asks: “Considering those features which contribute to technical character, does the invention provide a non-obvious solution to a technical problem?” The advance or inventive step itself needs to be technical in nature. If it is not, then the invention is considered to be obvious.

One example of this is in the HITACHI case from which the above approach is derived. In this case, the patentee sought to protect a method of improving online auctions. The problem (which was undoubtedly technical) was that bids can get out of sync. This is an inherent problem with internet auctions. The patentee’s claimed apparatus (a server) and method involved requesting a desired bid and a maximum bid from each bidder. The system would then calculate the winner using this information alone, and as such no real-time input was required. The claims were not excluded as a software program under Art. 52 EPC because there was a trivial technical feature in the claim, namely a server. Although this was the case, the invention was deemed obvious because the advance was non-technical. Instead of tackling the underlying technical problem (the delay), the patentee sought to circumvent it by non-technical means (changing the rules of the auction). As such, the only advance lay in a business method rather than in a technical means.

So the applicant needs to be in a position to argue that the advance (*i.e.*, the new and inventive feature) is technical in nature. In other words the advance does not solely lie in excluded subject matter, and instead provides a technical solution to a technical problem.

It is important to say that this area of case law is still developing at the EPO. There is no definitive decision from the Enlarged Board of Appeal to settle the position. The national positions also can vary. For example, the approach of the UK national courts differs.

### Packing Tips

- Take some time to pack a few extra essentials that you won’t be able to pick up later in Europe. Throw in an extra level of detail on the algorithm. Include an extra process flow chart and explanation. Think of other software operation details to add. Not only can these details potentially show the necessary degree of technicality and technical solution in Europe, these details also can help overcome obviousness rejections in both the U.S. and Europe.
- Pack a laptop if you want to easily stay connected with folks back home. Examiners in both Europe and the U.S. may be looking for interaction with a piece of hardware. So explain how the software works with a CPU, server, robot arm, vehicle, refrigerator, etc.

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- And, if bringing a laptop, definitely don't forget its power cord and any accessories. Try to pack more than a generic computer in the specification. Plug technical details into the specification, emphasizing how these details relate to your solution. For example, explain in depth how your software addresses the underlying technical problem and include more details on the machine that is used, the interface, or any human-machine interactions. These details might be helpful to differentiate from cited references used in a U.S. or European rejection. However, these details may be essential to show a technical inventive step so that the EPO examiner actually performs a search.

### B. Business Methods

The EPO deals with business methods in much the same way as software. A claim will not be refused as a business method *per se* if it contains technical subject matter, no matter how trivial (*e.g.*, a computer or software having some degree of technical character when run). The problem again comes with inventive step. The claim will be deemed obvious if, like in the HITACHI case, the advance lies solely in the business method. The advance needs to contain at least some further technical effect and not just lie in the way business is done.

### Packing Tips

- Load both the American and European maps into your GPS unit. In many respects, the requirements to obtain business methods in the U.S. are similar to those in Europe. Mere mental steps or abstract ideas are insufficient, so packing technical details on how the method operates or any machine that is used will be essential.
- Don't forget the car charger for your GPS unit and any accessories you'll need in a rental car. Again, pack more than the generic computer in the specification. Plug technical details into the specification, emphasizing how these details relate to your solution. For example, explain how your business method solves a problem in a manner that isn't just automating or computerizing a known way of doing business. Like with software claims, technical details can help differentiate from cited references in a U.S. or European rejection and can show how your business method is patentable in Europe.

### C. Biotech

Under Art. 53(c) EPC, methods of treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body are excluded from patentability.

With respect to surgery, in practice, the EPO examiners can interpret this exclusion quite broadly, even to the extent that any method of operating a medical device can be objected to.

The leading decision from the Enlarged Board of Appeal is G1/07. The method concerned an imaging method which involved an injection into the heart. The Board stated that if the method had the following characteristics then it would be excluded as a surgical method:

- When carried out, maintaining the life and health of the subject was important;

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- An invasive step representing a substantial physical intervention on the body which required professional medical expertise to be carried out; and
- A substantial health risk even when carried out with the required professional care and expertise.

This is true even if the surgical method is only one step in a process regardless of what the other steps are. Therefore, the exclusion is broader than the software exclusion discussed above.

EPO examiners generally take a very cautious approach with respect to surgical methods. If there is even a whiff of surgical content, an EPO examiner will likely object. Therefore, unless the applicant has an appetite for fighting the Boards of Appeal, it is advisable to be prepared to rely on apparatus claims (noting that “use” is generally an act of infringement in EPC contracting states).

In terms of diagnostic methods, this exclusion is narrower. The method needs to contain the following steps to be excluded:

- The examination phase, involving the collection of data;
- The comparison of these data with standard values;
- The finding of any significant deviation, *i.e.* a symptom, during the comparison; and
- The attribution of the deviation to a particular clinical picture, *i.e.* the deductive medical or veterinary decision phase (diagnosis for curative purposes *stricto sensu*).

### Packing Tips

- Pack a guidebook. The patent guidelines for biotech in Europe are different from the U.S. Prepare your claim support accordingly.
- Considering bringing a small container of laundry detergent. When it comes to biomedical devices, ditch the methods of use. Instead, clean up the claims and rely on the apparatus claims only.
- Money belts can hide your essentials, which means your trip can continue even if other items are lost. If operation of a biomedical device is critical to your IP strategy, try to claim it in a manner independent of human interaction to shield the method from EPO examiner scrutiny. For example, focus on the operation of the pump without mentioning how it is activated. In another example, focus on the movement of components in a medical stapler without mentioning the human aspect of how it is used. However, keep in mind that this may still result in an objection from the EPO examiner.
- Bring attire that complies with local norms, such as for dinner, public pools, or churches. With respect to diagnostic methods, prepare to play by European rules. Structure the claims in a U.S. provisional application or PCT application or draft the specification to have claim support that avoids the European exclusions.

### II. Specification

European requirements and fees related to a specification may indicate that you packed too much or packed the wrong stuff. EPO rules related to essential/necessary features and fees related to page count and the number of claims can quickly cause regret over a lengthy, verbose patent application.

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### A. Avoiding Essential/Necessary Features

An EPO examiner may require that the claim be amended to include features found in the specification that are described as essential or necessary. If the specification mentions that something “must” be included for the device to operate, then the EPO examiner may request that this feature be included in the independent claim.

Generally, the essential features are those required to carry out the invention (*i.e.*, those that enable the invention to provide the required technical effect). The EPC requires that the claims are supported by the description, and, consequently, anything in the description which is described as essential must be in the independent claims.

Any features which do not contribute to the technical effect (*i.e.*, solving the problem) are not essential. Therefore, although a claim to a new efficient engine coolant pump would ordinarily require an engine to run, the engine is not essential because it does not contribute to the solution.

### Packing Tips

- To avoid bag weight or size fees, make sure the “essentials” you pack are truly essential. Do not describe something as essential when it is not. The broadest statement of invention should contain only the features necessary to provide the desired effect, and that effect should (ideally) be provided after the statement of invention.
- Save space by removing things that aren’t really needed for your trip. Eliminate “must,” “critical,” “necessary,” and other similar words from the specification. These words are flags an EPO examiner can look for. Additionally, these sorts of statements could negatively affect U.S. claim interpretation during a future litigation.

### B. Fees

EPO fees are sizeable and can add up quickly. Whereas a U.S. patent application includes 20 claims without fees, a European patent application only includes 15. Likewise, while a U.S. patent includes 100 sheets without fees, a European patent application only includes 35. Thus, even if a U.S. patent application avoided excess fees, the same specification and claims can still incur significant fees in Europe.

### Packing Tip

- If you plan to grab certain U.S. products in Europe, be prepared for cost differences or be ready to go without. It may be difficult to reduce the size of a specification without writing concisely from the beginning (or changing the font size). However, the number of claims can be reduced through use of multiple dependencies, lengthy dependent claims which refer to elements in the alternative, or nesting optimized values or ranges in another claim using language such as “a range between 1 and 10, preferably 2 and 5.” Another option is to delete less valuable dependent claims.

## III. Claims

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As a U.S. patent practitioner who receives or reviews European patent applications knows, claim styles in Europe are different from the U.S. This European style can be adopted or built in to maximize possible claim scope and avoid objections in Europe.

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### A. Independent Claims

A European patent application generally only has one independent claim of each type (*e.g.*, apparatus, method). Multiple independent claims of the same type (*e.g.*, two apparatus claims) are allowed, but are the exception. Thus, it can be difficult to file a single European patent application with, for example, three independent claims covering different apparatus embodiments.

#### Packing Tips

- Save space for souvenirs. If you already have, for example, two or three independent claims covering different apparatuses, then be prepared to file divisional applications in Europe.
- Pack for the weather. If you're drafting a U.S. provisional application or a PCT application, consider putting the claims in a European format. Thus, draft claims so that all embodiments fall under a single apparatus or single method independent claim. It's usually easier to break out embodiments as separate independent claims in the U.S. than to consolidate multiple embodiments under a new independent claim in Europe.
- Do you really need that extra sweater? If you already have a particular embodiment covered by combinations of your independent and dependent claims, then perhaps delete a separate, narrower independent claim covering the same combination.

### B. Means-Plus-Function

Means-plus-function claims have advantages in Europe not found in the U.S. For example, "means for providing a resilient force" is broader than "resilient member" because the former includes items like magnets. Equivalent scope can potentially be achieved in most cases without "means plus function," but it can be a useful tool to have in the attorney's arsenal if required. In fact, the EPO teaches this claim format during qualifying exams.

#### Packing Tip

- Bring extra memory cards for your digital camera to capture discoveries and unique moments. It may look weird to a U.S. patent attorney, but consider defining some examples in the specification in means-plus-function language. So, if defining a fastener, you could write "The fastener may be a fixing means such as a screw, bolt, nail, adhesive, or other mechanism known to those skilled in the art." This can provide written support to amend the claims in Europe. If you don't want to limit the claims to means-plus-function language, then you can use the term "fastener" in the U.S. claims. If you want written support and are preparing a PCT application or U.S. provisional application, you also could include some claims with means-plus-function language and delete or amend these claims when you file the U.S. nonprovisional or national stage application.

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### C. Dependent Claims to the Overall System

Claims to a system that the claimed component is used in are usually made dependent. For example, a permissible European claim is “A car comprising the engine of claim 1...”

#### Packing Tip

- A hanging toiletry bag saves counter space in smaller hotels. Likewise, a dependent claim to the wider system can save you from a separate independent claim that recites a lengthy list of features from the main focus of your patent application. Depending on how long this list is, this claim structure can reduce page count and future translation fees.

### D. Clarity

EPO examiners seek clarity. Some U.S. claims will not easily transfer to Europe. For example, U.S. claims which start as “In an X...” or “An X in a Y...” can encounter resistance. Claims referring to features of components that are not part of the claim itself are usually frowned upon by EPO examiners, such as claiming a plug with reference to the features of a socket. Such claim language may be objected to if the EPO examiner feels it is unclear.

#### Packing Tips

- If you need support, inflatable travel pillows mean you don’t need to find space for a bulky foam neck pillow. If your claim preamble is written as “a stereo in an automobile comprising,” consider just using “an automobile stereo comprising.” The “in an automobile” aspect of the former preamble can result in scrutiny from the EPO examiner as to whether the “automobile” is positively claimed. Keep in mind that the preamble is important in Europe, whereas in the U.S. it only matters if it breathes life and meaning into the claim. Thus, “an automobile stereo” has certain intrinsic features that may limit the claim.
- Try to select clothing that fits with local styles or color palettes to be less conspicuous. Providing details on additional unclaimed components can cause problems. This is especially true if you are trying to claim an apparatus that interacts with another unclaimed apparatus. So if the automobile stereo in the previous example claims interactions with particular audio hookups or power cables, the EPO examiner may object because these features are not positively claimed. Leave such interactions out. If the unclaimed components are important to differentiate, focus instead on how the claimed components are specially designed to interact with the unclaimed components, or if this is not possible try using “arranged for” or “configured for” type language which is more readily accepted.

## IV. Avoiding Amendment Pitfalls

Europe differs from the U.S. when it comes to making amendments. Spend some time thinking about what to pack in the specification to avoid a mid-flight panic.

### A. Written Support



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In the U.S., your specification is like a reservoir. A U.S. patent attorney can take bits and pieces of the text or drawings to make a desired amendment. This support can even be implicit if the patent attorney can convince a U.S. examiner. EPO examiners are on a different continent (both literally and figuratively) when it comes to what constitutes written support for an amendment. To avoid problems with your amendments, ideally the proposed amendment should be explicitly disclosed in the specification (*e.g.*, word-for-word). That said, the law is more flexible than EPO examiners tend to acknowledge. The golden rule is that the skilled reader must be able to directly and unambiguously, using common general knowledge, derive the feature from the disclosure of the invention as filed. Therefore, there is no requirement for literal basis. While literal support may make life easier during prosecution, implicit disclosure of features can be used as basis for amendment in Europe. It just may take more effort than in the U.S.

### Packing Tips

- Bring spare socks and underwear in your carry-on. If your fallback positions are not already in the dependent claims (*e.g.*, to avoid excess claim fees or to conceal a narrowed claim scope you'd be willing to accept), include possible fallback amendments in the specification. Try to draft fallback positions in the specification so that these closely support the potential amendment.
- Write down the hotel address rather than relying only on your smartphone. Relying upon drawings for detailed amendment support can be tricky in Europe. Add a paragraph or two of description if the connections or configurations in the drawings may be important for future claim amendments.

### B. "Intermediate Generalisation"

The other major difference for amendments in Europe is that taking a bit of an embodiment as an amendment may require bringing other features of that embodiment into the claim. Taking one feature in isolation from an embodiment without the necessary accompanying features is referred to as "intermediate generalisation," which is foreign to U.S. patent attorneys in both concept and spelling. The idea behind "intermediate generalisation" is that if feature A is disclosed only with feature B, and the two features work together to provide the technical effect, then isolating feature A for amendment is generally not permissible. Therefore, to amend a claim with feature A without "intermediate generalisation," feature B also must be included.

EPO examiners tend to be too prescriptive, and will ask for just about every feature to be added. If there are two features in an embodiment (A and B), the question to be answered is whether the skilled person would understand that A is separable from B. Ideally A and B should be described as separable, or claimed in different dependent claims (or at least separate statements of invention). If not, the EPO may request that the applicant establish that:

- The feature (A) is not related or inextricably linked to the other features (B) of that embodiment; and
- The overall disclosure justifies the generalizing isolation of the feature (A) and its introduction into the claim.

### Packing Tips





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- Avoid a mess after you land and remember to put toiletries in a watertight plastic bag. When drafting, make sure the intermediate positions are covered with separate dependent claims and discussion of the individual features. Make it clear to the EPO examiner that the features can work together or apart. Dependent claims are usually used for this in Europe, but the specification can be carefully crafted to provide the same effect.
- Put a power adapter in your carry-on instead of your checked bag. If you have a feature that is part of a more complex system and you are concerned it may be a point of novelty that will be needed later, include this feature in a separate dependent claim.

### C. Broadening a Claim Feature

Broadening a claim feature can be difficult in Europe. Whereas a broadening reissue application is possible in the U.S., there is a blanket prohibition against broadening post-grant in Europe, including during opposition. Before grant, removing features from the independent claims as-filed is subject to a test. The removal of a feature from an independent claim is permitted if the skilled person would directly and unambiguously recognize that:

- The feature was not explained as essential in the disclosure;
- The feature is not, as such, indispensable for the function of the invention in the light of the technical problem the invention serves to solve; and
- The replacement or removal requires no real modification of other features to compensate for the change.

### Packing Tips

- Pack enough clothes to get through your trip or plan on learning the word “laundry” in a foreign language. It’s possible to draft a specification that avoids making a feature look too important and at least implies that the feature can be removed without impacting the rest of the claimed device or method. The question, though, is which feature potentially will need to be removed to broaden the claim. It may be easier to assume your claims can’t be broadened in Europe and draft accordingly.
- Put the big stuff in your checked bag. If you are preparing a U.S. provisional application, consider making your independent claims as broad as reasonably possible (or even borderline invalid). This may provide written support for a broad independent claim that can be narrowed later in a PCT application or upon entry into Europe.

### D. Multiple Dependencies

Europe allows (and even encourages) multiple dependencies. This can provide benefits during prosecution and future litigation not usually seen in the U.S. due to its multiple dependency fees.

### Packing Tips

- Chargers that can handle multiple devices at once can help when you only have one power converter or limited outlets. Get into the practice of using multiple dependencies when preparing a U.S. provisional application or PCT application that is eventually destined for Europe. If this is not desirable, make sure that the potential multiple dependencies are

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contained in the statements of invention in the specification.

- TSA is going to search your bags, so use a TSA-approved lock. Be aware that selection of the U.S. as an International Searching Authority for a PCT application means that claims with multiple dependencies may not be fully searched. Consider selecting a different International Searching Authority, like the EPO, instead.

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### V. Conclusion

Extra time packing a suitcase can mean the difference between a rewarding visit to Europe and a money-wasting disaster that you abandon early. The same is true for a patent application. Whether you're certain a patent application will eventually be filed in Europe or whether it's still just a possibility, plan your specification and claims accordingly. The minor tweaks to the claims and specification suggested here generally won't add pages or impact U.S. prosecution. In fact, many of the changes that will help in Europe also can help in the U.S. or in other countries like China or Japan, which can justify any increased costs. Regardless of which European country you nationalize in or which language you eventually need translations for, packing a patent application for Europe can streamline prosecution, save time, and reduce attorney fees.

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