Patent Webinar Series

Coordinating Patent Prosecution in the U.S. and Europe

March 10, 2021

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Meet The Speakers

Peter Fasse
Principal

Moritz Ammelburg
Principal

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Overview

- **For each topic, we will cover**
  - Detailed Overview
  - Examples
  - Practice Tips
- **Housekeeping**
  - CLE
  - Questions – at the end
  - Materials
    - http://www.fr.com/webinars

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+ Live Patent Webinar

Coordinating Patent Prosecution in the U.S. and Europe

SIGN ME UP

DATE
Wednesday
March 10

TIME
1:30 - 2:30 PM
ET

Webinar | Coordinating Patent Prosecution in the U.S. and Europe

In today's connected global economy, obtaining patent protection in multiple jurisdictions is the best way for companies to protect their IP on a global scale. But every jurisdiction has different patentability requirements and prosecution schemes, as well as quirks of local law that can significantly complicate the coordination of a global patent strategy.

Complimentary Webinar
Wednesday, March 10, 2021
1:30 - 2:30 PM ET

REGISTER

On Wednesday, March 10, join Fish attorneys Peter Fasse and Moritz Ammelburg as they discuss best practices for obtaining patent protection in both the U.S. and Europe. Peter and Moritz will discuss the following topics, among others:

Agenda

- Inventorship, entitlement, and right of priority to file an application in the U.S. and Europe
- Effective application and claim drafting and amendments to meet both U.S. and European support standards
- Submission of declarations and/or evidence to support enablement, non-obviousness, and inventive step in the U.S. and Europe
- Tips for converting EP applications for U.S. filing
- Entering the U.S. via PCT

Inventorship, right of priority, and entitlement to file an application in the U.S. and Europe

Inventorship in the U.S. vs. Europe

- **In the US, inventorship is important, and should be correct**
  - Must name all inventors
  - Each inventor owns the entire patent, not just a fraction
  - Thus, important to get assignments from all inventors
  - Incorrect inventorship or improper assignments can cast a cloud over patent rights

- **In Europe, inventorship is comparably less important**

  - European patent applications must designate the inventor(s)

  - The right to a European patent shall belong to the inventor or his successor in title

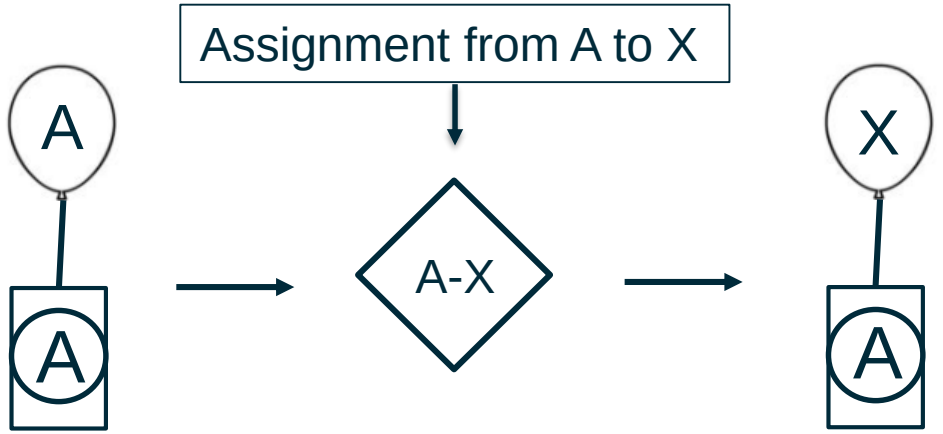
  <u>But:</u>

  - Before the EPO, the applicant shall be deemed to be entitled to exercise the right to a European patent. Assignments or employment agreements are not examined

  - Lack of entitlement is not a ground for revocation before the EPO

Right of Entitlement

- Under the Paris Convention and the Patent Cooperation Treaty, whoever files the application is called the Applicant
- The Applicant must have had the right to file (entitlement) at the time of filing
- Under these Treaties, the right to file an original application is based on the law of the nation where the invention occurred
- The right to file a subsequent application is presumed to rest in the earlier Applicant, unless there is a written transfer of ownership



Right of Entitlement

- **Whether ownership actually transferred is based on the law of the nation governing title to the invention**
  - In the US, transfer of ownership requires a written assignment (***Stanford University v. Roche Molecular Systems, Inc.***, 563 U.S. 776 (2011) (United States Supreme Court)

Actual Assignment: **"I HEREBY ASSIGN…"**
Assignment obligation: • **"I PROMISE TO ASSIGN…"** • **"EMPLOYEE SHALL ASSIGN…"**

  - **Only an actual assignment transfers title**
  - **Either one conveys a right of entitlement**
- In some countries, title transfers automatically by law to employer, *but not in the US*
- Without proprietary interest, company has no right to file a patent application on an invention

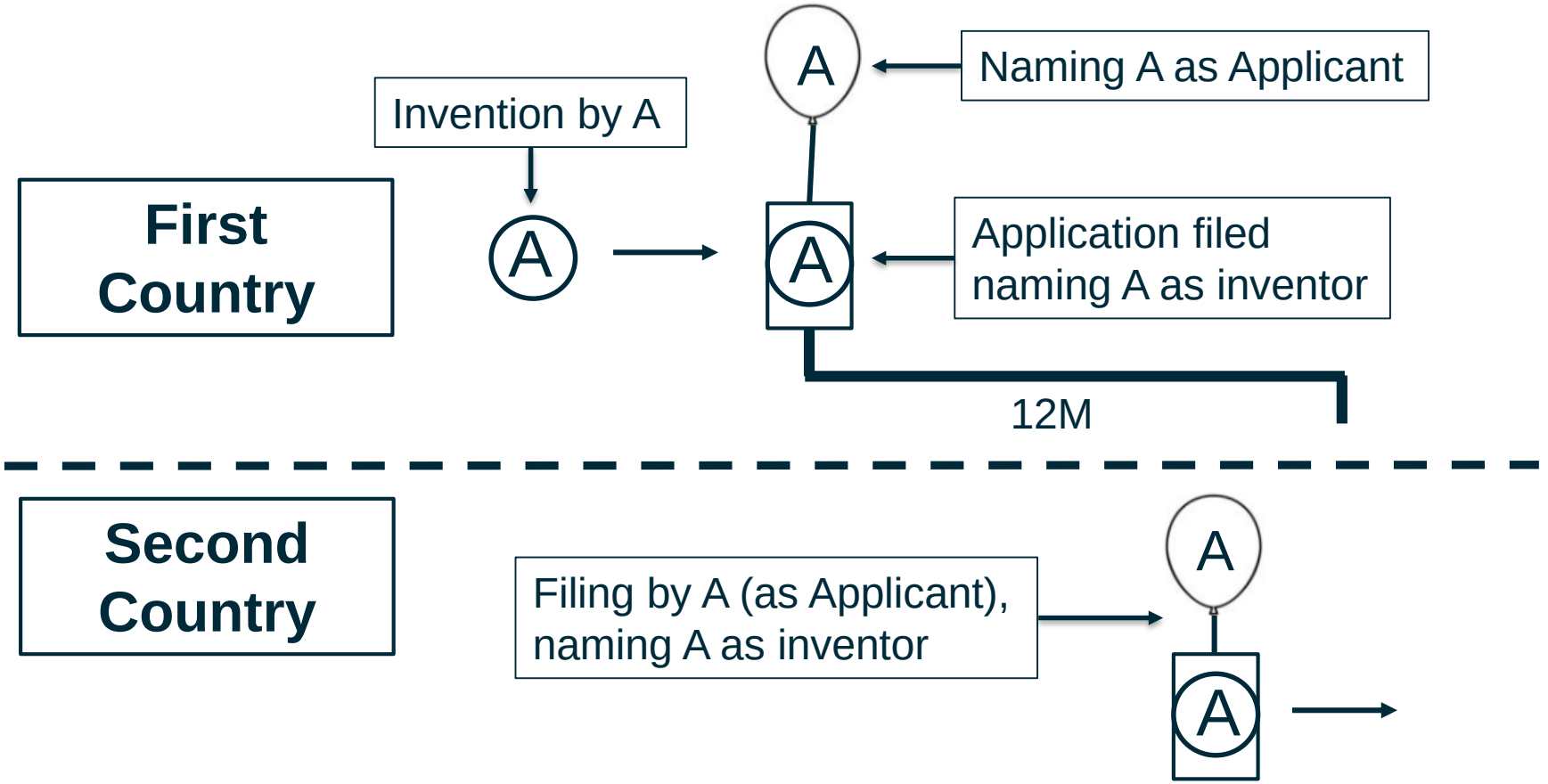
Right of Priority

- The right to claim the priority of an earlier application filed in another country flows from the Paris Convention
- This right belongs to the one who filed the earlier application (the Applicant)
- In some parts of the world, e.g., in Europe, this is considered a separate right that can be transferred independent of other rights

> *"Any person who has duly filed an application for a patent, or for the registration of a utility model, or of an industrial design, or of a trademark, in one of the countries of the Union, or his successor in title, shall enjoy, for the purpose of filing in the other countries, a right of priority during the periods hereinafter fixed."*
>
> - Paris Convention Article 4, Section A(1)

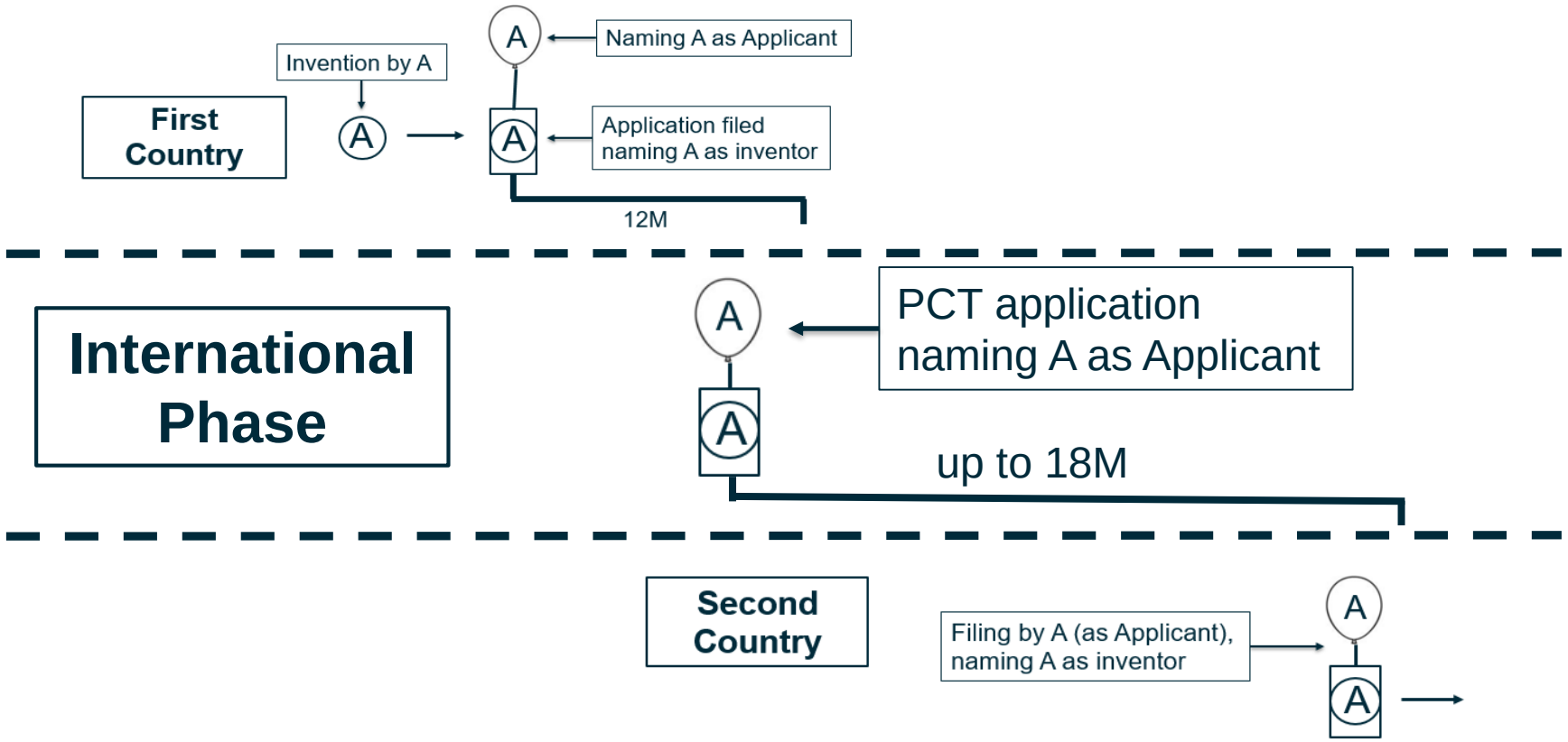
Right of Priority - Paris Convention (1883)

- **International treaty granting a right of priority to an earlier patent application filed in a different country**
- **For utility patents, the right of priority must be exercised within 12 months**



Right of Priority - Patent Cooperation Treaty (1978)

- **Authorizes an international patent application to be filed with a priority claim under the Paris Convention**
- **The PCT application can later be nationalized in different countries for examination and grant**



Right of Priority in Europe

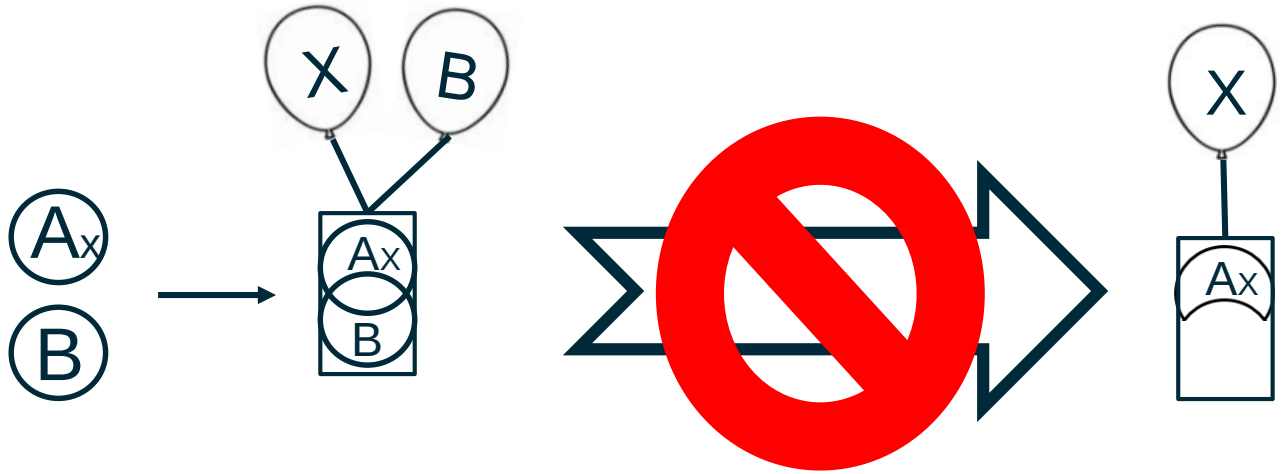
- **Requirements:**
- A) Same applicant
- B) Same invention
- C) First application

- **Article 87(1) EPC:**
- (1) **Any person** who has duly filed, in or for
  - (a) any State party to the Paris Convention for the Protection of Industrial Property or
  - (b) any Member of the World Trade Organization, an application for a patent, a utility model or a utility certificate, **or his successor in title**, shall enjoy, for the purpose of filing a European patent application in respect of the **same invention**, a right of priority during a period of twelve months from the date of filing of the **first application**

Right of Priority in Europe

A) Same applicant - Basis

- The US considers the right of priority to vest with each Applicant, meaning that any Applicant may exercise the right
- The EPO considers the right of priority as pertaining to all of the named Applicants together, meaning that a priority claim can be made only by all of the Applicants named in the priority application (or their assignees)
- Per the EPO:



- **The applicants of the priority application must be among the applicants of the later application**

Right of Priority in Europe

A) Same applicant requirement - Tips

- The EPO's all applicant's rule: If there are concerns re the transfer of the priority right, **name all applicants** of the priority application as applicants for the later application
- Make sure assignments include the following information:
  i) priority application number, filing date and country,
  ii) explicit reference to "the right to claim priority",
  iii) signed by both assignor and assignee,
  iv) signed before the filing date of the subsequent application
- Confirm that there are no **assignments away** from the applicants of the priority application before filing
- If the later application has already been filed with an applicant that is not the applicant of the priority application nor its successor in title an ***ex tunc*** correction of the PCT request might help

Right of Priority in Europe

B) Same invention requirement - Basis

- **Disclosure Test:**

  - According to decision G 2/98, a skilled person must derive the subject-matter of the claim directly and unambiguously, using common general knowledge, from the previous application as a whole

- **Enabling Disclosure:**

  - The invention claimed in the later application must already be disclosed in the priority document in an enabling manner, i.e., sufficiently clear and complete that a skilled person can carry it out.

  - Particularly relevant for treatment claims where priority is sometimes challenged based on the ground that the priority application is not an enabling disclosure for the claimed treatment

Right of Priority in Europe

B) Same invention requirement - Tips

- In the subsequent application, include the complete disclosure of the priority application
- Incorporation be reference does not work in most cases before the EPO
- Leave the disclosure of the priority application untouched and *add* new subject matter
- Keep the claims of the priority application as embodiments in the specification of the subsequent application, if the claims are changed

Right of Priority in Europe

C) First application requirement - Basis

- The application from an applicant that discloses for the first time any or all of the claimed subject-matter
- Re-starting the clock:

Article 87(4) EPC:

- A subsequent application in respect of the same subject-matter as a previous first application and filed in or for the same State shall be considered as the first application for the purposes of determining priority, provided that, at the date of filing the subsequent application, the previous application has been withdrawn, abandoned or refused, without being open to public inspection and without leaving any rights outstanding, and has not served as a basis for claiming a right of priority. The previous application may not thereafter serve as a basis for claiming a right of priority.

Right of Priority in Europe

C) First application requirement - Tips

- When intending to re-start the clock, make sure that the first application is abandoned with no further rights outstanding
- US CONs or CIPs cannot serve as a first application or only for additional subject matter
- Avoid overlapping subject matter after the end of the priority year, provide non overlapping language to claim as a fallback

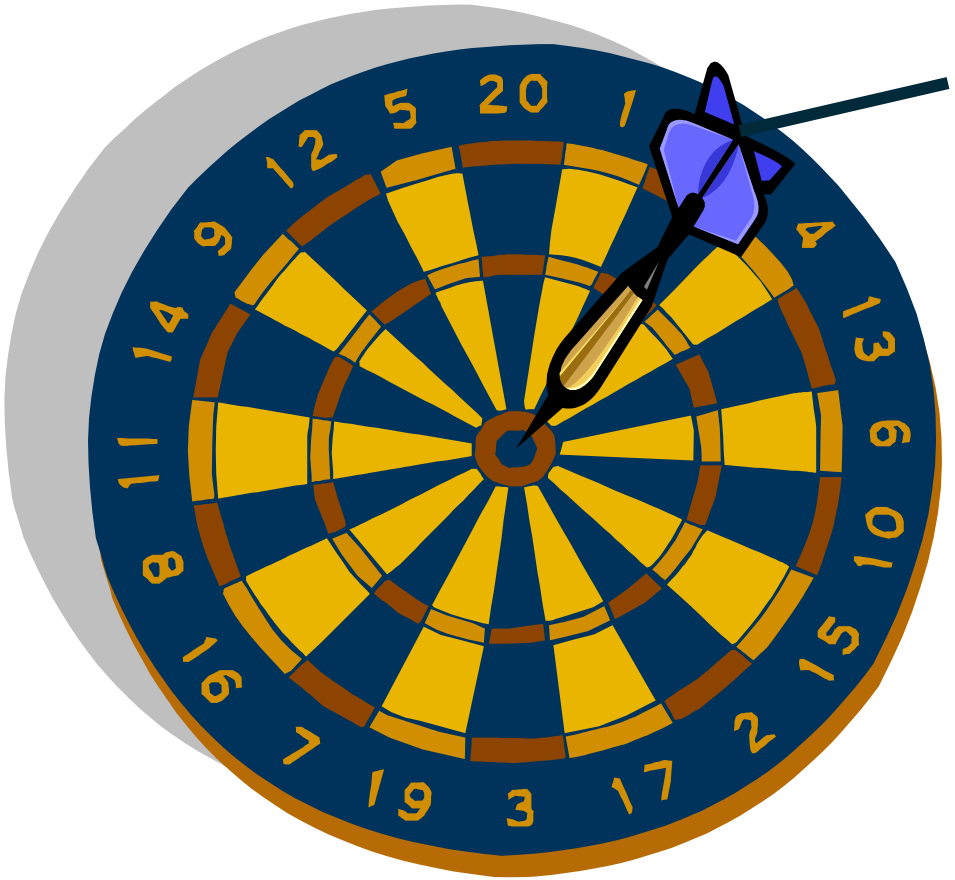
Inventorship/Right of Priority - Practice Tips

- In the US, make sure to get inventorship correct
- In the US, make sure to get assignments from all inventors, and preferably before filing the priority application, and certainly before filing a PCT or EP application
- Do what you can to name the same Applicant(s) in the priority application and later PCT or EP application
- **NOT OK** (absent assignment) to remove an Applicant from the priority application when filing later application **(even if claims of a specific Inventor/Applicant are removed)**
- **OK** to add additional Applicant(s), but must name all Applicants from priority application
- **OK** to change Applicant(s), IF you have clear written assignment from priority Applicant(s) to new Applicant(s) filing later PCT or EP application
- If the subsequent application has already been filed with an applicant that is not the applicant of the priority application nor its successor in title consider an ***ex tunc*** correction of the PCT request

Effective application and claim drafting and amendments to meet both U.S. and European support standards

US and European Claiming

US and European Claiming



European Claim

US and European Claiming

US and European Claiming

US Claiming Style

- Multiple independent claims
- Short preambles
- One-part format
- Focus on structure whenever possible
- Avoid functional limitations
- Avoid recitations of intended use (e.g., “for…”)
- Separate major elements with indented paragraphs
- Avoid using different terms for the same elements
- Avoid multiple dependencies (unless you like paying high filing fees)

“Means Plus Function” Claim Elements (35 U.S.C. §112(f))

(f) ELEMENT IN CLAIM FOR A COMBINATION.—An element in a claim for a combination **may be** expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and **such claim shall be construed** to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

While this is permitted, we generally try to avoid the application of Section 112(f)

- Limits claim to elements recited in specification, which is a problem if there is only one example of a given claim element
- Common issue with applications drafted in Europe

Means + Function Claim – Practice Tips

- Not recommended for broad, independent claim
- Could be a good backup or dependent claim
- Broad structural recitation may have broader interpretation under U.S. “doctrine of equivalence” than structural equivalents of disclosed embodiment
- 112(f) structural equivalents do not include after-developed technology
- Requires disclosure of structure for performing the function
  - Cannot be a ‘black box’
  - Cannot be incorporated by reference
- If used, be sure to list multiple, alternative structures that can carry out the recited function

EP Claiming Style

- Only one independent claim per category
- Two-part format preferred (similar to the Jepson claim format in the US)
- Focus on structure whenever possible
- Avoid recitations of intended use (e.g., “for…”)
- Avoid using different terms for the same elements
- Multiple dependencies are permissible and helpful in view of the support standards
- Avoid functional limitations

- In the description
  - Explain the technical effects and advantages associated with claim features and combinations of features

Functional Claims before the EPO

- **Boards of Appeal generally distinguish two types of functional features:**
- a) process steps which are known to the skilled person and may (easily) be performed by that person;
- b) process steps that recite the result to be achieved

- Functional features of type b) are permissible:

(i) if, from an objective viewpoint, such functional features could not otherwise be defined more precisely without restricting the scope of the invention, and

(ii) if these features provided instructions which were sufficiently clear for the expert to reduce them to practice without undue burden, if necessary with reasonable experiments (T 68/85)

EP Drafting: The Strict Requirements of Art. 123(2) EPC

- **Article 123 EPC:**
- **…**
- (2) The European patent application or European patent may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.
- (3) The European patent may not be amended in such a way as to extend the protection it confers.

- The legal standard is direct and unambiguous derivability from the application as filed
  => *Ideally* verbatim support

- **Effective application drafting avoids common sources of lack of support issues**
  - **Cannot** isolate a feature from a more complex context to create a new combination
  - **Cannot** delete a feature from an independent claim

Art. 123(2) EPC – Unallowable Generalization

- Picking features from the drawings is possible, but problematic
- Picking a feature from a particular embodiment and adding it to a claim (an “intermediate generalization”), is only possible if:

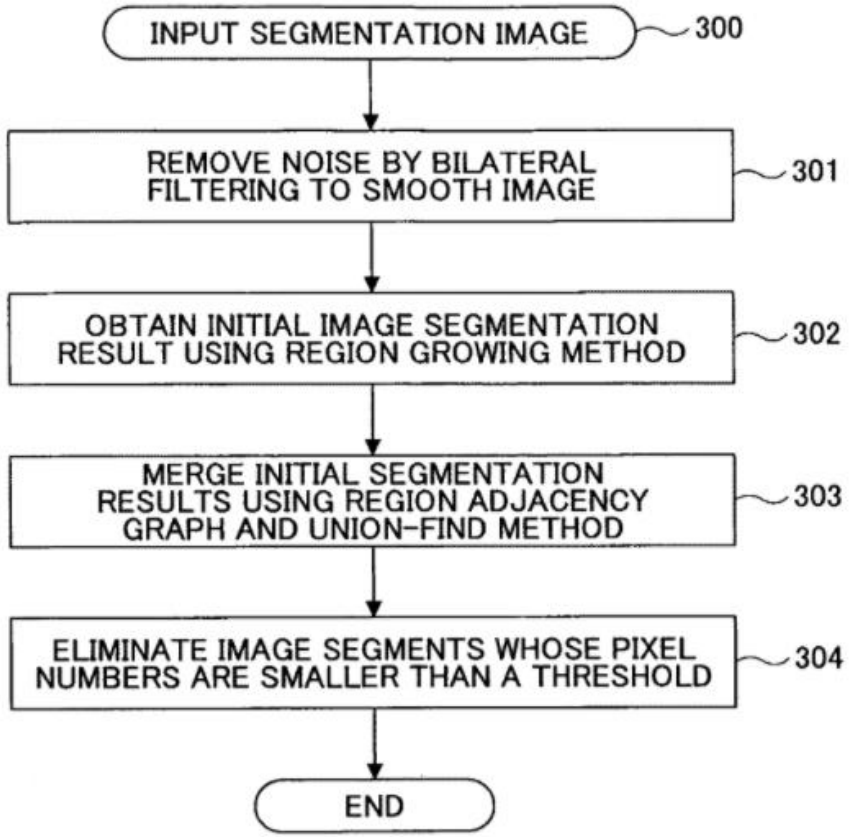
  - the feature is not related or inextricably linked to the other features of that embodiment; **and**

  - the overall disclosure justifies the generalizing isolation of the feature and its introduction into the claim

- **Draft application covering all important feature combinations**
- **Include reasonable “intermediate” features into the description**

EP Amendments – Based on Figures?

FIG.3



EP Amendments – Based on Figures?

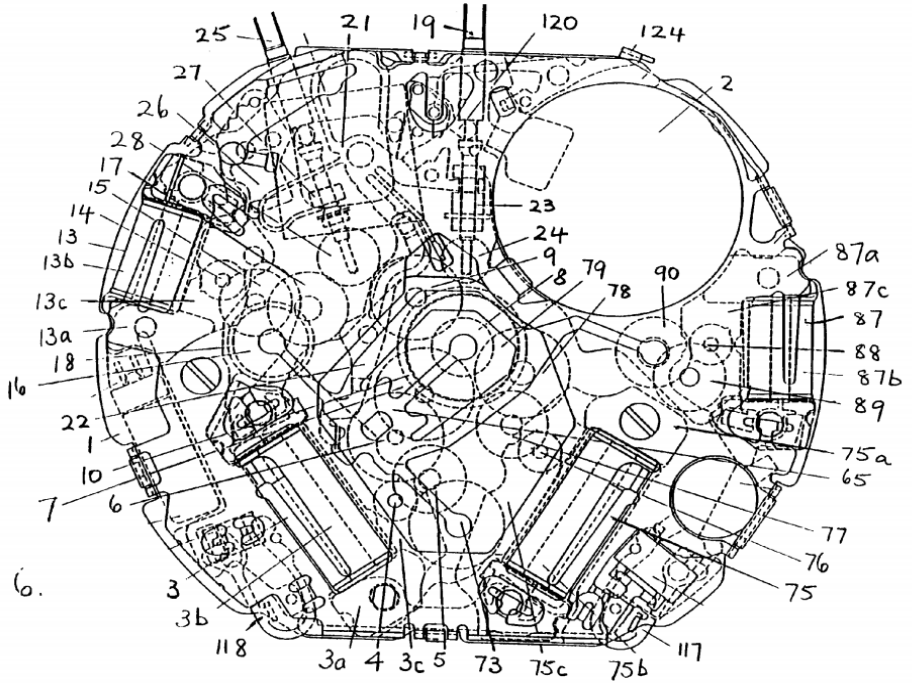


FIG 6.

Extracting a specific feature in isolation from an originally disclosed combination of features and using it in a claim may be allowed only if there is no structural and functional relationship between the features

Art. 123(2) EPC – Essentiality Test

- Deleting a feature from an independent claim as originally filed is possible, **only if:**

  (i) the replaced or removed feature was not explained as essential in the originally filed disclosure;

  (ii) that the feature is not, as such, indispensable for the function of the invention in the light of the technical problem solved by the invention; and

  (iii) the replacement or removal requires no modification of one or more features to compensate for the change (it does not in itself alter the invention)

- **Test is difficult to pass - only include the most important aspects into independent claims**

Art. 123(2) EPC and the “Inescapable Trap”

- **Inescapable Trap:**
- … If a European patent as granted contained subject-matter which extended beyond the content of the application as filed within the meaning of Art. 123(2) EPC 1973 and which also limited the scope of protection conferred by the patent, such patent could not be maintained in opposition proceedings unamended.... Nor could it be amended by deleting such limiting subject-matter from the claims, because such amendment would extend the protection conferred, which was prohibited by Art. 123(3) EPC 1973.”)

- **In contrast, generalization issues can be resolved in opposition proceedings**
- **In only some cases, it might be possible to get out of this trap:**
  - Replace the feature by an originally disclosed feature which results in a narrower claim (i.e. without covering embodiments which were not covered by the granted claims)
  - Argue that this feature does not have a clear meaning anyway, and thus does not have a limiting effect on the claim

Practice Tips – US/EP Drafting and Claim Amendments

- Draft application covering **all important feature combinations,** to meet both US and EP requirements
- Describe **intermediate combinations** of features
- Include definitions of unusual or less frequently used terms
- Use **multiple independent claims** to cover different aspects of an invention for US practice, but consider that main claims should also meet EP requirements
- Use **consistent terminology** in the claims and specification (try to avoid using different terms for the same element or feature)
- For EP filings, it is useful to describe the technical effects that flow from your invention

- Newly added or amended claims must be supported in the specification through express, implicit, or inherent disclosure in the US, while you generally need almost verbatim support at the EPO
- The factual test in the US is whether the application conveys with reasonable clarity to those skilled in the art that applicant was in possession of the invention as now claimed
- The test at the EPO is the “Gold Standard,” which is direct and unambiguous derivability
- In EPO prosecution, never amend your main claim to add a limiting feature that lacks verbatim support, to help avoid the “inescapable trap” during opposition

Submission of Declarations and/or Evidence to Support Enablement, Non-Obviousness, and Inventive Step in the U.S. and Europe

US Declaration Practice (37 CFR §§ 1.130-1.132)

- **130 Declarations (for use only in America Invents Act (AIA) applications, filed on or after March 16, 2013)**
- Used to avoid prior art published less than one year before your filing date, by:
  - establishing entitlement to the one-year grace period, or
  - disqualifying prior disclosure as prior art, by
- (a) showing that the disclosure was made by (or obtained from) the inventor(s) (declaration of "attribution")
- (b) establishing that disclosure had, before such disclosure was made or effectively filed, been publicly disclosed by the inventor(s) ("prior disclosure")
  - 130(b) declaration is referenced on face of patent - this public statement can kill your foreign rights
- Best to file executed inventor oath or declaration before filing a Rule 130 declaration (or must state in 130 declaration that declarant is inventor of subject matter at issue)
- Reviewed under preponderance of evidence standard

US Declaration Practice (37 CFR §§ 1.130-1.132)

- **131 Declarations (used only in pre-AIA cases filed (or claim priority) before March 16, 2013)**
- Used to present factual evidence to "swear behind" a cited prior art reference published less than 12 months prior to your earliest effective filing date
  - Must show actual reduction to practice prior to reference date, or
  - conception prior to reference date plus diligence to reduction to practice
  - Must be signed by all inventors
- Show actual reduction to practice before reference date:
  - Submit supporting evidence (drawings, documents) to show that the invention was carried out and found to work for its intended purpose
  - No need to include dates, but recite reduction to practice occurred before date of reference in the US, NAFTA, or WTO country)
- Show conception before reference date and continuous diligence to reduction to practice (e.g., filing application or actual reduction to practice) after reference date
  - Diligence must be shown for all days between conception and reduction to practice, or delay explained
  - Reduction to practice can be actual or "constructive"

US Declaration Practice (37 CFR §§ 1.130-1.132)

- **132 Declarations (continued use under AIA)**
- Used to present evidence in support of the patentability of the claimed invention
  - Rebut §112 rejections
    - Establish the level of knowledge in the field
  - Rebut a holding of undue experimentation
  - Rebut §§ 102 and 103 rejections
    - Test results
    - Commercial success
    - Reference combination is inoperable
    - Long felt unresolved need
    - Mischaracterization of a reference by the examiner
  - Rebut allegation of inherency in prior art disclosure
  - Rebut §101 rejections
- Used to establish that reference content is Applicant's own work (published either by Applicant himself/herself or on his/her behalf)

Post-Filing Data and the Concept of Plausibility in Europe

- The words “plausibility” and “plausible” (or “implausible”) do not appear in the Articles of the EPC. So where does the requirement come from?
- The Enlarged Board decision G 1/03 states:
  - ”… If this is not the case and there is lack of reproducibility of the claimed invention, this may become relevant under the requirements of inventive step or sufficiency of disclosure. *If an effect is expressed in a claim*, there is lack of sufficient disclosure. Otherwise, i.e. *if the effect is* not expressed in a claim but is *part of the problem to be solved*, there is a problem of inventive step.”
- Typical example (in the life sciences at least) of a claim where “an effect is expressed in a claim”: a method of treatment claim
- Typical example of a claim where “an effect is not expressed in a claim”: a compound/composition of matter claim

Plausibility and Post-Filing Data

- **T 1329/04**:
- "The definition of an invention as being a contribution to the art, i.e. as solving a technical problem and *not merely putting forward one*, requires that it is at least made **plausible** by the disclosure in the application that its teaching solves indeed the problem it purports to solve. Therefore, even if supplementary post-published evidence may in the proper circumstances also be taken into consideration, it may not serve as the sole basis to establish that the application solves indeed the problem it purports to solve."
- → To have an invention, the applicants must at least make it plausible to conclude that a has been solved – as opposed to merely identified.

Plausibility and Post-Filing Data

- Returning to G 1/03:
- *"… If an effect is expressed in a claim*, there is lack of sufficient disclosure… *if the effect is* not expressed in a claim but is *part of the problem to be solved*, there is a problem of inventive step…
- → Basis for "plausibility" may be either in Article 83 or in Article 56.
- Article 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 US "counterpart" to Article 56 is 35 USC 103.
- Article 83: "The European patent application shall disclose the invention in a manner *sufficiently clear and complete* for it *to be carried out by a person skilled in the art*."
- The US "counterpart" to Article 83 is (arguably) 35 USC 112(a):
  - The specification shall contain a written description of the invention, and of the manner and process of making and using it, *in such full, clear, concise, and exact terms as to enable any person skilled in the art* to which it pertains, or with which it is most nearly connected, *to make and use the same*,…

Plausibility – Inventive Step

- Returning to T 1329/04:
- claim 1: polynucleotide encoding a specific polypeptide (“GDF-9”)
- problem to be solved: isolating a further member of a particular family of polynucleotides (“TGF-β super family”)
- GDF-9 sequence significantly diverged from those of other members of the TGF-β super family
- Post-published evidence: GDF-9 having similar properties as other members of the TGF-β super family

- Board: application must **“allow to conclude that the invention had been made, i.e. that a problem had indeed been solved, not merely put forward at the filing date of the application.”**
- Board found effect not to be plausible -> post-published evidence disregarded -> lack of inventive step

Plausibility – Inventive Step

- **T 488/16 (Dasatinib I)**
- There was no test data in the application, or similar information available as common general knowledge for the claimed compounds.
- The Board decided that the technical effect had not been made plausible -> post-published data could not be taken into account
- Board: “The problem to be solved was merely the provision of further chemical compound… The mere provision of a chemical compound capable of being synthesized… and not showing any effect does not require inventive ingenuity.”

  -> Lack of inventive step

Plausibility – Inventive Step

- **T 939/92** (Triazoles/AGREVO):
- Effect cannot be retained if it is not **credible** that the promised result is attainable throughout the entire range covered by a claim
- Burden of proof on applicant if data in application does not support allegation that effect occurs over entire range
- Burden not discharged although applicant had sufficient opportunity to either restrict claim or file experimental data to make effect credible

  -> Lack of inventive step

Plausibility – Sufficiency

- **T 609/02:**
- "If the description of a patent specification provides no more than a **vague indication of a possible medical use for a chemical compound yet to be identified, later more detailed evidence cannot be used** to remedy the fundamental insufficiency of disclosure of such subject-matter.... Application must disclose the suitability of the product to be manufactured for the claimed therapeutic application."

  -> Lack of Sufficiency

- **T 433/05:**
- For the acceptance of sufficient disclosure of a therapeutic application, it is not always necessary for results of clinical trials to be provided at the relevant date, but the patent/patent application must provide **some information showing that the claimed compound has a direct effect on a metabolic mechanism specifically involved in the disease**. Once this evidence is available from the patent/patent application, **post-published evidence may be taken into account to support the disclosure in the patent application**.

Plausibility – Sufficiency

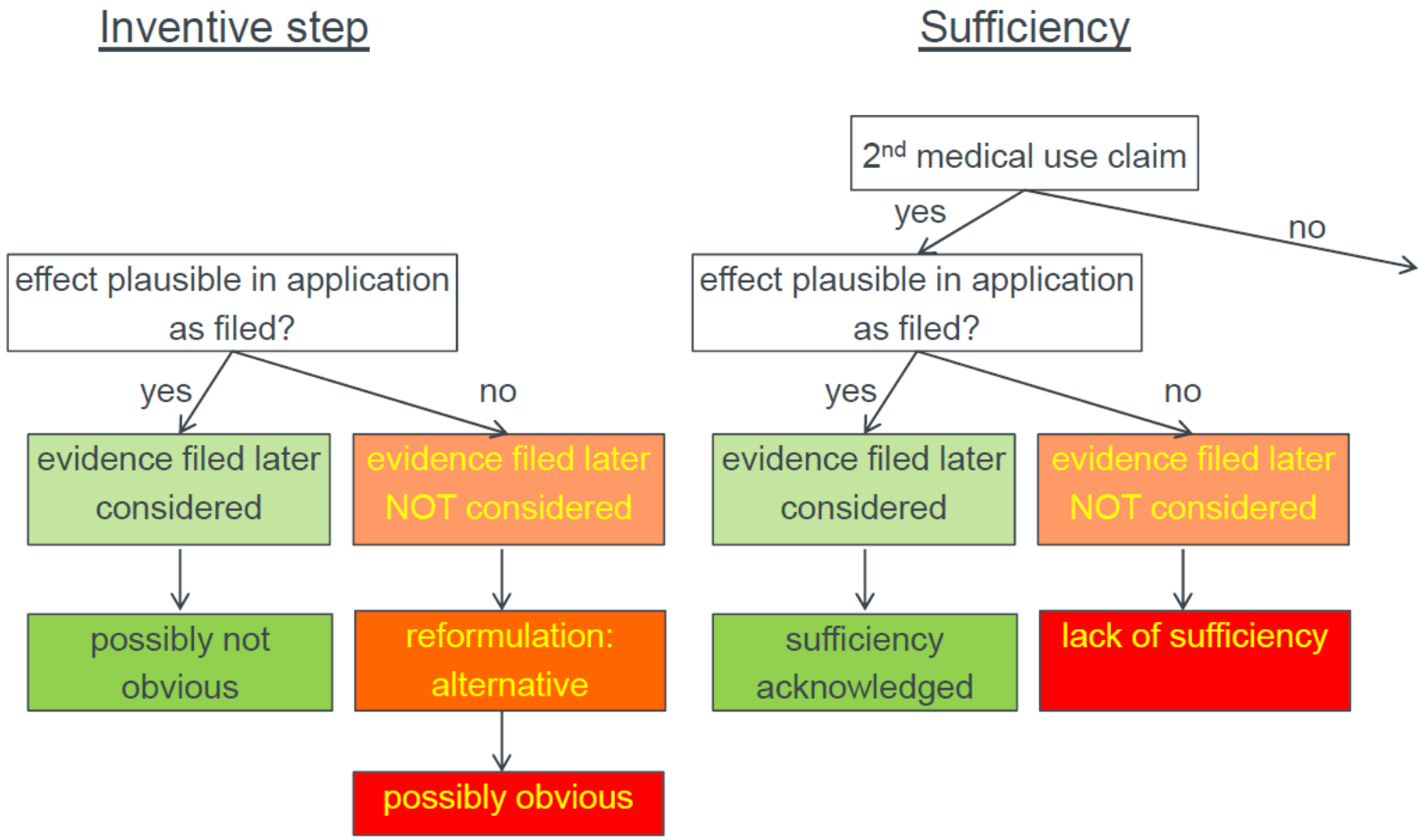
- **T 0950/13 (Dasatinib II)**
- Board: Plausibility requirement IS satisfied
- “[In] the application as filed… dasatinib is identified as a preferred compound … Indeed it is the only individual compound that is specifically identified as suitable in the treatment of [CML].”
- The application also disclosed “assays which can be used to establish the activity of a compound....” The board also stated that application disclosed “a plausible technical concept” - namely that dasatinib is suitable in the treatment of CML “based on its functional equivalence to imatinib as a BRC-ABL kinase inhibitor”
- This meant that post-published evidence of BRC-ABL kinase inhibitory activity could be taken into account since it merely “backs up the teaching derivable from the application”

Sufficiency – Enablement/Priority

- **T 1457/09: Sufficiency – enablement/priority** :
- D1 prior art under Art 54(3) EPC, if priority valid
- D1 enabling because example 6 renders technical effect (treatment of cancer) plausible
- D1A (priority document) does not contain example 6
- effect not plausible -> priority claim not valid -> D1 not prior art -> novelty: yes

Same standards are applied to the patent and the prior art

Plausibility and Post-Filing Data



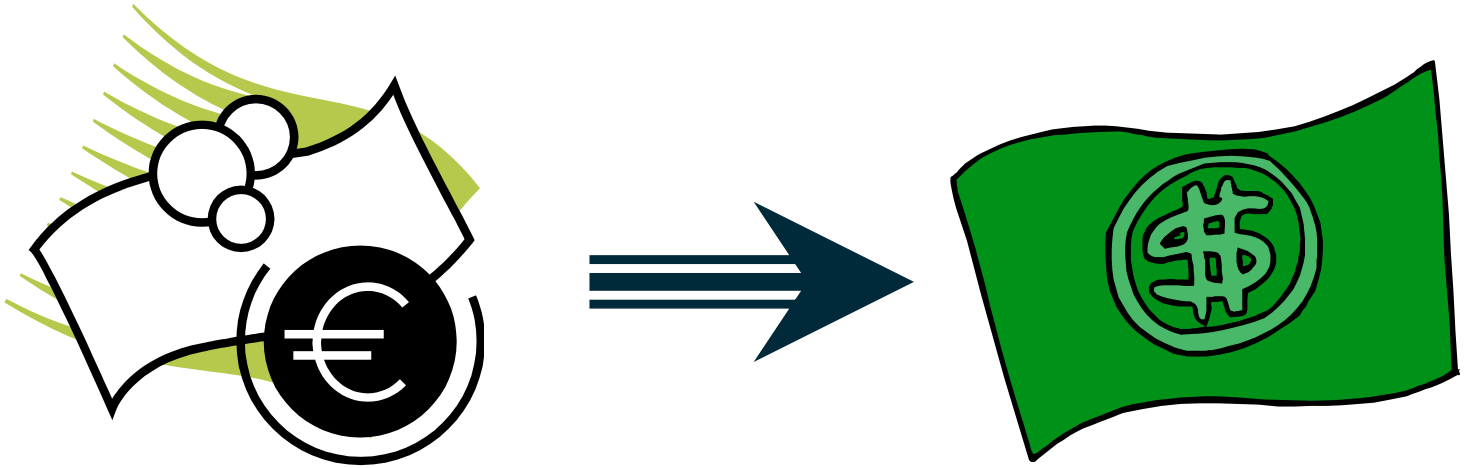
Source: Haderlein - Plausibility (https://www.epo.org/news-events/events/conferences/2019/boa2019.html)

Plausibility and Post-Filing Data – Practice Tips

- Concept of plausibility is relevant for inventive step and sufficiency (second medical use claims), enablement of prior art, and validity of priority claim
- Mostly in biotech and pharma
- If effect found not plausible in view of application as filed **cannot be remedied** using post-filing evidence

- **Include all available data relevant for the invention in the application to be filed**
- **Strike the balance between securing an early filing date and taking the plausibility hurdle**

Tips for Converting EP Applications for U.S. Filing



Conversion Tips

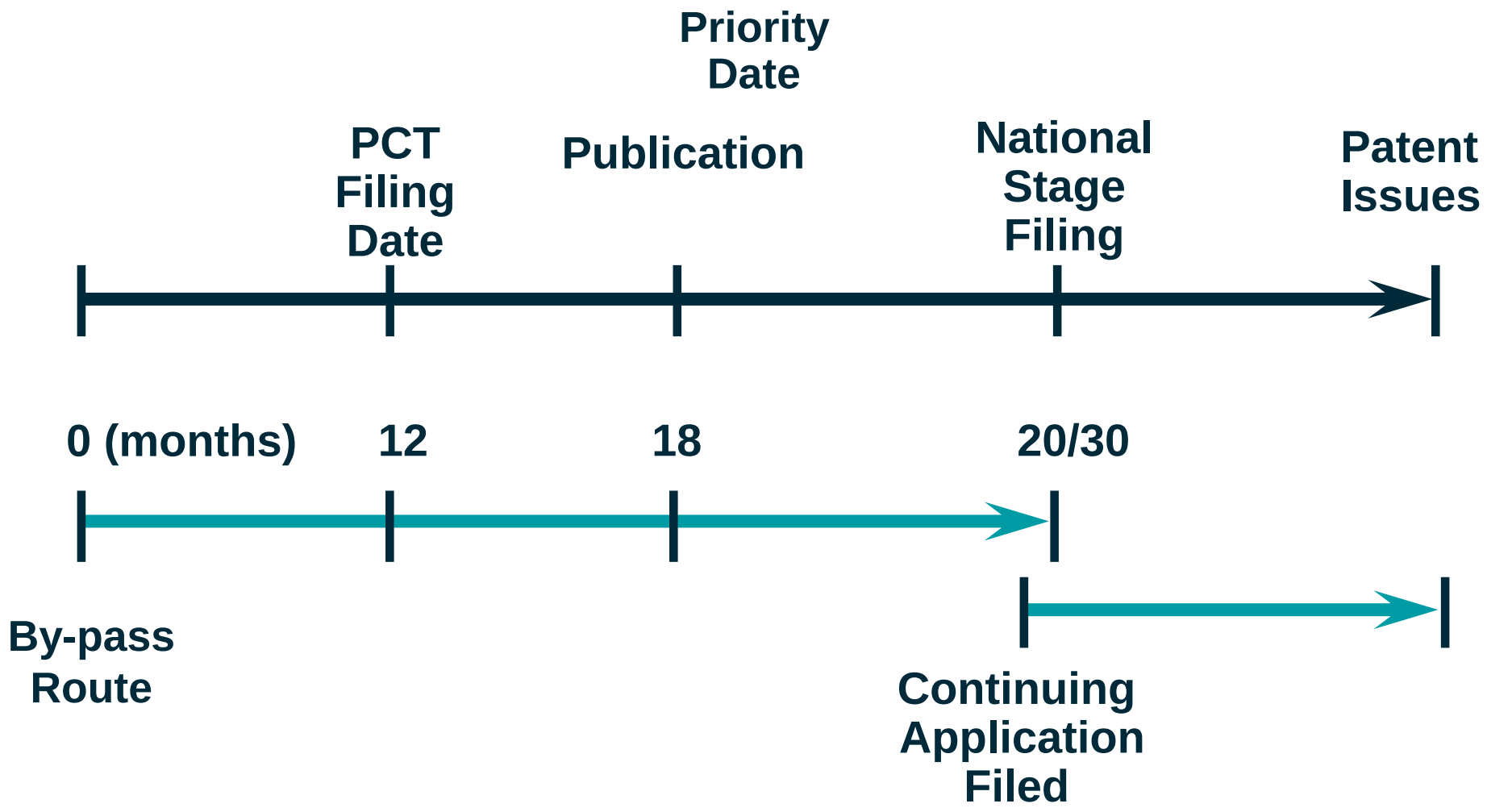
- **Consider that Examiners are human**
  - They respond well to formats they recognize
- **A first Office Action cleaning up formatting issues allows the Examiner to issue the first substantive Action as “Final”**
- **Restrictions are not necessarily bad**
- **Include multiple broad claims**
  - NOT in two-part form
  - Dependent claims are relatively inexpensive, and very powerful in litigation
  - Support from drawings
  - Can broaden claims provided you have adequate support for the broad concepts

Conversion Tips

- **Take advantage of Continuation-in-Part (CIP) practice**
  - Add later-developed improvements
  - Claim priority from multiple domestic cases
- **Update background and summary based on evolving theories of patentability**
  - Add details to support claim amendments to distinguish newly discovered art
- **Remember the grace period**

Entering the U.S. via PCT

U.S. National Stage vs. By-pass Route



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Advantages of By-pass Route

- English translation does not need to be an exact translation of the international application
- New matter may be added to the disclosure by filing a continuation-in-part
- US filing fee is lower if USPTO was neither the PCT search nor examining authority
- Extensions of time are available for missing parts (including fees and declaration)

Disadvantages of By-pass Route

- A complete application must be filed including any required formal drawings
- Certified copies of any foreign priority documents must be filed
- US restriction practice is applied instead of broader unity of invention requirements
  - But may be possible to traverse

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Peter Fasse is a Principal in the Boston office of Fish & Richardson.

With well over 30 years of experience, Peter's practice emphasizes client counseling and patent prosecution in a wide variety of technologies, with an emphasis on the intersection of the life sciences with mechanical and computer systems, including healthcare, medical devices, and other biological and medical fields, laser systems, 3D printing, nucleic acid sequencing, and bioinformatics.

Peter helps clients from start-ups to multinationals to develop competitive worldwide patent strategies and to establish solid and defensible patent portfolios. He performs competitive patent analyses, identifies third-party patent risks, and provides portfolio due diligence and patentability and freedom-to-operate opinions. Peter also has experience in opposing and defending patents before the European Patent Office and in U.S. litigation and post-grant proceedings.

Peter has experience in medical therapeutics, diagnostics, devices, and imaging, microfluidic systems, liquid biopsy, nucleic acid sequence analysis systems and software, cell culturing and bioprocessing, molecular biology, complex biomedical systems, optics, machine tools, and lasers.

Specific applications include, e.g., cancer antibodies, RNAi and CRISPR therapeutics, engineered AAV systems, microfluidic analysis of circulating tumor and fetal cells, cell-free DNA analysis, next generation sequence analysis, dendritic cell- and DNA-based vaccines, nanoparticle and vector-based delivery of therapeutic agents, automated blood analysis systems, nucleic acid probes, tissue engineering, infusion pumps, biochips, laser systems, cellulose processing for ethanol production, implantable drug delivery devices and microcapsules, ultrasound probes, wind and solar power, and diagnostic and therapeutic methods for, e.g., AIDS, cancer, autism, diabetes, psoriasis, and arthritis.

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Moritz Ammelburg, Ph.D., is a principal in the Munich office of Fish & Richardson P.C. Moritz is an imaginative life scientist holding a doctorate in biochemistry. His practice focuses on patent prosecution in the biotechnology and pharma areas based on his deep understanding of the architecture and function of small compounds as well as macromolecules. Having a special interest in the dynamic law governing supplementary protection certificates (SPCs), he coordinates the prosecution of several families of SPC applications across Europe. Additionally, Moritz passionately fights for his clients in a growing number of opposition proceedings before the European Patent Office (EPO).

Thank You!

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Any questions about the webinar, contact Lauren McGovern at mcgovern@fr.com

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