

## Knobbe Practice Webinar Series: Strategic Considerations for Chemical Practice Claim Drafting

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## Part I – Understanding Claims in U.S. Patent Applications

# Claim Structure

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- Preamble
  - Provides context for the claimed invention
  - May or may not limit the claim
    - As a general rule, preamble is not limiting
    - Limiting when preamble “breathes life and meaning to the claim”
  - “An **optical waveguide**, comprising... glass ...” was interpreted to require glass of sufficient purity to function as an optical waveguide
  - “A **method of treating migraines**, comprising...[using a composition]” was interpreted to be limited to treatment of migraines
    - Claim is directed to “what the method does”

# Claim Structure

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- Transitional phrase
  - Determines if the claim is “open” (comprising), “closed” (consisting of), or “partially open” (consisting essentially of)
    - “Comprising” is most common
    - “Consisting essentially of” excludes elements other than the recited elements unless they do not materially affect the “basic and novel characteristics” of the claimed invention
      - Examiners treat as “comprising” unless basic and novel characteristics from specification are pointed out
      - Burden is on applicant to show that prior art elements affect the basic and novel characteristics
    - “Consisting of” means only those recited elements/steps

## Claim Structure – Connecting the elements

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A method for oxidizing **metal** on a decorative **surface**, comprising:

- identifying **portions to be oxidized** on the **surface** based on a pattern to be formed on the **metal**;
- treating the **portions to be oxidized** with **acetic acid**;
- during the period of treating with the **acetic acid**, applying an **electric current** to the **surface** in an amount sufficient to oxidize the **portions to be oxidized**; and
- within 24 hours after applying the **electric current**, coating the **portions to be oxidized** with polyurethane.

## Part II – Selecting Subject Matter and Claim Strategy in U.S. Patent Applications

## Subject Matter Patentable over the Prior Art – Chemistry

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- Identifying subject matter patentable over the prior art
  - What makes invention more effective, less expensive, faster, less toxic, more accurate, etc.
  - What is different about the composition or method from earlier compositions and methods
- Examples
  - Use of an old composition for a new purpose
  - Increasing the pH of a composition to achieve much longer shelf life
  - Decreasing the concentration of an expensive ingredient without loss of effect
  - Using reverse osmosis purification of a composition prior to testing to increase rate of reaction

# Claim Drafting – Terms and Phrases with Special Meaning/Purpose

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- Counting/Numbers
  - "Plurality" – Two or more
  - "At least one" – Meaning no different than "a" or "an" when transition is "comprising"
  - "Two" or "Three", etc.—sometimes interpreted as that exact number even when transition is "comprising"
- Associations
  - "Each" - Places a limitation on every member of a group: "wherein each alkyl group carries a substituent ..."
  - "Individual" - Places a limitation on some member of a group: "wherein individual alkenyl groups are configured with local"
- Combinations or Alternatives
  - "And" - Standard meaning as a conjunctive: "wherein the widget has a first part **and** a second part"
  - Markush language: "selected from the group consisting of X, Y and Z"—"and" must be used even though meaning is the same as "or".



# Claim Drafting – Terms and Phrases with Special Meaning/Purpose

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- Potential Problem Terms
  - Relative terminology - "relatively large", "similar", "about", etc.
    - Fails to provide standard for measuring degree
  - Exemplary terminology - "such as", "for example", "preferably"
    - Unclear language
    - Proper manner of achieving this in U.S. practice is to set forth in dependent claim
  - “Optionally”
    - Sometimes acceptable
    - Useful with “consisting of” or “consisting essentially of”
    - “Optionally substituted with ...”

## Part III – Written Description Issues under 35 U.S.C. 112(a)

## 35 U.S.C. 112(a)

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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, and shall set forth the **best mode** contemplated by the inventor or joint inventor of carrying out the invention.

- Case law holds that "**a written description of the invention**" means sufficient detail that one skilled in the art can reasonably conclude that the *inventor had possession of the claimed invention*. See, *Vas-Cath, Inc. v. Mahurkar* (Fed. Cir. 1991).
- At same time, enablement requires that specification describe *how to make and use the invention*.

### GENUS WITH WIDELY VARYING SPECIES

Examples: “a rust inhibitor”, “a catalyst”, “an organic acid”

- Written description issues less likely:
  - Virtually any species within genus can be used in invention
  - A wide variety of species can be used and one skilled in the art could identify effective ones using well-known techniques or techniques described in specification
- Written description issues more likely:
  - Only very particular species can be used
  - Techniques for identifying effective species neither well-known nor described in specification

### METHODS USING COMPOUNDS CLAIMED BY FUNCTIONAL LIMITATIONS

1. A method for preparing a nickel oxide-iron material from an iron-nickel alloy, comprising applying a compound that selectively inhibits oxidation of iron but not nickel to the alloy.

- Claim requires a selective inhibitor of iron but not nickel.
- If specification discloses many such compounds or such compounds are well-known, possession of the invention might be present.
- If small number of such compounds disclosed in specification, possession of invention likely not shown

### METHODS OF IDENTIFYING COMPOUNDS

2. A method for identifying a compound that selectively inhibits oxidation of iron but not nickel, comprising [*carrying out specific steps*].

- Written Description issues less likely to arise even if only small number of compounds identified disclosed in specification
- Inventors only need to show possession of the specific steps, not the compounds identified

# Claim Drafting – Written Description Issues

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## COMPOUNDS IDENTIFIED BY A METHOD

3. A compound identified by the method of claim 2.

- Inventors only have possession of compounds disclosed in specification
- No possession of unknown compounds to be identified by method.



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