



Topic 4: Introduction and Theory of Patent Claims

Harare, Zimbabwe, 3 September 2019

*Robert J. Sayre, Modern Times Legal
Cambridge, Massachusetts, USA*

Introduction

Claims:

- The **most important** part of a patent application / patent.
- Set forth the **scope** of protection afforded to the patent owner by the patent.
- Claim drafting is a combination of **science** and **art**
 - You need to understand and identify the invention from a technical standpoint (science); and
 - You need to craft the right combination of words and phrases in the claims to capture the key aspects of the invention as broadly as possible while avoiding the prior art (art).

Introduction

History: Patents have existed to "promote the progress of the useful arts" for over 500 years.

- First "modern" patent act was enacted in **Venice** in 1474 to protect "any new and ingenious device, not previously made" provided that it was useful.



Introduction

History (continued):

- Followed by the "Statute of Monopolies" in **England** in 1624.
- Patent **claims** (that explicitly set forth the scope of protection) were not required until much later. In the US, claims were first required by the Patent Act of 1836.
- The scope of patent claims are set in an effort to **balance** (a) the **rights of inventors** and the desired rewards granted to inventors and (b) the **rights of the public** to not be unduly hindered by patents awarded to others.

Introduction

Protection afforded by patent claims:

- the exclusive right to control who practices, makes, uses, sells, offers to sell, and/or imports the invention, as defined by the claims.

Patent owners granted the rights to:

- receive damages for infringement, &
- seek an injunction against further infringement.

Introduction

Now, when an inventor is ready to file a patent application to protect his/her invention, the patent agent must ask:

- What has been invented?
- Does the inventor know what he wants to protect?
- How can we ***claim*** this invention in the patent application?

Introduction

The claims define the scope of protection provided by the patent.

- Claims represent the written approximation of the abstract inventive concept created by the inventor.
- Example of a claim:
 1. A seating device, comprising:
 - a seat; and
 - at least one leg coupled to the seat to support the seat in an elevated position.



Theory of the Patent Claim

- Patent claims appear at the end of the application/patent text.
- Multiple claims and multiple types of claims of varying scope are typically included.

Each patent claim must:

- define the invention for which patent protection is sought,
- be clear and concise, and
- be drafted in terms of technical features of the invention.

Theory of the Patent Claim

The patent agent must understand the differences between inventions, embodiments, and claims.

- An “***invention***” is a mental construct inside the inventor’s mind (not a physical reality).
- An “***embodiment***” of an invention is a specific physical form of the invention.
- The “***claims***” must always protect ***at least*** an “***embodiment***” of the invention – ***but*** the best claims protect the full scope of the “***invention***” – such that ***all embodiments*** of a concept infringe the claims.

Theory of the Patent Claim

Example: Inventor, Mandy, develops the first cup to have a handle. Mandy's physical embodiment is a red clay cup with a handle.

- Should Mandy's patent agent claim the physical embodiment of "a red clay cup with a handle"?



No!

- This would allow non-infringing plastic cups with handles.
- The would allow non-infringing blue clay cups, too.
- If the patent agent understands the invention, then he will claim a "cup with a handle" (the invention)
- "Red cups" and "clay cups" may appear in narrower claims.

Theory of the Patent Claim

If the patent examiner's job is to **prevent** claims from **exceeding** the scope of the invention, then whose role is to push the scope of the claims up to their maximum breadth?

Answer: The Patent Agent!!

Theory of the Patent Claim

The patent agent will usually not want all of the claims to be at the **apparent** upper limit of protection because:

- there may be **unknown** prior art and
- claims can be **invalidated** during litigation

The patent agent will want to develop a **mix** of broad, medium, and narrow claims.

- This provides the client with a variety of protection in depth.

Theory of the Patent Claim

Each patent claim must have **support** in the specification (detailed description, summary, and background sections) and/or drawings.

The specification and drawings support the claims by providing :

- a clear indication of the intended meaning of words and phrases,
- an understanding of all details of the invention, and
- instruction as to how to make and/or use the invention.

Theory of the Patent Claim

A claim that is not supported by the specification is invalid.

- Therefore, the patent agent, before filing, must review the specification and claims to verify that every feature in the claims has support in the specification.
- The patent agent should also verify that the **terms** used in claims can be traced back to the specification to verify that consistent terminology has been used throughout.

Theory of the Patent Claim

Example: If Claim 1 recites a “*red*” component, but the specification describes a “*scarlet*” component, then the patent agent should either:

- amend text to use the same term throughout or
- amend the specification to state that “scarlet” is a ***subset*** of “red” and that any “red” component could be used (assuming this is correct).

Patent Claim Design

As a patent agent, always ask:

- What are the goals of this invention?
- What is the inventor trying to protect?
- Who/what is likely to infringe?
- Who could license the patent?
- Am I adequately protecting the invention by drafting the claims this way or that way?

As a patent agent, you must be creative in order to obtain the maximum possible protection.

Patent Claim Design

Choice of words in claim (continued):

- If you use a word established in a given art field, make sure that you understand what the word means and doesn't mean
 - Re-craft the word's meaning in the specification if necessary—you can be your own "lexicographer"
- If you use a new word in the specification, then make sure that you clearly establish its meaning in the specification.

Patent Claim Design

Choice of words in claim:

- Be cautious
- Selected words must be appropriate in terms of conveying intended meaning and adequately covering the invention
- Words should capture not just a particular embodiment but variants, as well

Patent Claim Design

Choice of words in claim (continued):

- Watch out for “relative” words, such as
 - Fast, slow, long, short, tall, wide, perfect, complete, thin, strong, flat, *etc.*
 - Unless the relationship lies with another recited element in the claim
 - “wherein the first piece is shorter than the second piece”

Patent Claim Design

Choice of words in claim (continued):

- Avoid negative limitations in claims
 - “a ball that is not solid”
- State limitations in positive terms
 - “a ball that defines a hollow inner cavity”
- Unless the limitation cannot be phrased in any other manner
 - “a non-black color” - maybe

Patent Claim Design

The specification must support the claim language

- Make sure every claim has adequate support in the specification
- Words and terminology should be consistent
- You don't need to define terms already known in the industry – if you're using them in a manner consistent with industry practice

Patent Claim Design

Claim variations/modifications of the invention

- Think about variations or other *embodiments* of the invention
- Think like a potential competitor trying to avoid the patent
 - Or assume that the competitor has a piece of prior art that can knock out your broadest claim
- Incorporate alternative embodiments into the specification and cover those embodiments with claims
- Covering alternative embodiments broadens protection

Patent Claim Design

Example:

- The client's product (an embodiment of the invention) is made from molded plastic
- Your broadest claims recite the essence of the invention (which has little to do with a specific material)
 - Your dependent claims recite "molded plastic"
- You learn from the client that a sheet metal embodiment would be only slightly more expensive
 - You add dependent claims reciting "sheet metal"
 - You add support in the specification for a sheet metal embodiment

Patent Claim Design

Avoid unnecessary limitations

- In preparing the *initial* draft claim set, include additional limitations, if necessary, to aid in understanding the invention
- Delete all unnecessary limitations before filing claims
 - File only the limitations necessary to recite the invention in its broadest patentable form in the broadest independent claim

Patent Claim Design

Claims should cover competing products:

- Keep abreast of competing products in field of invention
 - Ask the inventor/client about competitors and their products
- Background knowledge useful in identifying key unique features of the invention and in drafting claims that cover products in competitor's particular fields.

Patent Claim Design

Claims must overcome the prior art

- Be aware of related prior art
- Do not file claims that you know to be invalid

Patent Claim Design

Use Multiple Claim Types for the Same Invention

- Useful to get broadest possible protection
 - Some competitors will infringe device claims but not method claims and vice versa
 - Sometimes securing allowance of method claims is easier than securing allowance of product claims or vice versa
- Don't include every type of claim just for the sake of inclusiveness – use your best judgment

Patent Claim Design

For apparatus claims, start the claim body with the “**backbone**”:

1. A robotic human replica, comprising:
 - a backbone having a first end and a second end;
 - a head connected at the first end of the backbone;
 - a pair of legs connected at the second end of the backbone; and
 - a pair of arms connected to the backbone between the head and the legs.



Patent Claim Design

Each patent claim should have a single point of view

- Imagine a single infringer for each patent claim set.
- Draft the claim set in view of actions by a single infringer.
- Draft additional claim sets from the point of view of other infringers.

Patent Claim Design

Single/consistent point of view (continued)

- Per claim / claim set
- Have multiple points of view through the sets of claims
- focus claims/claim sets on a specific actor in the market—to the extent possible

Patent Claim Design

Narrowing a patent claim during prosecution:

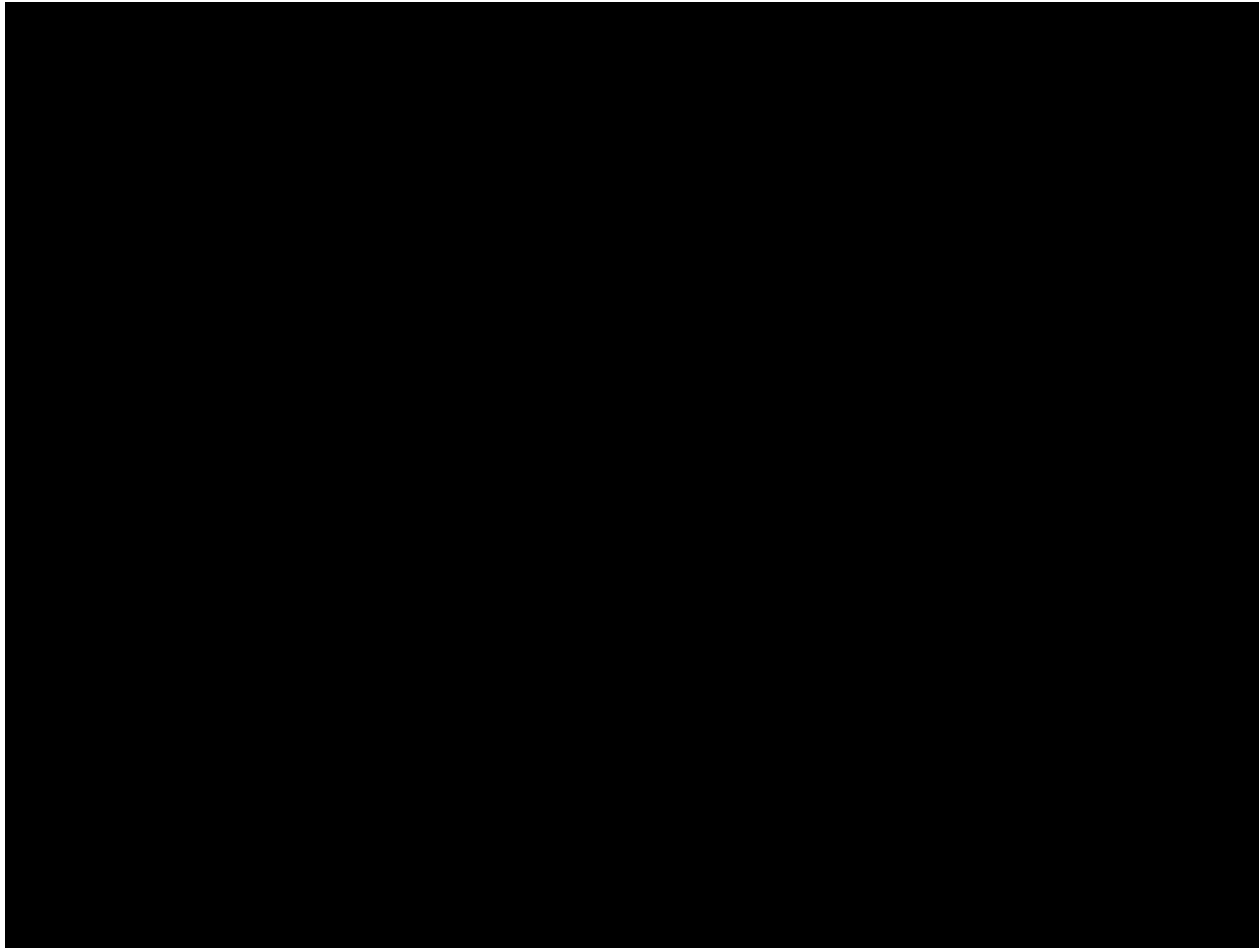
- Add new elements to claims and/or
- Add new limiting characterizations to existing elements/steps
- All new additions must be supported by the specification, as filed
- Consider all relevant options in amending a claim
 - Do the least harm possible
- The client should understand the implications of any claim amendments

Patent Claim Design

Example:

1. (Amended) An apparatus, comprising:
 - a pencil;
 - an eraser attached to one end of the pencil; ~~and~~
 - a light attached to the center of the pencil; and
 - a removable cap attached to one of end of the pencil.

Understanding Patent Claims – Scene from "Flash of Genius"



Questions?