

Pioneering Inventions

- “Pioneering Invention”
- An invention in an area with little or no prior art.
- A distinct step in the progress of the art, distinguished from a mere improvement or perfection of what has gone before.
- Not conferred just for commercial success of an invention, as many inventions enjoy commercial success.

Pioneering Inventions in Nanotechnology

- Given current progress in nanotechnology, it is likely that many inventions will arise in areas with little or no prior art.
- As inferred in the previous slide, pioneering inventions typically enjoy substantial financial success.

Patenting and Pioneering Inventions

- A patent provides a limited monopoly to make, use or sell a covered invention for a set period of time.
- Pioneering inventions enjoy the greatest latitude with respect to patent examination and enforcement, oftentimes resulting in relatively broad coverage.
- The broader the coverage, the larger the monopoly.

Monopolies of Different Size

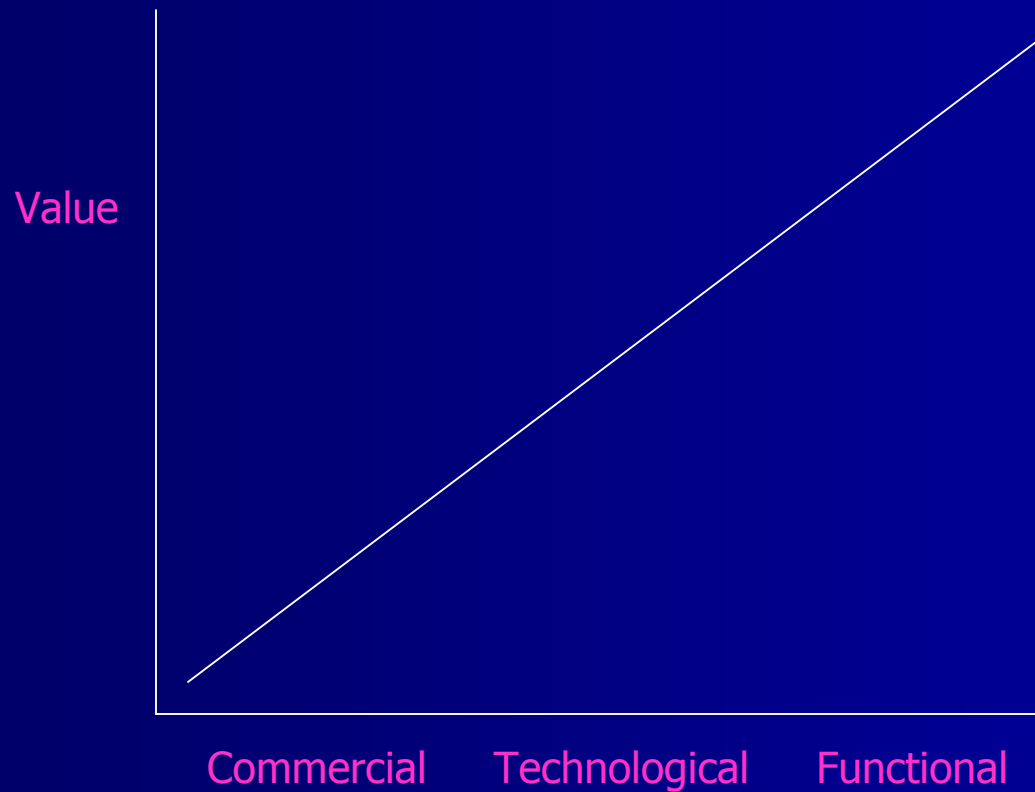


Commercial
Embodiment

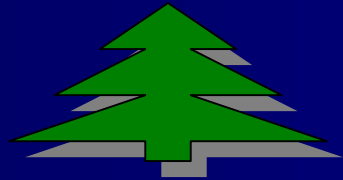
Technology
Area

Functional
Area

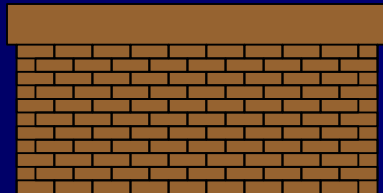
Monopoly Vs. Value



Monopoly Type and Patent Claims



Real Property



chemical elements

mechanical elements

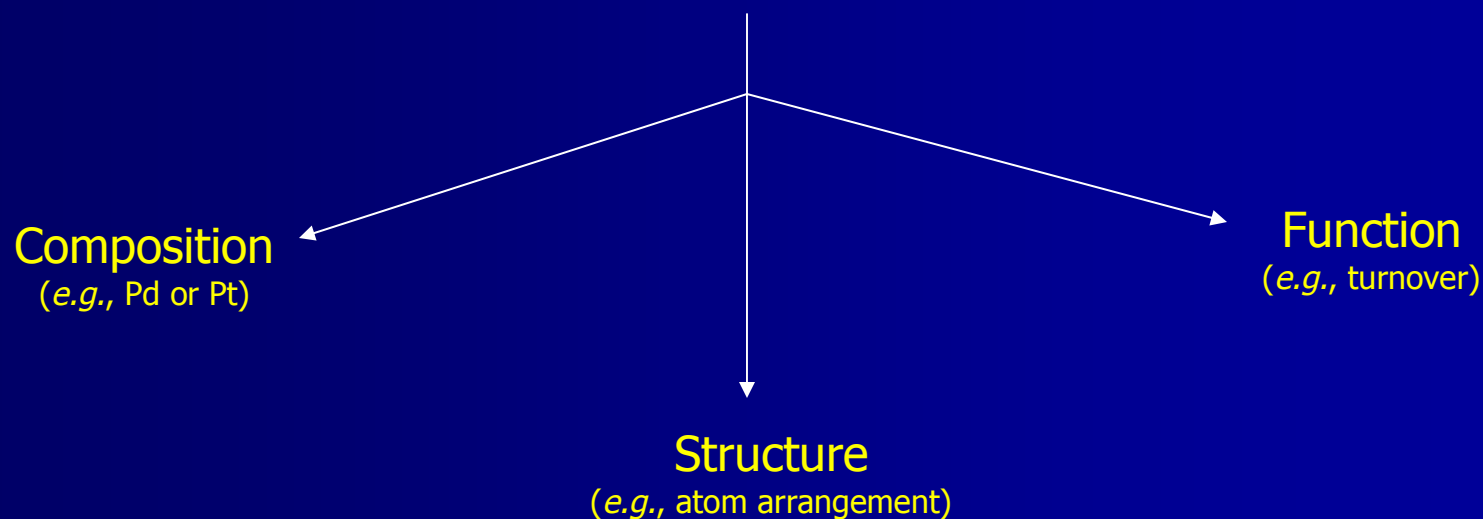
Intellectual Property

electrical elements

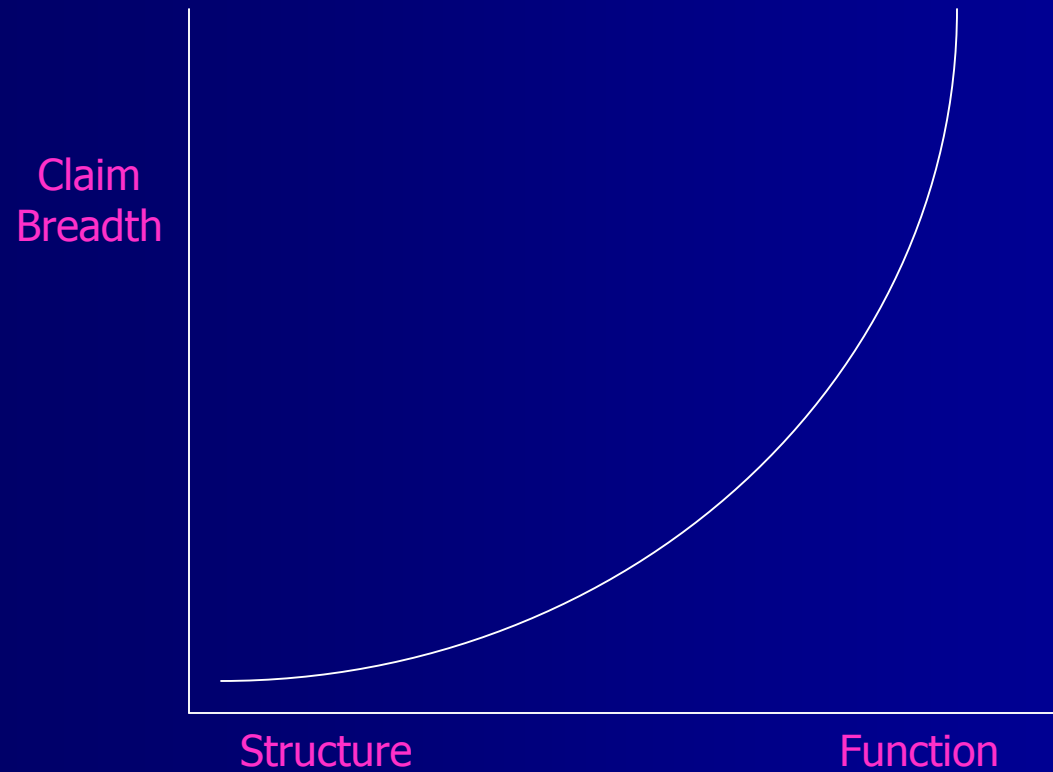
physical elements

An Example of Element Use

Elements of a Catalyst



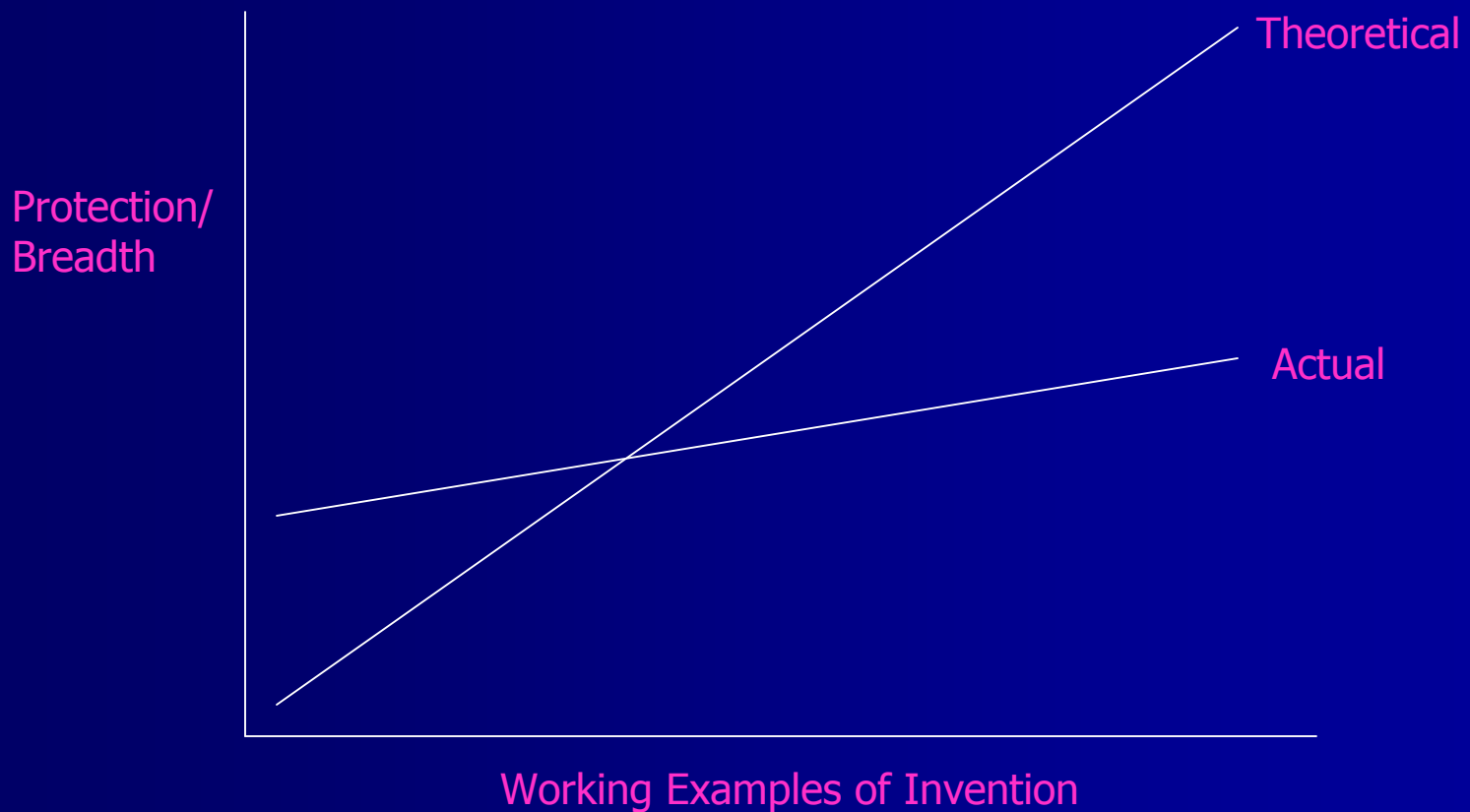
Element Type Vs. Claim Breadth



Propriety of Claim Element Type by Jurisdiction

	US	EP	JP
Composition	Yes	Yes	Yes
Structure	Yes	Yes	Yes
Function	Yes	No	No

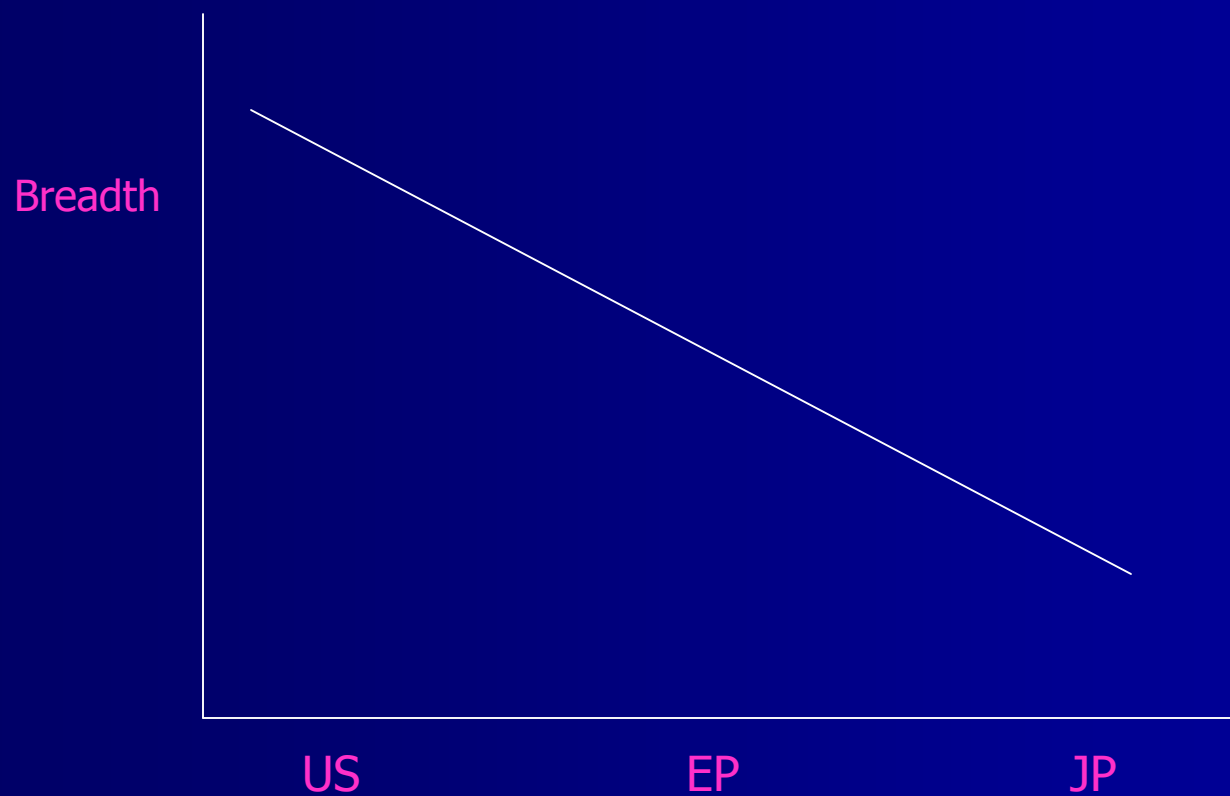
The Importance of Making Your Invention



Ability to Extend Protection Past Examples

	US	EP	JP
Data by Declaration	Yes	Yes	No

IP Protection by Jurisdiction



Drafting and Research Lessons

- Describe the invention using all possible elements: structural, functional, etc.
- Adjust research schedule to get all possible data into a patent application if JP protection is important.

Protecting Pioneering Inventions

- Intellectual property protection for pioneering inventions in nanotechnology can only be maximized by understanding and capitalizing on the differences in the patent laws of various jurisdictions.