

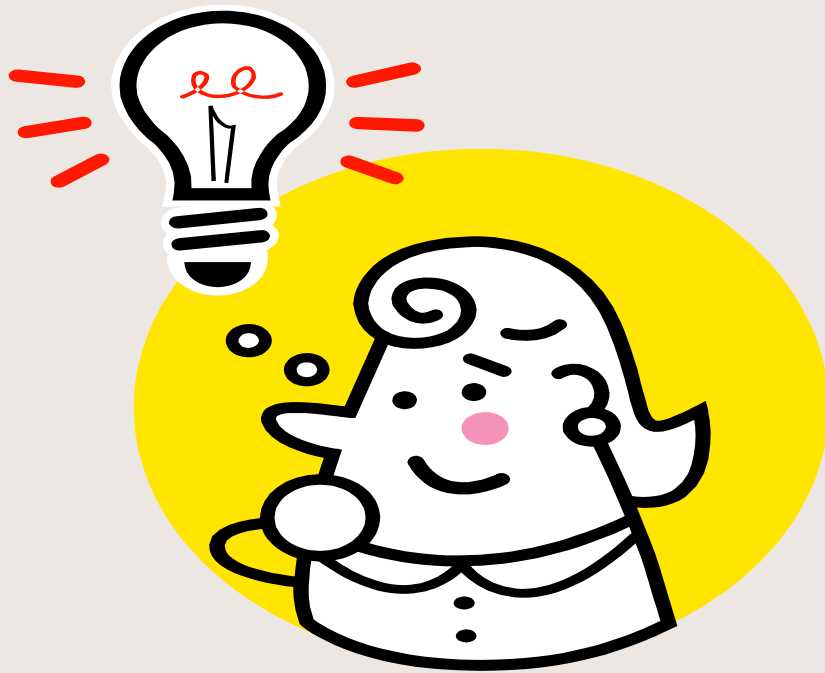
PATENT BASICS FOR SCIENTISTS

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This talk is about



OUTLINE

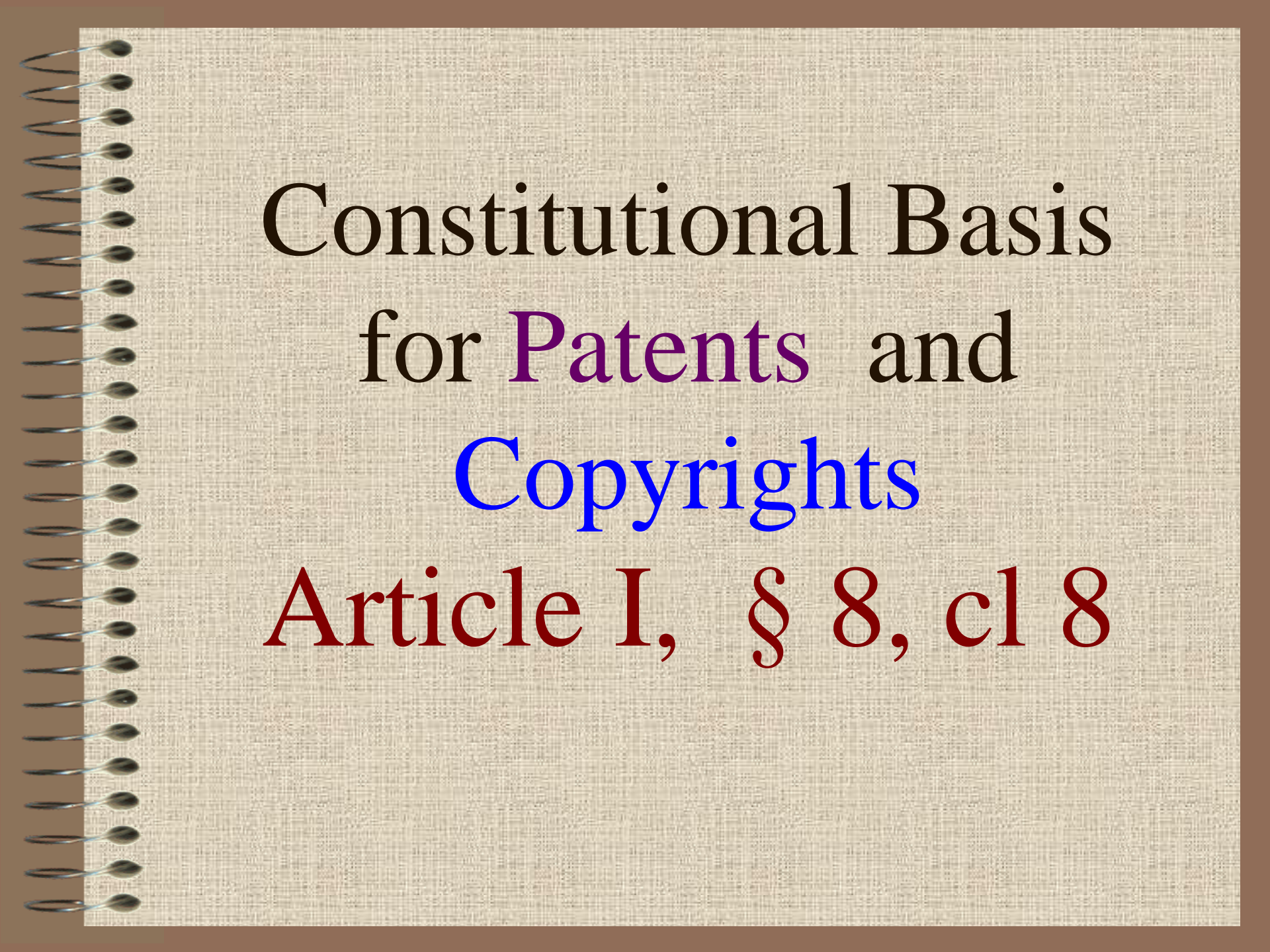
- 1. Introduction**
- 2. What is a patent?**
- 3. Types of patents?**
- 4. Patent requirements?**
- 5. How to obtain a patent ?**
- 6. What cannot be patented?**

A spiral-bound notebook with a light beige, textured cover. The metal spiral binding is visible on the left side. The text "1. INTRODUCTION" is printed in a bold, black, serif font in the center of the cover.

1. INTRODUCTION

INTELLECTUAL PROPERTY

1. PATENTS
2. COPYRIGHT
3. TRADEMARK
4. TRADESECRETS

The background of the slide is a spiral-bound notebook with a light-colored, textured cover. The spiral binding is visible on the left side. The text is centered on the page.

Constitutional Basis
for Patents and
Copyrights
Article I, § 8, cl 8

To promote
the Progress of Science
and useful Arts
by securing for limited
Times to

Authors and Inventors

the exclusive Right to

their respective

Writings and

Discoveries



Who is granted a patent?

**Granted only in the
name of the inventor**

Inventor may

sell,

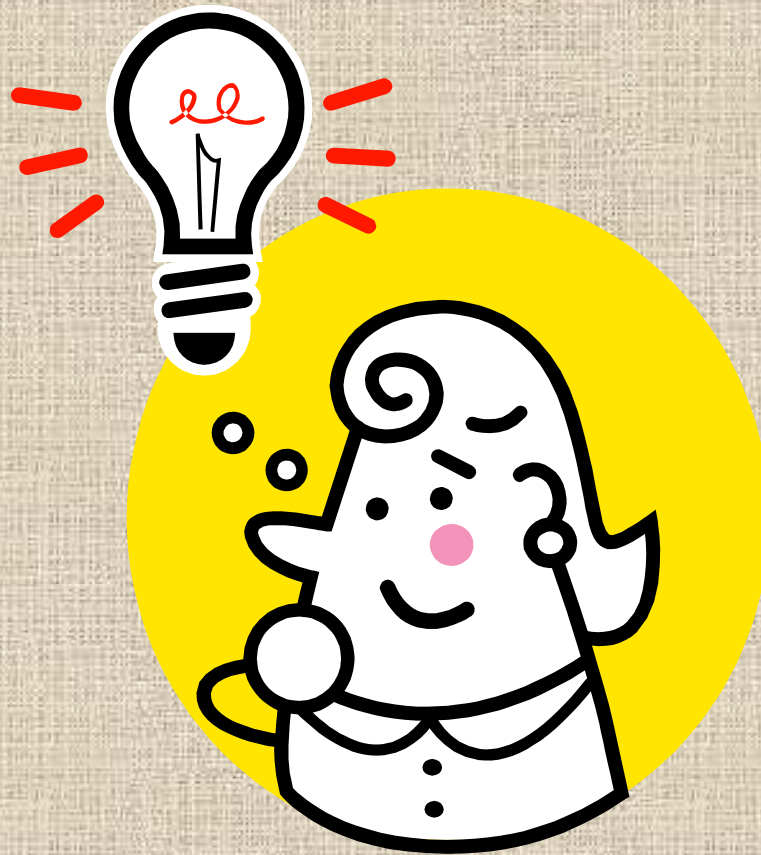
bequeath,

transfer, or

license the patent

to anyone

2. What is a patent?



Property Right

to exclude others from:

making,

using,

offering for sale or

selling

the invention or

importing the invention
for a limited time

in exchange for public
disclosure of the
invention

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In other words,

a patent is a

limited

monopoly



3. Types of patents

Types of Patent (or Subject Matter)

1. Utility (20 years)

2. Plant (20 years)

3. Design (14 years)

Examples of Utility Patents

- 1. Chemical compounds (drugs)**
- 2. Medical devices**
- 3. Measuring instruments**
- 4. Processes for making drugs**

Utility patents

1. Process
2. Machine
3. Manufacture
4. Composition of Matter

UTILITY PATENTS

Whoever invents or discovers

any new and useful

process, machine, manufacture or
composition of matter

any useful improvement thereof

may obtain a patent (35 USC
§101)

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1. Composition of matter

- a new molecule

A manufacture is

**“anything under the sun that
is made by man”**

Diamond v. Chakrabarty

**Landmark Supreme
Court Decision in
Biotechnology Patent
Law (1980)**

FACTS

Patent office denied
patent to a genetically
modified bacteria
capable of degrading
crude oil

PTO's reason to deny patent

1. Legal (Plant Patent act of 1930)
2. Need congressional approval

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Supreme court overruled

Statutes do not
prohibit patenting
modified
microorganisms

A spiral-bound notebook with a brown cover and a white page. The spiral binding is on the left side. The text "4. PATENT REQUIREMENTS" is written in a bold, black, serif font across the middle of the page.

4. PATENT REQUIREMENTS

Requirements for patenting an invention

1. Allowed by statute

2. Useful

Requirements to Patent an Invention (cont'd)

3. Novel

in relation to “prior art”

What is prior art?

Concept:

What is known at the
time of invention?

What is prior art?

1. A publication anywhere
2. A patent anywhere
3. Anything in public use or sale

What constitutes “prior art?”

1. Source (publication, patent, etc)
2. Place (US /Foreign)
3. Time
4. Person

NOT Prior Art

Source: Printed publication

Place: China

Time: A day before invention date but less than one year prior to the patent application date

Person: *Inventor*

Requirements to Patent an Invention (cont'd)

4. Not obvious

*to a person of ordinary skill
in the art from the prior art
(at the time of the invention)*

STEPS TO A INVENTION (PATENT)

1. Conception

**2. Reduction to
Practice**


**Conception is the
formation in inventor's mind
of a definite and permanent
idea of the complete and
operative invention**

Example


The conception of a chemical compound requires the inventor

to have a mental picture of its structure

to define it by its method of preparation, its physical or chemical properties

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Sometimes, an inventor is
unable to establish a
conception until s/he has
reduced the invention to
practice

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Then , there is
simultaneous
conception and
reduction to practice.

A spiral-bound notebook with a light beige, textured cover. The metal spiral binding is visible on the left side. The text "Race to get a patent" is printed in a black serif font in the center of the cover.

Race to get a patent

Priority
who is first to invent?

Inventor who and
conceives first and
reduces to practice first

WINS always


Inventor who conceives
first but reduces it to
practice second can win
if s/he was diligently
works to reducing the
invention to practice

Erythropoietin


Amgen v. Chugai & GI (1991)

Chugai/GI patent date 6/30/87


Amgen patent date 10/27/87

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Chugai/GI argued they
conceived the “E” gene in
1981 and reduced to
practice in 1984

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Amgen completed
both steps in 1983
and argued
Chugai/GI infringed
their patent

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**Court ruled that
Chugai/GI could not
have conceived it till they
had reduced it to
practice.**

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Amgen won!

The patenting process

1. File application with USPTO with full disclosure of invention

The patenting process

Drafting an
application requires
special knowledge and
style

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6. What cannot be patented?

Some examples

1. Laws of nature: $E=mc^2$
2. Naturally occurring things like minerals, plants, animals

