

# MODULE 1.2 PATENTS – LEARN THE BASICS



UNIVERSITY OF  
**TORONTO**

This presentation is adapted from the IP foundation series on the Canadian Intellectual Property Office (CIPO) website.



What do patents protect?

What is the difference  
between a patent and patent  
pending?

In this section, we will introduce patents, what they protect, and the criteria for patentability.

# LEARNING OBJECTIVES FOR PATENTS - LEARN THE BASICS

By the end of this section, you will be able to:

- Describe what an invention is
- Describe what a patent is
- Explain the criteria for obtaining a patent (patentability)
- Outline the rights that patents provide



# WHAT IS A PATENT

Video Description: The following video from CIP0 provides an introduction to patents.

Direct link to the video -  
<https://www.youtube.com/watch?v=OFVoJhp3RN4>

For the French version of this video, please visit:  
<https://www.youtube.com/watch?v=OfK0aF4-gwM&t=0s>





# UNDERSTANDING PATENTS

## WHAT IS AN INVENTION?

An invention is a **new, inventive and useful solution** to a problem.

It can be a novel **art** (the application of knowledge to effect a desired result), process, machine, manufacture, composition-of-matter or **any improvement** thereon.

Inventions that meet the above criteria for patentability can be protected through patents.

# UNDERSTANDING PATENTS

## WHAT IS A PATENT?

A patent is a **form of intellectual property** granted by a government that confirms the **exclusive right** to an invention.

Patents protect **inventions**.



# UNDERSTANDING PATENTS

## WHAT CAN BE PATENTED?

- Products / articles of manufacture
- Processes/methods
- Machines
- Compositions of matter



Virtual reality glasses



Distillery process and computerized method for bottling liquid



Sewing machine

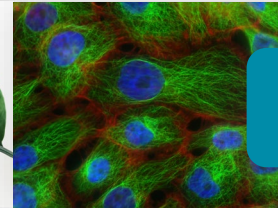


Pharmaceutical product

# UNDERSTANDING PATENTS

## WHAT CANNOT BE PATENTED (IN CANADA)?

- Higher life forms



Animal, plant or  
cellular organism

- Mathematical formulas

$$\begin{cases} 2x_1 + x_2 = 7 \\ x_1 + x_2 - 3x_3 = -1 \\ 6x_2 - 2x_3 + x_4 = \\ 2x_3 - 3x_4 = 13 \end{cases}$$

Mathematical equation



# UNDERSTANDING PATENTS

## IMPROVING EXISTING INVENTIONS

An invention does not have to be an **entirely** new device, process or product.

It can be—and is most likely to be—an **improvement** to an existing invention.

About **90%** of patents are for **improvements** to existing patented inventions.

Headphones have existed for a century but continue to evolve with technology.



# UNDERSTANDING PATENTS

## PATENT CRITERIA IN CANADA

The criteria for patentable inventions are found in the [Patent Act](#), which is the federal legislation governing patent law in Canada.

How do you know if you have an invention eligible for a patent? Your invention must be **new, useful, non-obvious, and be eligible subject matter.**

### New / Novelty

Your invention must be the first of its kind in the world. It must not be known to the general public in writing or in any other form anywhere in the world before the application is filed.

### Useful

Your invention must work at a practical level and have a useful function. It simply has to have a use.

### Non-obvious

Your invention must be something that a skilled person in the field would not have thought of.

### Eligible Subject Matter

Your invention must be something that is allowed to be patented (e.g. products, processes, machines, compositions of matter.)

# UNDERSTANDING PATENTS

## HOW TO OBTAIN A PATENT?

In Canada, patents are applied for at the Canadian Intellectual Property Office (CIPO).

In Canada, patents are granted to the **first applicant** (individual inventor(s) or entity such as a company or institution) to file a patent application.

Prior to a patent being granted, you may mark an invention's filed status as “patent pending”.





# UNDERSTANDING PATENTS

## PATENT RIGHTS

A patent grants you the right to **exclude** others from **making, using** or **selling** the invention in the country where your patent is granted.

This only applies to countries that have granted you a patent. There are no international patents and each country may differ in the criteria for patentability.

In many countries including Canada, patents are valid for up to **20 years from the date you file your application**. It is not renewable but maintenance fees or annuities may be due to maintain the patent.





# CHECK FOR UNDERSTANDING

TRUE OR FALSE: For a patent to be granted for an invention, the invention cannot be an improvement of an existing patented invention.



# CHECK FOR UNDERSTANDING

ANSWER: FALSE

90% of granted patents are for improvements to existing patented inventions. An example of an improvement is covered in the subsequent case study for a light bulb patent.



# CHECK FOR UNDERSTANDING

TRUE OF FALSE: A Canadian patent can be granted to an invention if it is the first of its kind in Canada and is a new development or an improvement of an existing technology that would not have been obvious to someone working in your area of specialty.



# CHECK FOR UNDERSTANDING

ANSWER: FALSE

The invention must be the first of its kind in the *world*.





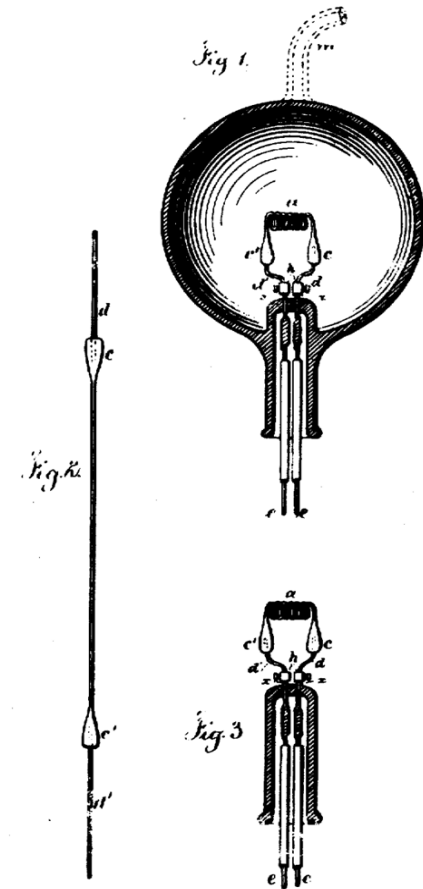
# CASE STUDY: UNDERSTANDING PATENTS

## INCANDESCENT LIGHT BULB

### Electric Lamp (US 223,898)

In the late 19th century, development of a commercial electric light proved to be elusive for decades. In 1878, Thomas Edison and his team of scientists and technicians, successfully invented an effective and affordable electric lamp that was patented in 1880.

T. A. EDISON.  
Electric-Lamp.  
No. 223,898. Patented Jan. 27, 1880.



Witnesses  
Charles Smith  
G. D. Mackay

Inventor  
Thomas A. Edison  
per Lemuel W. Ferrell

cut.

# CASE STUDY: UNDERSTANDING PATENTS

## INCANDESCENT LIGHT BULB

Prototypes of electrical lamp like inventions had been invented by other groups decades before (as far back as 1800). However, these earlier prototypes were impractical and expensive for common use.

The **inventiveness** of Edison's incandescent light bulb was the use of "filaments" that had high electrical resistance and required only a small amount of current. The first filaments were paper based but better filaments were discovered soon after. These discoveries were made from performing thousands of tests.

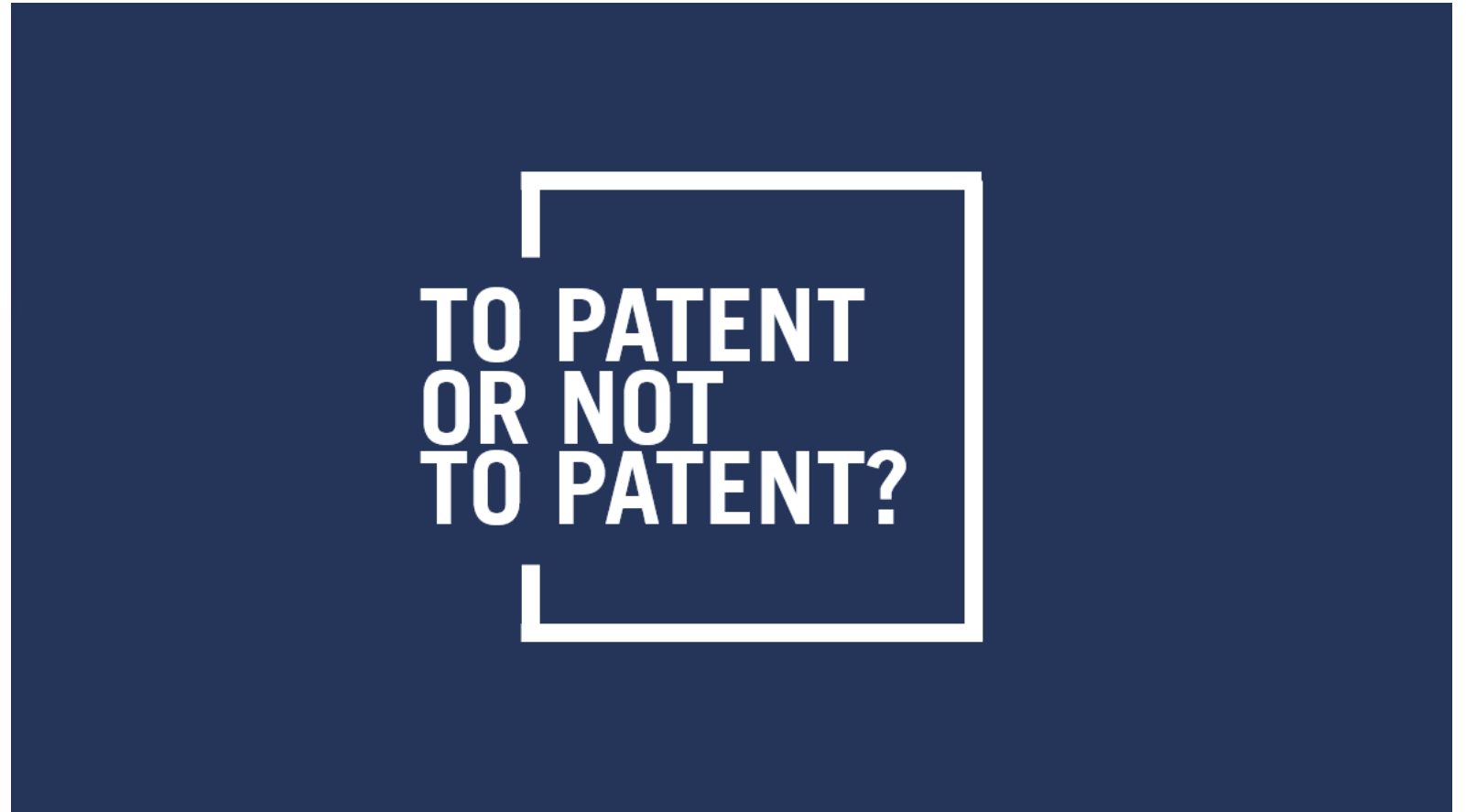
Ultimately, these lights bulbs led the way for their universal and domestic use.



# TO PATENT OR NOT TO PATENT?

Video Description: The following presentation is a clip from a panel event, “Intellectual Property and Entrepreneurship in Canada” hosted by the University of Toronto Munk School of Global Affairs and Public Policy on March 23, 2021.

To view the entire event, you can watch it here:  
[https://www.youtube.com/watch?v=o3mr\\_kYgq0Y](https://www.youtube.com/watch?v=o3mr_kYgq0Y)



# SUMMARY OF LEARNING OBJECTIVES FOR PATENTS – LEARN THE BASICS

You should now be able to:

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- Outline rights that patents provide

