

A hand in a grey pinstripe suit sleeve holds a white rectangular sign with rounded corners. The sign features the text 'Protection of IP' in a bold, orange, sans-serif font. The background is a blurred office interior with modern lighting and architectural elements.

# Protection of IP



# IP Lifecycle – particularly for new technology

---

1. Création
2. Identification
3. Protection
4. Development
5. Management
6. Commercialisation/Utilisation
7. Enforcement/Defence
8. Maintenance

# Creation and Identification of IP – Issues to Consider

- Customer need / market pull / technology push (solution) – is there a need?
- Ideation/Brainstorming – how formal?
- Searching – has it been done before?
- Record Keeping/Documentation – do not underestimate
- Inventorship vs Ownership – different concepts
- Role of Employees – agreements on IP, need to avoid Ownership Disputes
- Confidentiality vs Publication vs Patenting





# Patents – What is a Patent?

A Patent is legal document specifying an invention which provides protection from others exploiting the invention with the condition that the full invention is disclosed publicly.



# Patents – Basics

---

- A grant from the Crown/State
- Gives a limited term statutory monopoly - sole right to make, use or sell the invention for term of patent (20 years in Australia and virtually all countries)
- Strictly national in jurisdiction
- Patentee subject to earlier patent rights
- Patentee cannot stop others from continuing activities which they commenced before the priority date.



# Patents – Criteria for patentability

---

- Patentable Subject Matter
  - Manner of New Manufacture
  - Articles, devices, processes, materials
- Novelty
- Inventive Step (cf. Innovative Step)
- Useful (Utility)
- Clear, Fairly Based, Sufficiently Described
- Not Secretly Used before Priority Date

## *CHECKLIST*

<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>





# Outline of a Patent – key areas

Basic concept

Criteria

Structure and claims

An example

# The Patent Specification

---

- Fully describes the Invention
- Defines the Monopoly
- Contents generally include;
  - i. Title
  - ii. Field of Invention
  - iii. Problem(s) Solved, Discussion of Prior Art
  - iv. Object of Invention
  - v. Summary of Invention
  - vi. Description of Drawings
  - vii. Detailed Description
  - viii. Examples
  - ix. Claims
  - x. Drawings

© Dennemeyer Consulting PTY LTD 2021.





# The patent specification: Australian Example



**Australian Patent No 2015278274 “Communications Unit in a Mining Machine”:** Epiroc Rock Bolts AB

A copy of this specification is available in the IP Basics reference materials



Note the Abstract, Field of Invention, Background to Invention, Invention Summary, Description of Drawings, Detailed Description of Drawings, and Claims

Claim 1 is independent (“Communication Unit”), claims 2 – 9 dependent, Claim 10 is independent (“Mining Machine”), claim 11 dependent, Claim 12 is independent (“method”), claim 13 dependent

#### CLAIMS

1. A communication unit arranged in an at least partially remotely controlled mining machine, which communication unit is arranged to transfer control information for remote control between an operator and a control system of said mining machine via a wireless communication system in a mine and which communication unit comprises a radio unit and two or more antennas, **characterized in** that the radio unit and said two or more antennas are comprised in a space defined by an enclosing protective housing, that said two or more antennas are directional antennas; and that the radio unit is arranged for data communication with the control system of said mining machine by means of one or more data links.
2. The communication unit of claim 1, **characterized in** that said one or more data links are wireless.



# Australian Patent 2015278274





# The Patent Specification: US Example



- **US Patent No 10,643,159 “System and Method for Mining Site Production Planning”**: Caterpillar Inc
- A copy of this specification is available in the Basic reference materials
- Note the Patent Classification information, References the Examiner cited, the Abstract, Drawings, Technical Field, Background (why the invention is “better”), Drawings, and Claims
- Claim 1 is independent (“system”), claims 2 – 9 dependent, Claim 10 is independent (“method”), claims 11-15 dependent, Claim 16 is independent (“control system”), claims 17 – 20 dependent

# US Patent 10,643,159



(12) **United States Patent**  
**Gates**

(10) **Patent No.:** **US 10,643,159 B2**  
(45) **Date of Patent:** **May 5, 2020**

(54) **SYSTEM AND METHOD FOR MINING SITE PRODUCTION PLANNING**

(71) Applicant: **Caterpillar Inc.**, Peoria, IL (US)

(72) Inventor: **Kevin Eugene Gates**, Queensland (AU)

(73) Assignee: **Caterpillar Inc.**, Peoria, IL (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 332 days.

(21) Appl. No.: **15/817,791**

(22) Filed: **Nov. 20, 2017**

(65) **Prior Publication Data**

US 2019/0153701 A1 May 23, 2019

(51) **Int. CL**

**G06Q 10/06** (2012.01)

**E02F 9/20** (2006.01)

**G05D 1/02** (2020.01)

**G06Q 10/04** (2012.01)

**G08G 1/00** (2006.01)

(52) **U.S. CL**

CPC **G06Q 10/06312** (2013.01); **E02F 9/2045**

(2013.01); **E02F 9/2054** (2013.01); **G05D**

**1/0276** (2013.01); **G05D 1/0287** (2013.01);

**G05D 1/0291** (2013.01); **G06Q 10/047**

(2013.01); **G06Q 10/0631** (2013.01); **G08G**

**1/20** (2013.01); **E02F 9/205** (2013.01)

(58) **Field of Classification Search**

CPC **G06Q 10/06312**; **G06Q 10/047**; **G06Q**

**10/0631**; **G08G 1/20**; **G05D 1/0287**;

**G05D 1/0291**; **G05D 1/0276**; **E02F**

**9/2045**; **E02F 9/2054**; **E02F 9/205**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

6,351,697 B1 \* 2/2002 Baker ..... G01G 19/08

701/50

8,190,173 B2 5/2012 Olson

8,504,505 B2 8/2013 Mintah

8,626,565 B2 1/2014 Petroff

8,862,390 B2 \* 10/2014 Sugawara et al. ....

G01C 21/3667

701/431

2009/0096637 A1 4/2009 Olson

2010/0287073 A1 11/2010 Kocis

(Continued)

**FOREIGN PATENT DOCUMENTS**

AU 2002300598 B2 3/2008

CA 2957708 A1 \* 8/2017 ..... G06Q 10/06

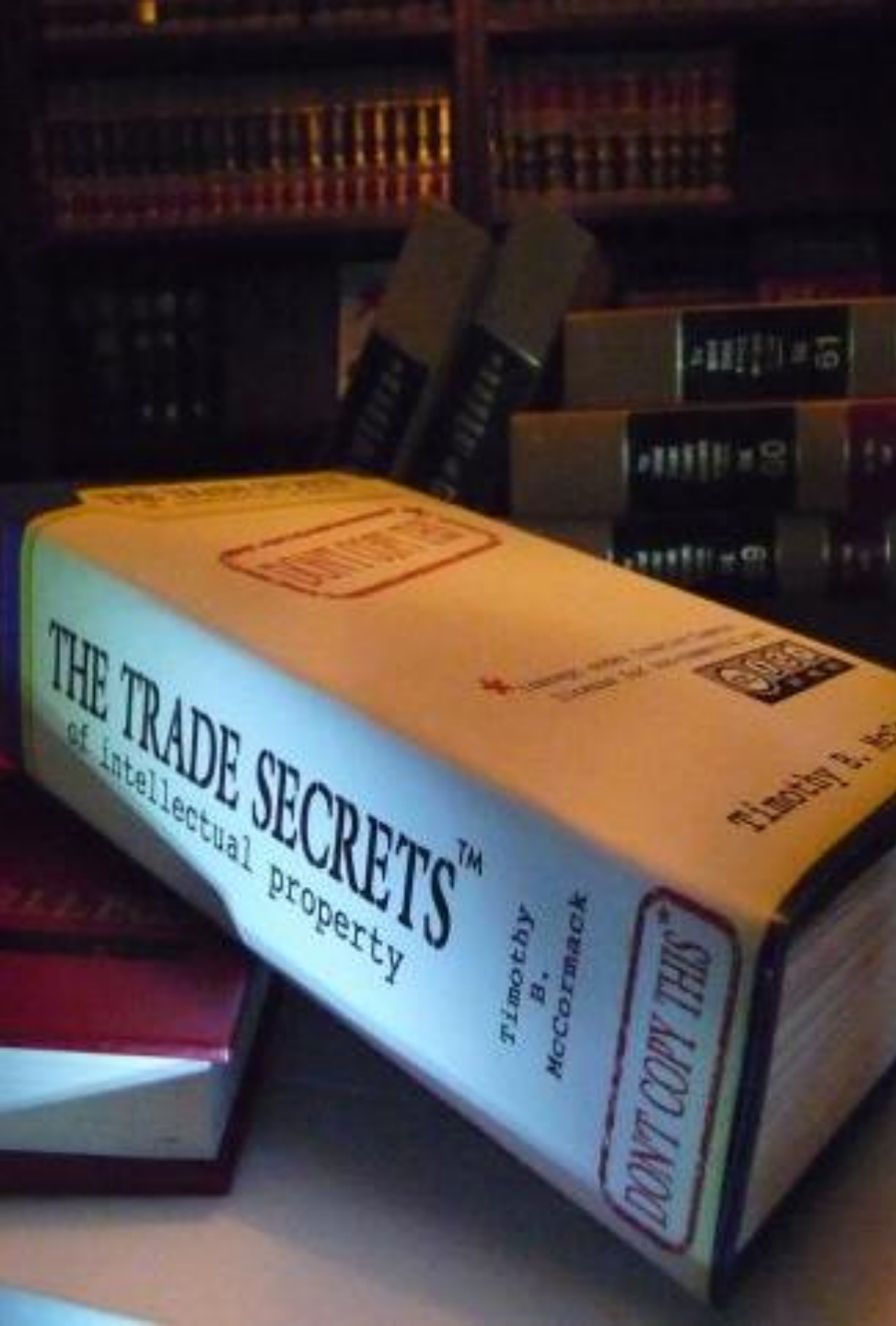
(Continued)

*Primary Examiner* — Dale W Hilgendorf

(74) *Attorney, Agent, or Firm* — Gurwein Law

(57) **ABSTRACT**

A system for mining site production planning includes a control system configured to specify a problem-solving technique and associated optimization problem for a mining site by setting production goals for each of loading tools, processors and production arcs of the mining site, sorting the production arcs in an order based on travel distances, and modifying the order of the sorted production arcs based on the production goals for each of the loading tools, processors and production arcs. In addition, target values are set for each of the loading tools, processors and production arcs according to the order of the sorted production arcs. The control system is further configured to solve the optimization problem to produce production values for each of the loading tools, processors and production arcs based on the target values.



# What is a Trade Secret?

- Trade secret is a secret that adds value to a business which can include any method, formula, device, process, or any information that gives the business a unique competitive advantage
- Anything that gives an advantage against a competitor is highly valuable and worth protecting.

## Criteria:

- Any information that has value and use that:
  - The public / industry do not generally know
  - Provides a business with a competitive advantage
  - Requires reasonable efforts by the owner to
  - The owner to maintain its secrecy.

# Trade Secrets: What Information is Confidential?

---

## ➤ Information that:

- Is used in your business
- Gives a potential competitive advantages over those that do not know it
- Secret - i.e., not common knowledge
- Maintained in secrecy by owner
- Value to a competitor
- Developed and is unique (could also be purchased)
- Considerable effort has been invested in development of technology

**CONFIDENTIAL**





## Participants - Secrecy Test

---

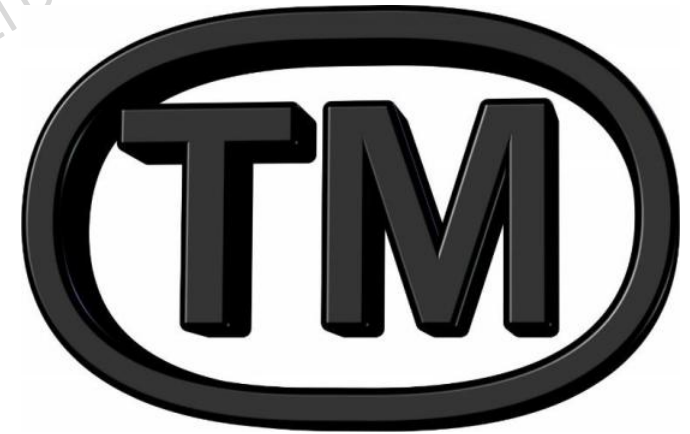
If someone else had access to the same secret what damage would your company suffer?

E.g.: Would your company's ability to succeed (or survive) be significantly damaged?

# Trade Mark – What is a Trade Mark?

---

A Trade mark is legal protection provided for an organization's name, sign, logo or other expressions that distinguishes the goods and services of that owner from other goods and services from other organizations



# Trade Marks

---



# Trade Marks

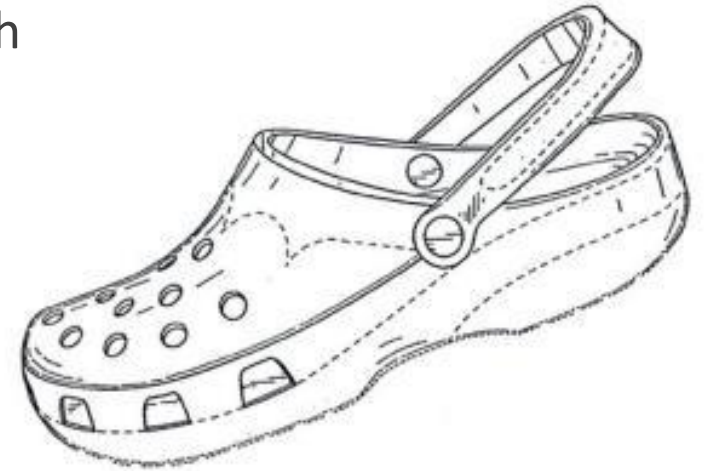
---

- Protects identity of your goods and services
- A sign to distinguish your goods and services from another trader
- “Sign” can be letter, number, word, phrase, sound, colour, smell, shape, logo, picture, aspect of packaging
- Trade Marks can be registered or unregistered
- Use  if registered,  if not registered
- Example of registered Australian trade mark is supplied in the IP Basics materials
  - TM No 1741996
  - BLASTIC
  - Classes 9, 35, 42
  - Orica International Pte Ltd



# Registered Designs

- A design is a pictorial representation of a product or article
- As designs may involve creativity or innovation or be unique, they form part of your intellectual assets and can be protected through registration
- There is a commercial value of a design.
- A Registered Design provides protection to prevent others copying.
- An example of a drill hole plug design (AU no 201815219) is attached as a PDF document in the IP Basics reference materials. Note drawings, statement of newness and distinctiveness, owner, designer are provided



# Registered Designs - properties

---

- Applied to an **Article or product**
- **Protects form not function**
- Protects the design's shape, configuration, pattern, ornamentation
- Must be New or Original, and distinctive
- Fee for Australian application \$250 followed by \$420 Examination fee and \$320 for a 5-year renewal fee
- Convention Applications (for international protection)
  - Filed within 6 months of initial Australian application.
- Maximum Period (in Australia) is 10 years;
- Example: Fabric Pattern, Kitchenware (not common in mining/METS)





# Copyright ©

---

- Copyright is used to protect a piece of written work including pictures and drawings
- Copyright protects the expression of idea / work and not the idea itself.
- Ownership – The Author – the person who converts idea to material form
- Employer is owner (if produced in course of employment)
- Contractual arrangements can override above - even for works not yet created.
- Assignment of Copyright - e.g., Company reports, training courses
- Cannot stop independent creators i.e., a copying right, therefore infringement requires copying
- Term is usually life of author plus 70 years
- Use of © and dating
- There is no cost associated in Australia – it is Automatic



# Copyright – computer software

---

- Computer Programs included in definition of “Literary Work” for Copyright
- Copyright provides exclusive right to reproduce or copy
- Copyright provides exclusive right to make “adaptation” or make another “version” of a computer program i.e.: still retains essential elements.





# Copyright – some practical issues

---

- Check on ownership to Copyright – who?
- E.g.: Software, manuals, plans, drawings
  - Date of creation/assignment?
  - Record of Author
  - Proof of Employment/Contract etc.
- Check relationships of:
  - Employees
  - Subcontractors
  - Related Corporations
- Is Copyright being used under license?

## PARTICIPANT QUESTION:

Are you using “Copyright” as part of your protection Strategy?



# QUIZ Q2: Intellectual Property - Reflection

---

In your company can you identify examples of:

- Patents
- Trade Secrets
- Trade Marks
- Registered Designs
- Copyright

How well do you think they were protected, and how were these rights communicated in your Company?