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# **PATENTS AND PROCESS**

CONFIDENTIAL

November 2017

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# 01

## PATENT BASICS



# PATENT BASICS

## Patents:

A patent provides, from a legal standpoint, the right to exclude others from making, using, selling, offering for sale, or importing the patented invention for the term of the patent, which is usually 20 years from the filing date, subject to the payment of maintenance fees.

- A patent does not give a right to make or use or sell an invention.
- An invention is a unique or novel device, method, composition or process.

## **Novel and Useful** (35 U.S.C. § 101, see also EPC Art. 54, 57)

- Whoever invents or discovers any **new** and **useful** process, machine, manufacture, or composition of matter, or any **new** and **useful** improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

## **Non-Obvious** (35 U.S.C. § 103, see also EPC Art. 56)

- A patent for a claimed invention may not be obtained, ... if the differences between the claimed invention and the prior art are such that the claimed invention as a whole **would have been obvious** before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.

## **Written Description/Enablement** (35 U.S.C. § 112, see also EPC Art. 83)

- ...a **written description** of the invention, ..., clear, concise, and exact terms as to **enable** any person skilled in the art ... to make and use the same, and shall set forth the **best mode** ... of carrying out the invention.

A patent is an exclusive right for a limited period of time in exchange for detailed public disclosure of an invention.

# PATENT BASICS

## PATENT ELIGIBLE SUBJECT MATTER

- Is the invention directed to one of the four patent-eligible subject matter categories?
  - **Process** (or method)
    - E.g., A method of preparing a rapidly water-soluble hard capsule having a core comprising ... (USPN 7,744,922)
  - **Machine** (or device)
    - E.g., A removable device for preserving and releasing a product contained in a reservoir having a rupturable wall for releasing said product, ... (USPN 8,584,839)
  - **Manufacture** (or article of manufacture)
    - E.g., An article of manufacture useful for adding creamer base to a hot beverage, comprising: ... USPN 7,445,804)
  - **Composition of matter**
    - E.g., A flavoring composition which comprises from 1-80% by weight of a coolant ... (USPN 5,725,865)
- The U.S. Supreme Court has held that Congress intended patentable subject matter to "include anything under the sun that is made by man," but acknowledges that there are limits or exceptions.

See **Diamond v. Chakrabarty**, 447 U.S. 303 (1980).

To be patentable, a claim must be directed to one of the four patent-eligible subject matters.

# PATENT BASICS

## ■ U.S. JUDICIAL EXCEPTIONS TO THE FOUR CATEGORIES

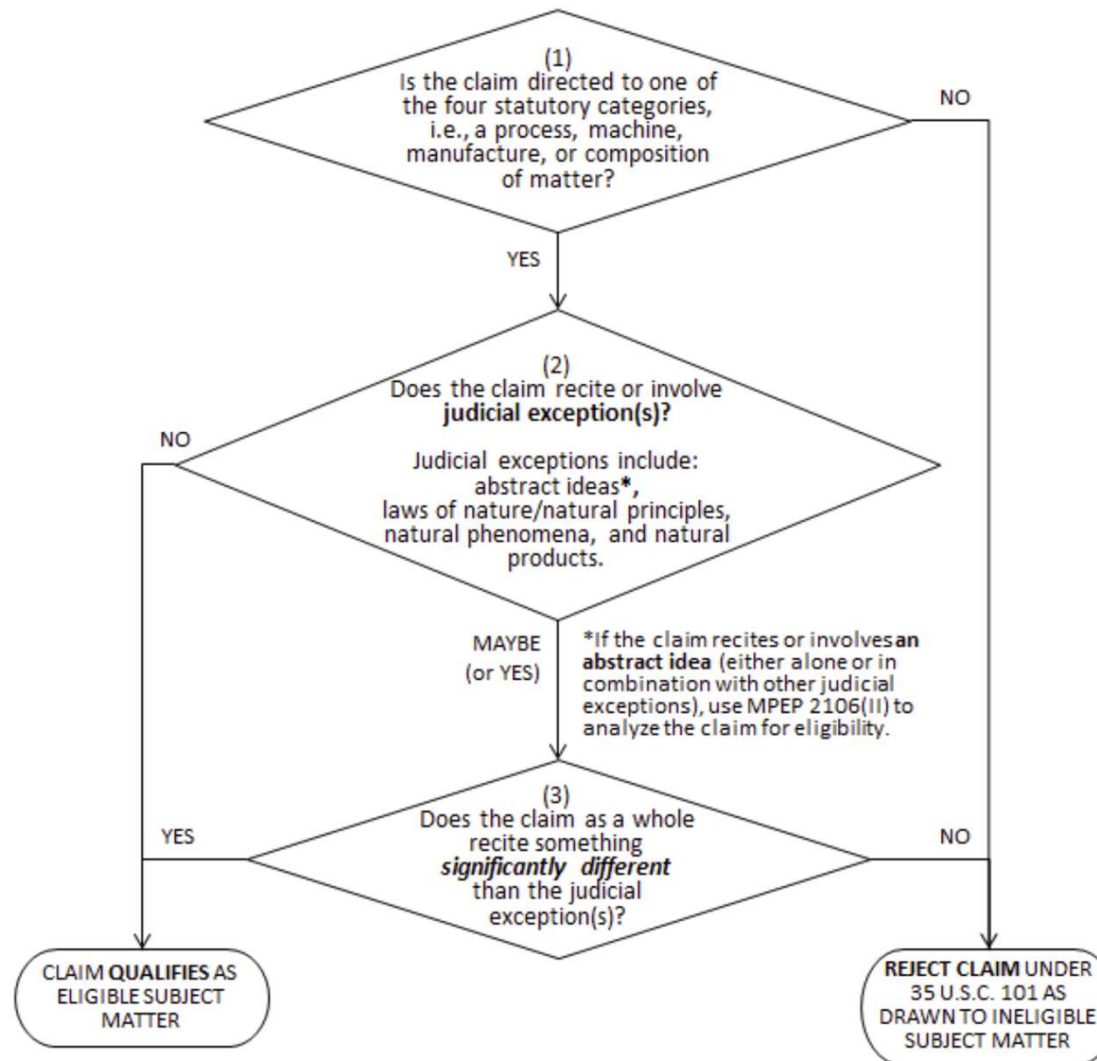
- Does the claimed invention **wholly** embrace a judicially-recognized exception?

### – Examples

- **Law of Nature:** “Einstein could not patent his celebrated law that  $E=mc^2$ ; nor could Newton have patented the law of gravity.” *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).
- **Natural Phenomena:** “A new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter.” *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).
- **Abstract Idea:** “Even though a phenomenon of nature or mathematical formula may be well known, an inventive application of the principle may be patented. Conversely, the discovery of such a phenomenon cannot support a patent unless there is some other inventive concept in its application.” *Parker v. Flook*, 437 U.S. 584, 594(1978).

To be patentable, a claim directed to one of the judicial exceptions must recite something significantly different.

# PATENT BASICS



USPTO's March 2014 Guidance for subject matter eligibility of claims involving a judicially-created exception.

# PATENT BASICS

## Parts of a patent application

### BACKGROUND

- (1) Field of the Invention: A statement of the field of art to which the invention pertains.
- (2) A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention.

### SUMMARY

A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, should precede the detailed description. Such summary should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed.

### BRIEF DESCRIPTION OF THE DRAWINGS

**When there are drawings**, there shall be a brief description of the several views of the drawings and the detailed description of the invention shall refer to the different views by specifying the numbers of the figures, and to the different parts by use of reference letters or numerals (preferably the latter).



# PATENT BASICS

## Parts of a patent application

### DETAILED DESCRIPTION

A detailed description of the invention follows the general statement of invention and brief description of the drawings (if applicable). The detailed description must be in such particularity as to enable any person skilled in the pertinent art or science to make and use the invention without involving extensive experimentation.

Best practice to include examples and/or experimental details, as this establishes enablement.

Best mode is still a statutory requirement in the U.S.

### CLAIMS

The specification must conclude with a claim particularly pointing out and distinctly claiming the invention or discovery.

Claims set the metes and bounds (i.e., defines the scope) of what the inventor believes to be the invention.

More than one claim may be presented provided they differ substantially from each other.

Words used in the claims must have antecedent support in the detailed description (specification).

Preamble + transition phrase + elements.

### ABSTRACT

The purpose of the abstract is to enable the Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure.

Generally limited to 150 words or less.

# 02

## TYPES OF PATENT APPLICATIONS



# TYPES OF PATENT APPLICATIONS

## PROVISIONAL

Under United States patent law, a provisional application is a legal document filed in the USPTO, that establishes a filing date, but does not mature into an issued patent unless the applicant files a regular non-provisional patent application within one year.

Sometimes called “poor man’s patent.”

Includes a description, and optionally drawing(s) (may be required for understanding of the invention). Does not require formal patent claims, inventors’ oaths or declarations, or any information disclosure statement (IDS).

## NON-PROVISIONAL

In the U.S., a complete non-provisional patent application comprises:

- a specification,
- claims,
- drawings (if necessary),
- a formal oath or declaration (must be filed before patent issues),
- the prescribed filing fee, search fee, examination fee and application size fee.

Includes Continuation and Divisional patent applications.

Foreign applications (JP, CN, MX, EP) are essentially equivalent to US non-provisionals.

## PATENT COOPERATION TREATY

The Patent Cooperation Treaty (PCT) provides a unified procedure for filing patent applications to protect inventions in each of its contracting states. A patent application filed under the PCT is called an international application, or PCT application.

A PCT application does not itself result in the grant of a patent, since there is no such thing as an “international patent”, and the grant of patent is a prerogative of each national or regional authority.

A search is performed by an International Searching Authority (ISA), accompanied by a written opinion regarding the patentability of the invention.

# TYPES OF PATENT PUBLICATIONS

Publication Code	Document
A1	Patent Application Publication
A2	Patent Application Publication (republication)
B1	Patent (no prior publication)
B2	Patent (with prior publication)
C1, C2, C3	Reexamination Certificate
E	Reissue Patent
F1, F2, F3	Supplemental Examination Certificate
J1, J2, J3	Post Grant Review Certificate
K1, K2, K3	Inter Partes Review Certificate
O1, O2, O3	Derivation Certificate

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)  
 (19) World Intellectual Property Organization  
 International Bureau

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Published:  
 — with international search report (Art. 21(3))  
 — before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:  
 27 April 2017

(54) Title: COMPOSITION COMPRISING TASTE MODULATION COMPOUNDS, THEIR USE AND FOODSTUFF COMPRISING THEM

(57) Abstract: Flavour modifying composition comprising one or more specific flavour modifying compounds, product comprising said flavour modifying composition, use of said flavour modifying composition for modifying taste perception in foodstuffs and beverages and method of improving taste perception in a foodstuff or beverage comprising adding said flavour modifying composition to said foodstuff or beverage.

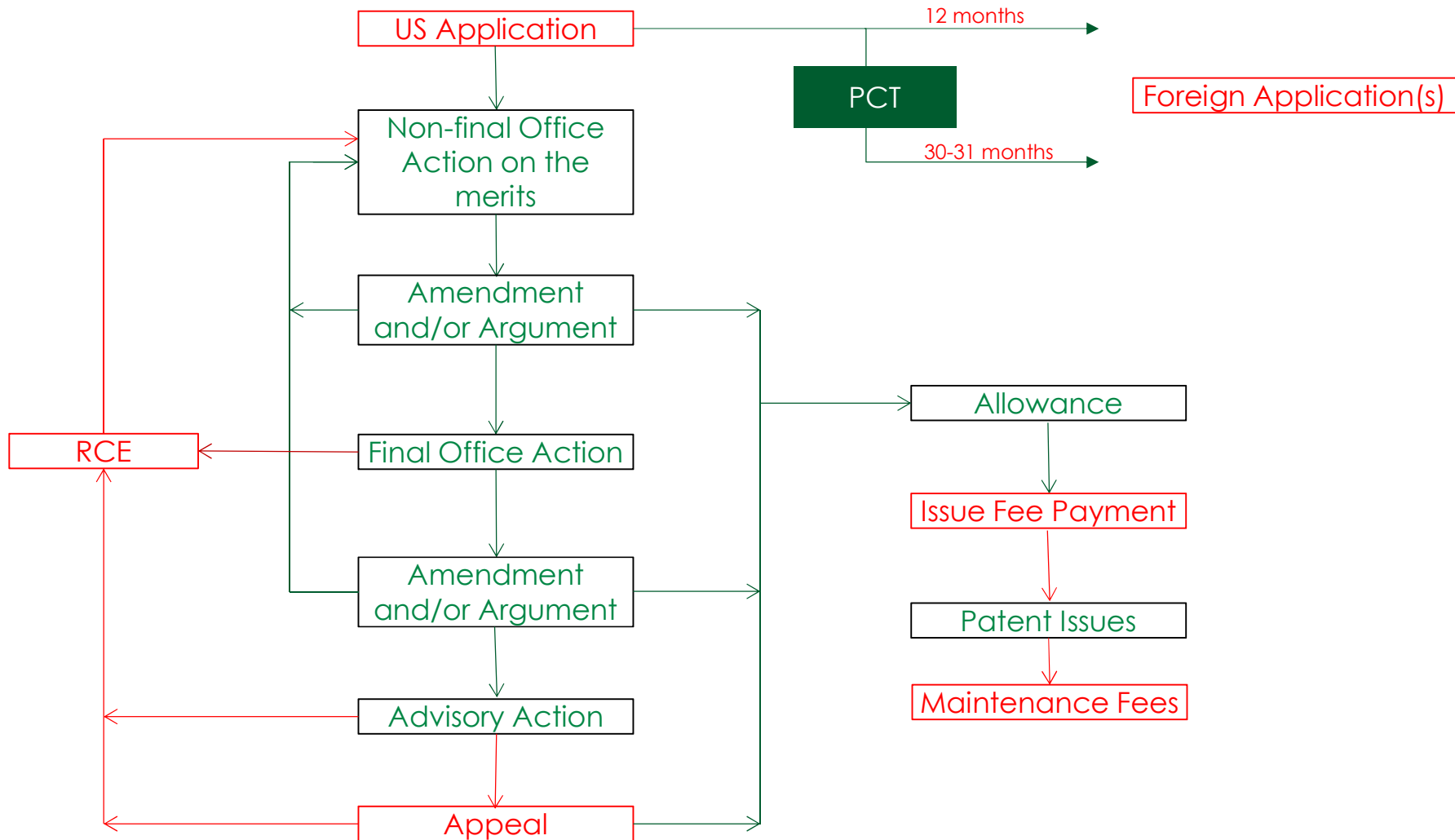
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# 03

## PATENTING PROCESS: US AND ABROAD



# PATENTING PROCESS: US AND ABROAD





# PATENTING PROCESS: US AND ABROAD

## ❖ Patent application drafting, based on invention disclosure submitted by researcher(s)

- ❖ Inventor(s) review draft application and execute filing documentation.
- ❖ Legal determination of inventorship based on the claimed invention
- ❖ Finalize patent application and filing papers

## ❖ Patent application(s) filed with patent office(s), first-to-file priority

- ❖ Business decision to pursue foreign filing within 12 months of first filing
- ❖ May use Patent Cooperation Treaty (PCT) application to extend deadline to approx. 30-31 months
- ❖ Patent application(s) will publish 18 months after earliest effective filing date, unless a request for non-publication is filed with the USPTO along with a promise not to file any foreign applications.

## ❖ Claimed invention in the patent application examined separately in each country

- ❖ If claim(s) are rejected (based on subject matter, novelty, obviousness, utility, clarity, enablement, etc.):
  - ❖ Submit rebuttal arguments or evidence, amend claims, or both
  - ❖ May remove case from examiner to an appeal board
- ❖ In the U.S., all foreign Office Actions and cited art must be disclosed to the USPTO.

## ❖ Patent granted if claimed invention is novel, non-obvious, and useful.

- ❖ Granted patents are afforded a presumption of validity.
- ❖ Requires periodic maintenance fees to remain enforceable

Patenting is an examination process evaluated against publically-available information.

# PATENTING PROCESS: US AND ABROAD

## **I.DETERMINE WHAT APPLICANT HAS INVENTED AND IS SEEKING TO PATENT**

- A. Identify and Understand Any Utility for the Invention
- B. Review the Detailed Disclosure and Specific Embodiments of the Invention To Understand What the Applicant Has Invented
- C. Review the Claims
  - i) identifying and evaluating each claim limitation
  - ii) give claims their broadest reasonable interpretation (BRI) in light of the supporting disclosure

## **II.CONDUCT A THOROUGH SEARCH OF THE PRIOR ART**

U.S. and foreign patents and nonpatent literature.

## **III.DETERMINE WHETHER THE CLAIMED INVENTION COMPLIES WITH 35 U.S.C. 101**

Subject Eligibility

## **IV.EVALUATE APPLICATION FOR COMPLIANCE WITH 35 U.S.C. 112**

Paragraph (a)

- 1. The claim(s) set forth the subject matter applicants regard as the invention, and
- 2. The claim(s) particularly point out and distinctly claim the invention.

Paragraph (b)

- 1. Adequate Written Description
- 2. Enablement
- 3. Best mode

## **V.DETERMINE WHETHER THE CLAIMED INVENTION COMPLIES WITH 35 U.S.C. 102 AND 103**

Novelty and non-obviousness (with claims given their BRI)

## **VI.CLEARLY COMMUNICATE FINDINGS, CONCLUSIONS AND THEIR BASES**

Examination is on a claim-by-claim analysis.



# PATENTING PROCESS: US AND ABROAD

## Novelty

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single **prior art** reference before the effective filing date of the claim.

**Prior art** is information that has been made available to the public in any form before the earliest effective filing date of the claimed invention.

Additional references may be used to:

- (A) Prove the primary reference contains an "enabled disclosure;"
- (B) Explain the meaning of a term used in the primary reference; or
- (C) Show that a characteristic not disclosed in the reference is inherent.

In the U.S., applicant has a one-year grace period for public disclosure by or derived from the applicant.

## Obviousness (Inventive Step)

In the U.S. (Graham Factors)

- (A) Determining the scope and content of the prior art;
- (B) Ascertaining the differences between the claimed invention and the prior art; and
- (C) Resolving the level of ordinary skill in the pertinent art.
- (D) Consider secondary indicia of non-obviousness:
  - evidence of commercial success,
  - long-felt but unsolved needs,
  - failure of others, and
  - unexpected results.

EU, Japan, CN (Problem-Solution Approach)

- (i) determining the "closest prior art",
- (ii) establishing the "objective technical problem" to be solved, and
- (iii) considering whether or not the claimed invention, starting from the closest prior art and the objective technical problem, would have been obvious to the skilled person.

# PATENTING PROCESS: US AND ABROAD

## Utility (Industrial Applicability)

### US

- If at least one utility is credible, specific, and substantial, a rejection under 35 U.S.C. § 101 should not be made.
  - Credible Utility: An assertion is credible unless
    - **(A) the logic underlying the assertion is seriously flawed, or**
    - **(B) the facts upon which the assertion is based are inconsistent with the logic underlying the assertion.**
  - Specific Utility: A utility that is specific to the subject matter claimed.
  - Substantial Utility: A utility that defines a "real world" use.

### Europe

- An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture.

### China

- An invention for a new use for a known compound requires experimental evidence in the description to verify the new use and effects thereof... e.g., qualitative or quantitative data of experimental tests that are sufficient to convince a person skilled in the art that the anticipated technical effects/use can be achieved.

Utility is a low threshold, but it must be real and verifiable.

# PATENTING PROCESS: US AND ABROAD

## Patent Application Examination Process Outcomes

Through arguments, claim amendments and/or appeal board, if we are able to overcome the Examiner's rejections ... Claims are allowed and a patent will issue.



If we are unable to overcome the Examiner's rejection(s), then the application will be permitted to go abandoned.



Examination process will eventually conclude with either a patent or abandonment.

# 04

## INVENTORSHIP



# INVENTORSHIP

- ❖ **Conception is the touchstone of inventorship**, the completion of the mental part of the invention.
  - ❖ The conception of the invention consists in the complete performance of the mental part of the inventive act. All that remains to be accomplished in order to perfect the act or instrument belongs to the department of construction, not invention. It is, therefore, the formation in the mind of the inventor of a **definite and permanent idea of the complete and operative invention** as it is thereafter to be applied in practice that constitutes an available conception within the meaning of the patent law.
- ❖ Conception is complete only when the idea is so clearly defined in the inventor's mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation.
  - ❖ The invention may be reduced to practice by the inventor, or it may be reduced to practice by someone who is operating under the direction and control of the inventor.
  - ❖ An inventor need not know that the invention will work for conception to be complete; discovering that the invention works is part of the reduction to practice.
- ❖ **Factors Often Leading Away From a Conclusion of Inventorship**
  - ❖ Contributing an obvious element or general knowledge.
  - ❖ Merely suggesting a desired result or outcome without providing the means to accomplish the same.
  - ❖ Following the instructions of the conceivers.
  - ❖ Merely refining or perfecting another's design or making only superficial changes.

Inventorship is a legal determination based on conception of the invention, and not on sweat equity.

# 05

## DUTY OF DISCLOSURE





# DUTY OF DISCLOSURE

- ❖ **Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the U.S. Patent and Trademark Office (USPTO), which includes a duty to disclose all information known to be “material to patentability.”**
  - ❖ Each inventor
  - ❖ Each patent attorney who prepares or prosecutes the application
  - ❖ Every other person who is substantively involved in the preparation or prosecution of the application
- ❖ **Information is deemed “material to patentability” when it is not cumulative to information already of record or being made of record in the application, and**
  - ❖ It establishes, by itself or in combination with other information, a *prima facie* case of unpatentability of a claim; or
  - ❖ It refutes, or is inconsistent with, a position the applicant takes in:
    - ❖ Opposing an argument of unpatentability relied on by the Office, or
    - ❖ Asserting an argument of patentability.
- ❖ **In the US, this duty is fulfilled by submission of a proper Information Disclosure Statement (IDS)**
- ❖ **Outside US, the duty of disclosure varies. But in all cases, a stronger patent is created when the most relevant prior art is before the examiner.**

It is best to disclose all information that a reasonable examiner may deem material to patentability of our claims.

# CONCLUDING REMARKS



**QUESTIONS?**



**WE  
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**FOR MORE  
INFORMATION,  
CONTACT US**

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