

# Patent Law Fundamentals For Scientists, Engineers and Managers

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# Legal Disclaimer

- The information contained herein are my personal compilation of instructional materials and do not necessarily reflect or include information or instructions used by my employer.
- This Primer on Patent Law Fundamentals is not legal guidance and should not be relied upon for any of your intellectual property decisions or actions – I recommend that you seek the advice of competent legal counsel for any specific intellectual property legal issues you may have.

# Agenda

## PART I

- Patents – Introduction
- Trade secrets
- Inventorship
- Invention documentation
- Types of Patents

## Part II

- Patent procurement process overview
- Patent searching
- Patentability requirements
- U.S. Patent Application Filing Formalities

## Part III

- How to read a U.S. patent publication
- Patent application preparation
- Patent prosecution

## Part IV

- Foreign filing and prosecution
- Post grant options
- Patent litigation and infringement
- Patent opinions

# PART II

# Patent Procurement Process Overview

- Invention Process
  - Invention creation
  - Invention documentation
    - Lab Notebook
    - Invention disclosure
  - Management Evaluation of Invention Disclosure
- Patent Preparation / Filing Process
  - Patentability Search and analysis
  - Decision to file and priority
  - U.S. Patent application drafting
  - U.S. Patent application filing and related formalities
  - Foreign filing
- Patent Prosecution Process
  - Waiting while in queue for examination
  - Examination and rejections
  - Overcoming rejections
  - Grant of patent
  - Repeat for each foreign filing

# Patent Searching Overview

- Why search? To assess: 1) state of the art, 2) patentability, 3) freedom to operate, 4) invalidity, 5) competition
- Basic searches - May be conducted by researchers and engineers using publicly available databases.
  - Public databases include USPTO, EPO, WIPO, Google patents search sites
- Advanced searches – Utilize outside search firm expertise
  - Outside search firms have access to commercial databases such as Derwent World Patents Index, Chemical Abstracts, INPADOC, Micropatent, Orbit, etc.
  - State of the art searches, patentability searches, freedom to operate/ clearance searches, invalidity searches, opposition searches, patent monitoring/alerting, patent mapping, and other specialized information studies.

# Patent Searching Types

## Patentability Search

- Assists with decision of whether to file an application and if so, drafting a better application
- World wide patent and non-patent literature search
- Looking for published documents that disclose the invention or can be combined with another document to make the invention
- Inventors provide prior art-- including own.
- Inventors/searcher/attorneys search query meeting to:
  - Review the invention using invention disclosure and other info.
  - Define scope of search (how broad?)
  - Propose searchable claim
- Outside search firm completes search and publishes results report
- Inventors/attorney review search results
  - Read entire reference, not just the claims
  - Inventors help attorney understand differences between references and invention
  - Assess whether invention is patentable

# Patent Searching Fundamentals

- 3 types of searching –text within patents, classification system of patents, and citation of patents.
  - Using multiple search types helps ensure most relevant references are identified
- Publicly available search sites can be searched for text, and/or patent classes.
- Commercial search sites also permit citation searching
- Text searching – simple, but may miss relevant patents depending on search terms used
- Classification searching – more complex, but more complete once relevant classes / subclasses identified
- Citation searching – both forward and backward to see how technology has evolved

# Patent Searching

## Text

- Keyword search based on Boolean logic
- Boolean logical operators provide a means of either joining search elements together, finding the overlap between two or more search elements or subtracting one element from another
- Common Boolean logical operators:
  - “AND” narrows search
  - “OR” broadens search
  - “XOR” excludes overlap from search
  - “ANDNOT” excludes keywords from search
- Wildcard (“\$” or “?”) used at end of word root to take the place of any number of additional letters that may come after that root
  - E.g. “dance” → “danc\$” to pick-up dance, dances, danced, dancing, danceable
- Use of parentheses to specify search order when more than two words

# Patent Searching

## Text for Patentability

- Evaluating references for relevancy
  - Titles/abstract
    - Good for quickly determining overall relevancy of a patent
    - May range from descriptive to very vague
    - Should only be used for very targeted preliminary searching (E.g. relevant classification codes)
  - Drawings
    - Search engine that has ability to easily download and view .pdf files critical
    - Particularly important in some technology areas (E.g. mechanical)
    - Must view with an open mind
  - Claims
    - May not represent the entire patent
    - Good for determining the focus of the patent
  - Detailed description
    - Important for determining details and different embodiments of the invention
    - Most time consuming to review because longest section

# Patent Searching

## Classifications

- A patent classification is a code which provides a method for categorizing the invention. Invention “file cabinets.”
- U.S. classifications are expressed two numbers (i.e. “426/16”). The first number, 426, represents the class of invention. The number following the forward slash is the subclass within the class.
- There are approximately 450 classes of inventions and about 150,000 subclasses in the U.S. patent classification system.
  - Average subclass size is hundreds of patents, but a broad range from a few to thousands of patents
- Rationale for system for US Patent Classification (USPC):
  - Industry or Use (for example, petroleum – class 208)
  - Proximate function (for example, cutting – class 83)
  - Effect or product (i.e., the product of a manufacturing process or a system that produces an effect repetitively, e.g. stock material – Class 428)
  - Structure (physical parts)
  - Subclass criteria are inconsistent

# Patent Searching Classifications

- Identify most relevant classes / subclasses for an invention by:
  - Keyword searching in the Manual of Classification, available on-line at [www.uspto.gov/web/patents/classification/](http://www.uspto.gov/web/patents/classification/)
  - Identifying closely related patents to the invention
  - Contacting a patent examiner
- Review all issued patents within those classes / subclasses to see if idea has been anticipated by prior art
- Classification searching may be preferable to text searching of patents for matching keywords because keyword search results depend entirely on keywords used.
  - If different words are used to describe similar, patented inventions, may miss related patents and never know it.
- U.S. Classification schedule changes periodically
  - New classes/subclasses created. Classes modified.
  - Patents may change in class/subclass based on updates

# Patent Searching Citation

- Useful for quickly finding relevant prior art
- Backward citations
  - References cited by applicant or examiner
  - Important for identifying more fundamental patents
- Forward citations
  - Future references citing the particular patent
  - Important for tracking the development of the technical area
- Commercial databases for ease
- Citation search particularly relevant patents

# Patent Searching At the USPTO

- Web site – [www.uspto.gov/patft](http://www.uspto.gov/patft)
- 3 options for searching issued U.S. patents and published U.S. patent applications
  1. Quick search option
  2. Patent number search option
  3. Advanced text search option
- Searchable fields include title, abstract, issue date, patent number, application date, application serial no., application type, assignee name/city/state/country, international classification, current U.S. classification, primary examiner, assistant examiner, inventor name, inventor city/state/country, government interest, attorney or agent, PCT information, foreign priority, reissue data, related U.S. app. Data, referenced by, foreign references, other references, claims, description/specification, and all fields.
- For patents, 3 database choices for searching:
  - 1976 to present (full-text searchable)
  - 1790 to present (entire database)
  - 1790 to 1975 (patent number and current classification searchable because only available in image form)
- For published applications, database is 2001 to present.

# Patent Searching At the USPTO

- Quick search option
  - Two terms or words may be searched connected by a single Boolean operator
  - Boolean operators – AND, OR, ANDNOT
  - Drop down menus for search fields, Boolean operators and database
  - To limit search results, could limit keyword search to title field.
  - To limit time reviewing search results, review abstract first for relevance.
  - Same searching methodology applies to published application as patents
- Patent number search option
  - Enter patent number or published application number

# Patent Searching At the USPTO

- Advanced search option
  - Allows for complex Boolean expression capability – multiple terms or words connected by Boolean operators (AND, OR, ANDNOT) with optional use of parentheses
    - E.g. Fire AND Protection AND (Building OR Structure)
  - Use field codes to narrow search (see next slide)
    - E.g. Abst /((Fire AND Protection) AND (Building OR Structure) ANDNOT Sprinkler)
  - Two different field codes may be used within same search query
    - E.g. Ttl/(Fire AND Protection) AND Abst/(Building OR Structure)
  - Searching for a quoted phrase by enclosing in double quotes
    - E.g. “Absorption spectroscopy”
  - Issue date range search – use → operator
    - ISD / day/month/year →day/month/year
    - E.g. ISD / 1/1/2003→12/31/2005
  - Use wildcards (“\$”) to avoid missing potentially relevant prior art
  - Use “refine search” box to save time when making minor changes to search queries
  - Same searching methodology applies to published application as patents

# Patent Searching At the USPTO

Field Code	Field Name	Field Code	Field Name
PN	<a href="#">Patent Number</a>	IN	<a href="#">Inventor Name</a>
ISD	<a href="#">Issue Date</a>	IC	<a href="#">Inventor City</a>
TTL	<a href="#">Title</a>	IS	<a href="#">Inventor State</a>
ABST	<a href="#">Abstract</a>	ICN	<a href="#">Inventor Country</a>
ACLM	<a href="#">Claim(s)</a>	LREP	<a href="#">Attorney or Agent</a>
SPEC	<a href="#">Description/Specification</a>	AN	<a href="#">Assignee Name</a>
CCL	<a href="#">Current US Classification</a>	AC	<a href="#">Assignee City</a>
ICL	<a href="#">International Classification</a>	AS	<a href="#">Assignee State</a>
APN	<a href="#">Application Serial Number</a>	ACN	<a href="#">Assignee Country</a>
APD	<a href="#">Application Date</a>	EXP	<a href="#">Primary Examiner</a>
PARN	<a href="#">Parent Case Information</a>	EXA	<a href="#">Assistant Examiner</a>
RLAP	<a href="#">Related US App. Data</a>	REF	<a href="#">Referenced By</a>
REIS	<a href="#">Reissue Data</a>	FREF	<a href="#">Foreign References</a>
PRIR	<a href="#">Foreign Priority</a>	OREF	<a href="#">Other References</a>
PCT	<a href="#">PCT Information</a>	GOVT	<a href="#">Government Interest</a>
APT	<a href="#">Application Type</a>		

# Patent Searching

## Other Tools

- WIPO PCT database
  - Web site - [www.wipo.int/pctdb/en/](http://www.wipo.int/pctdb/en/)
  - International (PCT) patent publications
  - Boolean operators – AND, OR, ANDNOT, NEAR
  - Drop down menus for search fields, and Boolean operators
- Google™ Patent database
  - Web site - [www.google.com/patents](http://www.google.com/patents)
  - U.S. patent and patent application publication database.
  - Quick and advanced search options
  - Search term boxes for All Words, Exact Phrase, At Least One of Words, and Without the Words. Can also use Boolean Operators AND, OR
  - Also search text boxes for Patent Number, Title, Inventor, Assignee, U.S. and International Classifications, Issue Date and Filing Date
  - Good imaging capabilities and good for highlighting text terms
  - Do not use for comprehensive classification searching because face of patents not updated as classes are modified.

# Requirements for Patentability

## Utility inventions

- In ascending order of difficulty:
  1. Patentable subject matter
    - 35 U.S.C. 101
    - CAFC and Supreme Court decisions
  2. Utility
    - 35 U.S.C. 101
    - CAFC decisions
    - Referred to as “industrial applicability” in Europe.
  3. Novelty
    - 35 U.S.C. 102
    - CAFC decisions
  4. Non-obviousness
    - 35 U.S.C. 103
    - CAFC and Supreme Court decisions
    - Referred to as “inventive step” in Europe.

# Requirements for Patentability

## Patentable subject matter

- 35 U.S.C. 101 - One who invents or discovers a new and useful process, machine, manufacture, composition of matter, or improvement thereof, may obtain a patent.
- Products: machine, article of manufacture, composition of matter
  - Defined in terms of structural elements.
  - Elements of a claim to an automobile: frame, engine, tires and fuel tank
- Methods of manufacture or use: processes for making or using a product.
  - Series of acts or steps performed to produce a given result
  - Elements of a claim for making a reinforced polypropylene resin: providing a PP resin, an extruder and an additive; feeding into the extruder, extruding, cooling and pelletizing the PP resin and additive.

# Requirements for Patentability

## Patentable subject matter

- Which of the following, if any, are potentially patentable:
  1. A computer program
  2. A financial-management product
  3. A mouse that has unique genetic properties
  4. A new protein made by recombinant DNA techniques
  5. A method of gripping a golf club

# Requirements for Patentability

## Patentable subject matter

- Courts have expanded on interpretation of statutory subject matter to areas going beyond the traditional sciences.
  - E.g. Method of executing a golf putt, a new teaching method, a new technique for psychological analysis
- “Anything under the sun that is made by man” -- excludes laws of nature, natural phenomena, and abstract ideas.
- “Business methods” can be patented in the U.S.
- Medical devices and procedures devices may be patented,
  - Statutory exemption for infringement remedies for procedures.
  - Public policy concern.
- Modified living organisms, which are the product of genetic engineering may be patented.

# Requirements for Patentability

## Patentable subject matter

- Computer algorithms are per se unpatentable, unless embodied as part of a machine or process.
  - Computer based manufacturing process using sampling of product streams and algorithms for feedback or feed-forward process controls
  - Computer systems for blending product streams to targeted parameters
  - Computer-assisted methods of investment decisions, plant maintenance, other business methods
- Unpatentable subject matter:
  - Abstract ideas
  - Laws of nature
  - Scientific principles (e.g.:  $E = mc^2$ )
  - Things that violate such principles (e.g., perpetual motion machines)
  - Subject matter prohibited by Atomic Energy Act

# Requirements for Patentability

## Utility

- Article I, Section 8 of Constitution – Patents can only be granted for advances in the “useful” arts.
- 35 U.S.C. 101 - One who invents or discovers a new and useful ...
- Easy threshold to satisfy.
  1. Invention must perform some beneficial function
    - Minimal showing that invention capable of achieving a pragmatic result
  2. Invention must perform as alleged or intended

# Requirements for Patentability

## Utility

- Patentable utility does not require that the invention be an improvement over the prior art. Utility is not a measurement of how useful the invention is or whether it is better than the prior art.
- Chemistry and biotechnology – synthesis of new compounds without knowledge of how may be used to achieve any practical working result.
- Rarely receive a rejection of a patent application based on lack of utility, unless there is no explicit or implicit use of the invention.

# Requirements for Patentability

## Novelty

- Inventor must create something new.
- Old 35 U.S.C. 102 – A person shall be entitled to a patent unless :
  - (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country before the invention thereof by the applicant for a patent,
  - Subsections (b), (c), (d), (e), (f), and (g)
  - Long and complex statute.

# Requirements for Patentability

## Novelty

- New 35 U.S.C. 102 (a)(1) and (a)(2)
  - **102(a)(1)** = Any patent, printed publication, public use, on sale, or other activity that makes an invention “otherwise available to the public” before the effective filing date of an application is prior art.
    - ▶ 5 types of (a)(1) prior art – 1) patents, 2) publication, 3) public use, 4) on-sale, 5) other activity that makes invention “otherwise available to public.
  - **102(a)(2)** = U.S. patents and published U.S. applications which name another are now effective as prior art as of their earliest priority date under §119 or §120.
- New 102 expands what constitutes “prior art” against a patent application relative to Old 102

# Requirements for Patentability

## Novelty

- Novelty determination : 2 distinct inquiries
  - Assess current state of the prior art – “references.”
    - References – patent publications, journal articles, etc.
    - Novelty search prior to application filing
  - Is invention for patent identical to any of the prior art references
    - Invention evaluated based on feature of the claims.
    - Prior art reference much teach or suggest all claim features.
    - A species in prior art can anticipate a claim to a genus, but a genus in the prior art may not necessarily anticipate a claim to a species.
    - A feature of the invention may be inherent in the prior art, although not explicitly taught or suggested.

# Requirements for Patentability

## Novelty

- Time limits for filing a patent application.
  - Things an inventor can do to defeat his/her right to a patent.
  - Statutory bars to obtaining a patent.
- Application must be filed within one year after the invention is first:
  - Described in any publication anywhere
  - Sold or offered for sale in the U.S.
  - Publicly used or disclosed in the U.S.
  - One-year grace period in U.S., but not in most other countries (“absolute” novelty)
- Legitimate experimental use to perfect or develop the invention. Does not count as public use.
- Disclosure of invention to a third party
  - Only after a confidential non-disclosure agreement signed by recipient. To avoid being construed as a public disclosure.
  - All prototypes and information should be marked “Confidential.”

# Requirements for Patentability

## Unobviousness

- 35 U.S.C. 103 (a) – A patent may not be obtained though the invention is not identically disclosed or described as set forth in 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.
- Typically two or more prior art references combined to make an obviousness rejection.
  - Combination of references teaches or suggests all features of the claims
  - Reference 1= A+B+C, Reference 2= A+D, Invention = A+B+C+D

# Requirements for Patentability

## Unobviousness

- Invention must be non-obvious to a hypothetical person having ordinary skill in the art.
  - Factors in determining ordinary skill : educational level of inventor, type of problems encountered in the art, prior solutions to those problems, rapidity in which inventions are made, sophistication of technology, and educational level of active workers in the field.
  - Patent examiners need to put themselves in the shoes of a skilled artisan in the field in determining whether the invention is obvious.
  - Patent applicant will argue for a lower level of ordinary skill in the art.

# Requirements for Patentability

## Unobviousness

- Prior art references must be analogous art areas to the invention.
- Graham factors or test to determine non-obviousness.
  1. Determine scope and content of the prior art.
  2. Determine the differences between the invention and the content of the prior art.
  3. Determine the level of ordinary skill in the art at time of invention.
  4. Decide what modifications to the prior art would be necessary to make it correspond to the invention.
  5. Are these modifications taught or suggested by the combination of prior art references or is common knowledge to one of ordinary skill in the art. If so, the invention is obvious and not patentable.
  6. Also consider secondary considerations in determining obviousness.
- The teaching, suggestion or motivation to combine the references need not be explicit in the references themselves. For example, the nature of the problem to be solved may provide adequate motivation for inventors to look to two or more references for possible solutions.

# Requirements for Patentability

## Unobviousness

- Examiner may not use improper hindsight reasoning in “picking and choosing” elements from among two or more prior art references in coming up with the invention.
- If one or more of the references “teaches away” from the combination, persuasive argument to avoid obviousness rejection.
- Secondary considerations in arguing unobviousness.
  - Unexpected results.
    - If surprising to one of ordinary skill in the art, cannot be obvious.
    - Experimental data required.
  - Commercial success.
    - Must show that based on merits of the invention and not sales and marketing.
  - Long felt need.
  - Praise and skepticism of experts in the field
  - Prior failure of others
  - Licensing by others
  - Copying by others

# Requirements for Patentability

## PATENTABILITY QUESTIONS

35 U.S.C. § 101 Is it useful? Is it patentable subject matter?

35 U.S.C. § 102 Has it been identically disclosed before?

Did you wait too long to file the application?

35 U.S.C. § 103 Is it [legally] obvious to the artisan?

35 U.S.C. § 112 Do you really know what you are talking about?

Have you described it adequately to the person of ordinary skill in the art?

Have you described the Best Mode?

**Have you fulfilled your duty of candor and good faith to the USPTO?**

# U.S. Patent Application Filing Oath/Declaration

- Oath/declaration required in filing a U.S. regular non-provisional application
- In the oath/declaration, under penalty of perjury, inventors state:
  - They believe they are the original and first inventors
  - They have read and understood the application and claims
  - Acknowledge duty of disclosure under Rule 56
- Power of attorney
- Priority to earlier filed application(s)

Case Docket No. \_\_\_\_\_ Family No. \_\_\_\_\_ "PATENT"

**DECLARATION FOR PATENT APPLICATION**

As below named inventor(s)

We/I hereby declare that residence, post office address and citizenship are as stated on page 2.

We/I believe we/I are the original, first and joint inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled \_\_\_\_\_, the specification of which

(check one)  is attached hereto.  
 was filed on \_\_\_\_\_ as Application Serial No. \_\_\_\_\_  
 and was amended on \_\_\_\_\_ (if applicable).

We/I hereby state that we/I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

We/I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

We/I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate(s) listed below and have also identified below any foreign application(s) for patent or inventor's certificate(s) having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed
(Number)	(Country)	(Day/Month/Year Filed)	Yes <input type="checkbox"/> No <input type="checkbox"/>

We/I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, we/I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

We/I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)	(Filing Date)

POWER OF ATTORNEY: As named inventor(s), we/I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

NAMES	REGISTRATION NUMBERS	NAMES	REGISTRATION NUMBERS

**SEND CORRESPONDENCE TO:** DIRECT TELEPHONE CALLS TO:  
 (Name and Telephone Number)

EXXONMOBIL RESEARCH AND ENGINEERING COMPANY  
 P. O. Box 900  
 Annandale, New Jersey 08801-0900 (908) 730-\_\_\_\_\_

We/I hereby declare that all statements made herein of our/my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME OF INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME
RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY
			ZIP CODE

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

# U.S. Patent Application Filing

## Duty of Disclosure

- 37 CFR §1.56 or “Rule 56”
  - “A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the office is aware and evaluates the teaching of all information material to patentability. ***Each individual*** associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a ***duty to disclose to the Office all information known to that individual to be material to patentability ...***”
- “The duty to disclose all information known to be material to patentability is deemed to be satisfied if all [such information] was cited by the Office or submitted to the Office ...”
- “However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct.”

# U.S. Patent Application Filing

## Duty of Disclosure

- Duty of disclosure form
  - Patents, publications, and other information
  - Public use or commercial offer for sale more than 1-year before filing data
- Note: information cumulative to that of record does not need to be cited.
- Applies to inventors, attorneys and others associated with application.

### DUTY OF DISCLOSURE STATEMENT

To: \_\_\_\_\_ From: \_\_\_\_\_  
 Re: Case No. \_\_\_\_\_; Serial No. \_\_\_\_\_; Filed \_\_\_\_\_; Family No. \_\_\_\_\_

Based On:  
 Applicant(s):  
 For:

The U.S. Patent and Trademark Office (PTO) through its Rule 56 requires each individual involved SUBSTANTIALLY in the preparation or prosecution of a patent application to disclose to the PTO all known information that is MATERIAL to the examination of the application in the PTO. Disclosing such information to your patent attorney in the ExxonMobil Research and Engineering Company (formerly Exxon Research and Engineering Company) Law Department satisfies your obligation.

Information is MATERIAL to patentability when (1) it establishes a Prima Facie case of unpatentability of a claim or (2) it refutes, or contradicts (a) an argument made against the USPTO or (b) an argument asserting patentability. Prima Facie unpatentability means a claim is unpatentable before any evidence is presented to refute the conclusion. Examples of MATERIAL information include:

- Patents and publications which disclose or render the claimed invention obvious;
- Information evidencing that the claimed invention was in public use or on sale more than one year before the filing date of the U.S. application; or
- Information that the claimed invention was made in the United States by someone other than the inventor named in the patent application.

Failure to comply fully with Rule 56 may result in the patent application being stricken from the files of the PTO or the resulting patent held to be unenforceable.

Please list below any information presently known to you that you believe may be MATERIAL to the present invention. Please sign and return this letter promptly to the Law Department.

### ACKNOWLEDGEMENT

I have read and understood the above description of the duty of disclosure required by Rule 56. I hereby affirm that to the best of my knowledge and belief, I have complied with that rule by disclosing to \_\_\_\_\_ as of the date of my signature hereto the following items other than what is already acknowledged in the application or has been cited during its prosecution. I attach or identify all such additional art such as patents, publications, search reports, data or other documents.

PATENTS: \_\_\_\_\_  
 (if no additional art, write NONE)

PUBLICATIONS AND SEARCH REPORTS: \_\_\_\_\_  
 (if no additional art, write NONE)

OTHER INFORMATION OR DATA: (e.g., commercial use) \_\_\_\_\_  
 (if no additional information or data, write NONE)

REVIEWED BY: \_\_\_\_\_

\_\_\_\_\_  
 Inventor Signature

\_\_\_\_\_  
 ATTORNEY/AGENT

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 DATE

# U.S. Patent Application Filing Information Disclosure Statement

- Document filed by applicant that lists prior art references and other information that is material to the examination of the application.
- IDS filing satisfies Rule 56 duty.
- List of patents, patent publications, non-patent publications, and other relevant information and data (sales brochures, public disclosures, etc.)
- Prior art cited in searches, related PCT and foreign patent applications included.
- Include copies of publications.
- Filing cost dependent upon timing.
  - Better to file before 1<sup>st</sup> Office action or soon after new prior art becomes known to applicant.
- Material prior art not cited by applicant may render patent unenforceable due to inequitable conduct.

EMRE FORM - 1449 Sheet 1 of 1

<b>INFORMATION DISCLOSURE STATEMENT</b> (Use several sheets if necessary)		Applicant(s)				
		U. S. Serial Number	Filing Date			
		Confirmation Number	Group Art Unit			
		Attorney Docket Number	Family Number			
<b>U. S. PATENT DOCUMENTS</b>						
Examiner Initial *	Document Number	Date	Name	Class	Sub-Class	Filing Date
AA						
AB						
AC						
AD						
AE						
AF						
AG						
AH						
AI						
<b>FOREIGN PATENT DOCUMENTS</b>						
Document Number	Publica- tion Date	Country	Class	Sub-Class	Translation Yes No	
AJ						
AK						
AL						
AM						
<b>OTHER DISCLOSURES</b> (Include Author, Title, Date, Pertinent Pages, Place of Publication, etc.)						
AN						
AO						
AP						
Examiner				Date Considered		
* Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and NOT considered. Include copy of this form with next communication to applicant(s).						

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PATENT TRADEMARK OFFICE

# U.S. Patent Application Filing Assignment

- In the U.S., inventor(s) have the initial ownership interest in patent applications and patents.
- Patents have the attributes of personal property and therefore are assignable in law by a writing.
- An “assignment” is a transfer of the inventor(s) ownership rights to a patent application / patent to another (often an entity employing the inventor(s)).
- Within most companies, IP agreement that employees have requires assignment of all inventions and resulting patents to the company.
- After execution of assignment agreement, it is recorded in the USPTO. Provides legal notice to the public of the assignment. Much like recording a deed with regard to the transfer of real estate.

USSN \_\_\_\_\_

ASSIGNMENT  
INVENTOR or INVENTORS:

For good and valuable consideration, the undersigned person(s) named above, herein referred to as UNDERSIGNED, hereby agree(s) as follows:

1) UNDERSIGNED hereby assign(s) to ExxonMobil Research and Engineering Company (formerly Exxon Research and Engineering Company), a corporation of Delaware, its successors, legal representatives and assigns, herein referred to collectively as ASSIGNEE, the entire right, title and interest, for the United States and all foreign countries, in and to UNDERSIGNED's invention or improvement and to all patent applications and patents covering same which is described in a patent application entitled

said application having been executed on the \_\_\_\_\_ day(s) of \_\_\_\_\_, and being further identified as Case Number \_\_\_\_\_; and all rights of priority created by said application under provisions of international conventions or treaties.

2) UNDERSIGNED agree(s) upon the request of ASSIGNEE to execute any and all applications for and documents relating to obtaining patents and the prosecution thereof for said invention or improvement, and any continuations of such applications or substitutes thereof or registrations thereof, and any specific separate assignments of any of the above required for recording in the United States Patent and Trademark Office and any foreign patent office that ASSIGNEE may deem necessary or expedient.

3) UNDERSIGNED agree(s) that in the event of any application based on said assigned invention or improvement, or patent issued thereon, or any reissue or application for the reissue thereof, becoming involved in priority of invention proceedings, UNDERSIGNED will cooperate with ASSIGNEE to the best of the ability of UNDERSIGNED in the matter of preparing and executing all documents and giving and producing evidence in support thereof.

4) UNDERSIGNED agree(s) to perform upon ASSIGNEE's request any and all affirmative acts to obtain United States and foreign patents covering said invention or improvement and to vest all rights therein hereby conveyed to ASSIGNEE, as fully and as entirely as the same would have been held and enjoyed by UNDERSIGNED if this assignment and sale had not been made.

5) UNDERSIGNED hereby authorize(s) ASSIGNEE to insert in this instrument the date(s) on which UNDERSIGNED executed the Declaration for the above-referenced patent application.

IN WITNESS WHEREOF, this assignment has been executed by UNDERSIGNED on the date opposite UNDERSIGNED's NAME.

Date _____	Inventor _____ (LS)	Witness _____
Date _____	Inventor _____ (LS)	Witness _____
Date _____	Inventor _____ (LS)	Witness _____
Date _____	Inventor _____ (LS)	Witness _____
Date _____	Inventor _____ (LS)	Witness _____
Date _____	Inventor _____ (LS)	Witness _____

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Family Number: \_\_\_\_\_