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I am a non-attorney non-spokesperson
Nothing herein should be construed as legal advice
This is not a do-it-yourself guide, get an attorney
All statements are personal and do not represent HP
GOALS –

By the end of today, you should be able to:

1. Better understand the role of intellectual property in companies

2. Recognize the business and legal issues in the patenting process

3. Align inventions with the strategic focus of your business unit and company

4. Assist your patent attorney in preparing applications

5. Understand the limitations involved in reviewing patents not owned by your company
AGENDA –

1. A primer on patents
2. Completing Invention Disclosures
3. The Invention Disclosure review process
4. Preparation of a patent application
5. Prosecution of a patent application
INTRODUCTION TO PATENTS

• A patent is a "contract" between an inventor and the public granted for new, non-obvious inventions
  • The inventor is granted the right (a “limited monopoly”) to prevent others from making, using, importing or selling their invention for up to 20 years from the date of filing of the application
  • BUT NOTE: A patent does NOT give the patentee the right to practice her invention

• Patents provide an incentive to innovate

• Patent Infringement is the unauthorized making, using, importing, or selling the invention claimed in the patent, even if the infringer was unaware of the existence of the patent!
A company obtains patents for many reasons:

- To prevent copying of its technology and products by others
- To gain design freedom and technology access by cross-licensing owned patents with those owned by others
- To counter-assert against those who would sue the company for patent infringement
- To generate an optimal return on R&D expenditures, for example by licensing technology patents to others
- To preclude others from getting patents on your company’s developments and asserting them against your company
To encourage submission of disclosures, some companies may offer an Inventor Incentive Program:

- $XXX/inventor per completed invention disclosure submitted
- $YYY/inventor for filed utility patent application
- $ZZZ/inventor for filed design patent application
- $WWW/inventor for defensive publication
- Plaque upon patent issuance
PATENT PROCESS

1. Have an Idea
2. Submit Invention Disclosure
3. Get Incentive Award
4. Patent Committee Evaluates Disclosure; CTO’s review and approve PC decisions
5. If Rated “File”, Help Attorney Prepare Application
6. Company Submits Application to Patent Office
7. Get Incentive Award
8. Company Gets Patent
PATENT PROCESS (cont’d)

*What is an INVENTION?*

- Inventions are often found in the solution to a problem for example the problems and challenges that we all face every day
- What problems have you solved or are in the process of solving?

- Keep track of your ideas and inventions by noting or otherwise detailing them in a lab notebook or similar diary.
  - The diary should be signed and dated on a regular basis by a non-inventor witness, for example a supervisor or co-worker
  - A weekly or monthly signing and dating is probably sufficient
- Patent Reform
  - Moving from “first to invent” to “first to file”. 
PATENT PROCESS (cont’d)

What is an INVENTION?

- An invention should answer **TWO questions**:
  - **WHAT** problem am I going to solve? and
  - **HOW** am I going to solve the problem?

- That defines the difference between an IDEA and an INVENTION
  - An IDEA – Tells someone WHAT you want to do – generally, an idea is NOT PATENTABLE because it is NOT ENABLED.
  - An INVENTION – Tells someone WHAT you want to do AND goes one step further in telling HOW you can do it – this IS PATENTABLE because it is ENABLED.

- **Example**: Electricity from nuclear fission MAY provide an invention...
  - If you disclose “I propose to make electricity from nuclear fission” – there is no invention because you have not ENABLED the invention, *i.e.* you have not disclosed **HOW** to use nuclear fission to make electricity...
PATENT PROCESS (cont’d)

What is PATENTABLE?

• Based upon the United States Code:
  – “[A]ny new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof” (35 U.S.C. § 101)

• Based upon the 1952 Congressional Debate on the Code:
  – “Anything under the sun that is made by man.”

• Recognized classes of patents include:
  – Apparatus or Systems, for example a new duct and a system using the duct
  – Methods or Processes, including Methods of Manufacture
  – Materials, including man-made materials such as pharmaceuticals
  – Business Methods, for example those perfected by Amazon.com and Netflix
THE PATENT PROCESS (cont’d)

*Considering whether an invention is patentable?*

- Broad inventions are generally more valuable than narrow inventions, so ask yourself:
  - Do alternatives exist to your proposed invention?
  - Would other products and technologies would benefit from the invention?
  - Can your invention be easily duplicated or gotten around?
  - If the answer to any of the above is, “Yes” – then broaden your invention!

- Mature technical fields may only offer up narrow inventions, however in a mature field, even a narrow invention can be valuable to your company.

- Think about how the technical field MIGHT expand over the term of the patent, be sure to cover these changes with your invention
  - Commercial viability should NOT be considered in determining the scope of a patent

- It is NOT necessary to build or practice your invention prior to filing a disclosure OR a patent application.
PREPARATION AND SUBMISSION OF THE INVENTION DISCLOSURE
INVENTION DISCLOSURES

What is an INVENTION DISCLOSURE?

• A concise, but technically complete description of the invention, that
  – Should clearly describe WHAT constitutes the invention; and
  – Should clearly, concisely, and adequately describe HOW the invention works

• Usually requires 1 to 5 pages – attachments are GREAT!

• Apparatus and system disclosures should include simple block diagrams and more complex technical drawings (where available)

• Method and process disclosures should include at least one logic flow diagram that would provide an understanding to a technical layperson.

• A sales document that makes your company want to invest $25K to $100K in obtaining patent protection
  – What current and future company and external products might benefit from this invention?
  – How can your company market your invention? Who is the target audience?

• An individual can file for a Patent without an attorney (Cheaper)
INVENTION DISCLOSURES (cont’d)

• Submit an invention disclosure for each invention that you believe might have business value to your company. Inventions having business value might include inventions relevant to:
  – Any current and/or future products or services from your company;
  – Any current and/or future competitive products or services;
  – Any current and/or future products or services provided by a supplier; or
  – Any current and/or future products or services that could provide a source of revenue if licensed to a licensee, even if the licensee is in an unrelated field.

• Submission of invention disclosures may be required based upon local law or as a term of your employment agreement with your company.
INVENTION DISCLOSURES (cont’d)

• Please try to submit invention disclosures in a timely manner that permits the disclosure to travel through the routine approval process.
  – The routine approval process can require months for approval and preparation of a patent application from an invention disclosure.
  – If a critical date or event will occur within a few months of when an invention disclosure is submitted, alert your Patent Coordinator and Patent Attorney!
  – Patent applications can be prepared and filed very quickly in an emergency, but this may negatively impact the quality of the application, as well as our ability to file other applications.
INVENTION DISCLOSURES (cont’d)

**BEFORE you submit a disclosure, please:**

- Perform an internet search to see if your invention is NOVEL.
  - Look for search results that do the same thing as your invention
  - If you find something that does the same thing, determine if your invention does it differently or in a better way

- You can search patents and pending patent applications at the USPTO website.

- **Use caution with external patent searches** – searches can be saved and the data marketed by search engine companies.

- You can search patents and non-patent literature at: [http://www.uspto.gov/](http://www.uspto.gov/)

- Do **NOT** review or attempt to interpret claims of issued patents.

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INVENTION DISCLOSURES (cont’d)

• If you discover or know of a patent you think YC may infringe or that may infringe YCs patent or pending patent application, please **CALL** your attorney, do **NOT** send an e-mail

• Inventors are under a duty in the US to disclose to the USPTO all relevant prior art known to the inventor at the time of FILING:
  – If you learn of prior art after you submit the disclosure – it MUST be disclosed to the USPTO
  – Tell the patent attorney preparing your patent application about **all prior art** so that the art can be cited on an Information Disclosure Statement (IDS) filed with the USPTO
  – Failure to disclose relevant prior art can result in loss of patent rights
  – The oath and declaration, when signed by the inventor, is an affirmative assertion that the inventor has disclosed all relevant prior art to the USPTO
  – PLEASE - assume **ALL** art is relevant, please disclose everything
Disclosure Outline

• Title
• Abstract
• Problems solved
• Prior Solutions
• Description
  – Drawings and attachments*
• Advantages
• Inventors
• Other stuff to help
  – Attorneys
  – Reviewers

• Who is an inventor
  – Someone who contributes to a claim
  – Being in the room, or in the management chain does not make one an inventor
  – Discuss with attorney

* Do not just staple a spec. to a form
  * Explain where the innovation is!
INVENTION DISCLOSURE REVIEW PROCESS
DISCLOSURE REVIEW

• The Patent Review Committee meets periodically to evaluate the invention disclosures that are submitted to your Business Unit.

• Patent Review Committee members include:
  – Patent Coordinators (represents the business responsible for paying for application filing costs, makes business decisions as to whether such costs are justified for a particular disclosure, and provides technical input)
  – Patent Attorney (provides legal input, helps coordinate patent filing activities with other groups within your company, provides technical input)
  – Technical & Business Reviewers (for technical & business input)
DISCLOSURE REVIEW (cont’d)

The Patent Review Committee evaluates disclosures by giving them one of the following ratings:

- **File** -- business value of filing a patent application on the idea exceeds the costs of doing so. Invention detectable and sufficiently innovative

- **Publish** -- does not meet filing criteria, but business reasons justify publishing the idea to prevent others from obtaining a patent

- **Hold** -- not enough information to evaluate disclosure, held until next meeting

- **Inactivate** -- does not meet any of the above criteria

- **Other**
HOW DO I GET MY DISCLOSURE APPROVED FOR FILING?
DISCLOSURE APPROVAL

- There is **NO** way to **GUARANTEE** that any disclosure will be approved for filing as a patent application, but there are some ways to improve the odds in your favor...
- First, make sure that your invention is relevant to company overall and business unit in particular
- Next, be sure that you provide the **WHAT** and **HOW**
  - Failure to provide the **HOW** may result in a **HOLD** or **INACTIVATE**
- Next, perform some sort of prior art search to ensure that your invention is novel
  - If your invention is not novel it will be **INACTIVATED**
- Then, establish **WHY** your invention is worth the cost of patenting – estimated to range from $20K to in excess of $100K
  - Think like a businessperson – current/future products, markets, etc.
Timing/Bar dates

• International patent applications must be filed before public disclosure
  • Product shipment
  • Product announcement

• US patent applications must be filed before:
  – one year has passed after a public disclosure
    • Product shipment
    • Product announcement
  – one year has passed after an “offer for sale” (The on sale bar date)
    • A purchase of a Prototype will trigger start of the on sale bar date
US Supreme Court’s current ruling for “on sale” bar date

PFAFF v. Wells Electronics, Inc. Nov. 1998

The “on sale” bar is triggered by two events

- A product that incorporates the invention must be the subject of a commercial offer for sale.
- The invention must be “ready for patenting”.

Once these two conditions are satisfied, the one year clock begins to run
PREPARING AND PROSECUTING THE PATENT APPLICATION
PATENT APPLICATION

• A patent application is a **legal document** that describes and claims the invention.

• The patent application comprises several sections
  – (a) Background, (b) Detailed Description, (c) Claims, (d) Abstract, and (e) Drawings

• A patent application must:
  – Enable one of ordinary skill in the art to practice the invention; and
  – Disclose the best mode of practicing the invention known to the inventor at the time of filing; and
  – Clearly claim what the applicant believes is the invention

• It is helpful to think of the claims in terms of real estate, defining “boundaries” of the property claimed by the inventor

• Patent applications usually include at least one drawing
PATENT PROSECUTION

• After a patent application is prepared, it is filed in at least one patent office.
• After a period of delay (typically 12 - 48 months) it is examined by a patent examiner
• Patent examiners function as gatekeepers -- they allow patentable ideas, and reject unpatentable ideas
• Patent attorneys interact with patent examiners to determine the exact scope of patent that is granted
PATENT ISSUANCE

- About 60% to 75% of the time, folks "win" and gets a patent issued.
- Once issued, the patent remains in force for 20 years from the date of filing, provided that regular “maintenance fees” are paid (years 3, 7, and 11). It becomes part of your companies “patent portfolio”
- Getting patents is often not hard. The challenge is in getting high quality patents that add a high level of business value to our patent portfolio
To all whom it may concern:

Be it known that I, Abraham Lincoln, of Springfield, in the County of Sangamon, in the State of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessel for the purpose of enabling their draught of water to be readily increased to enable them to pass over bars, or through shallow water, without discharging their cargoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification. Similar letters indicate like parts in all the figures.

The buoyant chambers, A, A, which I employ, are constructed in such a manner that they can be expanded so as to hold a large volume of air when required for use, and can be contracted into a very small space and safely secured as soon as their service can be dispensed with.

Fig. 1, is a side elevation of a vessel with the buoyant chambers combined therewith, expanded; Fig. 2, is a transverse section of the same with the buoyant chambers contracted.

Fig. 3, is a longitudinal vertical section through the centre of one of the buoyant chambers, and the box B, for receiving it when contracted, which is secured to the power frame of the vessel.

The top g, and bottom h, of each buoyant chamber, is composed of planks or metal, of suitable strength and stiffness, and the flexible sides and ends of the chambers, are composed of India rubber cloth, or other suitable water-proof fabric, securely united to the edges and ends of the top and bottom of the chambers. The sides of the chambers may be stayed and supported centrally by a frame k, as shown in Fig. 3; or any such means may be combined with them as may be necessary to give them the requisite fullness and strength when expanded.

The buoyant chambers are suspended and operated as follows: A suitable number of vertical shafts or spars D, D, are combined with each of the chambers, as represented in Figs. 2 and 3, to wit: The shafts work freely in apertures formed in the upper sides of the chambers, and their lower ends are permanently secured to the under sides of the chambers. The vertical shafts or spars (D, D) pass up through the top of the boxes B, B, on the lower guards of the vessel, and then through its upper guards, or some other suitable support, to keep them in a vertical position.

The vertical shafts (D, D), are connected to the main shaft C, which passes longitudinally through the centre of the vessel—just below its upper deck—by endless ropes f, f, as represented in Fig. 2. The said ropes, f, f, being wound several times around the main shaft C, then passing outwardly through rings or rollers attached to the upper deck or guards of the vessel, from which they descend along the inner sides of the vertical shafts or spars D, D, to sheaves or rollers connected to the boxes B, B, and thence rise to the main shaft C, again.

The ropes f, f, are connected to the vertical shafts at 4, 5, as shown in Figs. 1 and 2. It will therefore be perceived, that by turning the main shaft C, in one direction, the buoyant chambers will be expanded into the position shown in Fig. 1; and by turning the shaft in an opposite direction, the chambers will be contracted into the position shown in Fig. 2.

In Fig. 3, c, e, are check ropes, made fast to the tops of the boxes B, B, and to the upper sides of the buoyant chambers; which ropes catch and retain the upper sides of the chambers when their lower sides are forced down, and cause the chambers to be expanded to their full capacity. By varying the length of the check ropes, the depth of immersion of the buoyant chambers can be governed. A suitable number of openings w, w, are formed in the upper sides of the buoyant chambers, for the admission and emission of air when the chambers are expanded and contracted.

The ropes f, f, that connect the main shaft C, with the shafts or spars D, D, (rising from the buoyant chambers,) may be passed from one to another in any direction that may be deemed best, and that will least inconvenience the deck of the vessel; or other mechanical means may be employed as the medium of communication between the main shaft and the buoyant chambers, if it should be found expedient.

I shall generally make the main shaft C, in as many parts as there are corresponding pairs of buoyant chambers, in order to simplify the sections of the shafts together, the whole of the chambers can be expanded at the same time, and by disconnecting them, either pair of chambers can be expanded, separately from the others as circumstances may require.

The buoyant chambers may be operated by the power of the steam engine applied to the main shaft C, in any convenient manner, or by hand power.

Where the guards of a vessel are very high above the water, the boxes B, B, for the reception of the buoyant chambers when contracted, may be dispensed with, and the chambers be contracted by driving them against the under sides of the guards. Or, protecting cases may be secured to the under sides of the guards for the reception of the buoyant chambers when contracted.

When it is desired to combine my expandable buoyant chambers with vessels which have no projecting guards; shelves or cases must be strongly secured to their sides for the reception of the buoyant chambers.

I wish it to be distinctly understood, that I do not intend to limit myself to any particular mechanical arrangement, in combination of expandable buoyant chambers with a vessel, but shall vary the same as I may deem expedient, whilst I attain the same end by substantially the same means.

What I claim as my invention and desire to secure by letters patent, is the combination of expandable buoyant chambers placed at the sides of a vessel, of lays C, by means of the sliding spars or shafts D, which pass down through the buoyant chambers and are made fast to their bottoms, and the series of ropes and pulleys, or their equivalents, in such a manner that by turning the main shaft or shafts in one direction, the buoyant chambers will be forced downwards into the water and at the same time expanded and filled with air for buoying up the vessel by the displacement of water; and by turning the shaft in an opposite direction, the buoyant chambers will be contracted into a small space and secured against injury.

A. LINCOLN.

Witness:
Z. C. ROBINSON,
H. H. SYLVESTER.
THANK YOU!
Questions?