



How to Obtain a US Patent

STL Startup Week

Before We Get Started...



Recording

A link to the recording and slides will be emailed to all registrants.



Questions

Type in the question box and we will answer in real time or during the Q&A.



Social

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Doug Portnow

- Registered patent attorney
- Adjunct faculty UH Law School
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- Practice focuses on medical device patent prosecution and IP due diligence
- JD, Univ. New Hampshire (formerly Franklin Pierce Law Center); MBA Santa Clara Univ.; MS Bioengineering Univ. of Michigan; BS Mech. Eng. MIT
- Prior 10+ years as a R&D Engineer, QA/RA Manager and Director of Manufacturing in med device industry



Aris Gregorian

- Registered patent attorney
- Practice focuses on software and apparatus patent prosecution
- JD Southwestern Law School; and BA in Electrical Engineering from Santa Clara University
- Experience working with various stages of startups



Episode Overview

- What a patent is and what it is not
- Why patents are important
- How to prepare and file a patent application
- What is the process for obtaining a US patent?
- Legal requirements for obtaining a patent
- Patent validity
- Litigation – patent infringement
- Other IP portfolio management considerations

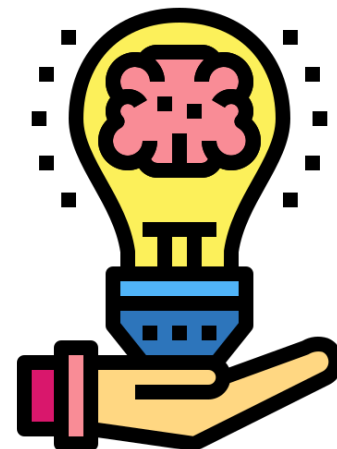




Types of Intellectual Property



- Trademarks/service marks
 - Word, phrase, symbol, and/or design that identifies and distinguishes the source of the goods (or services) of one party from those of others
 - Includes smells, colors, and sounds!
- Copyrights
 - protects original works of authorship for an expression fixed in a tangible medium
 - Examples: Movie, Recorded song, Photograph, Book, Sculpture
- Trade Secrets
 - anything that you can keep secret and lasts as long as you can keep it a secret
 - e.g. Coca-Cola formula, KFC recipe
- PATENTS
 - Right to an invention for a limited period of time in exchange for disclosure
 - Today our focus will be on patents





Patents



Types of Patents

- Utility patents for a machine, a process, article of manufacture, composition of matter
- Design patents for an ornamental design
- Plant patent for plant varieties asexually produced
- Utility models



What is a Patent?

- Does not give the patentee the right to practice the invention
 - There may be regulatory approvals or other clearances required before you can manufacture and sell your product (e.g. USFDA clearance for a medical device or drug)
- Gives the patentee the right to exclude others from making, using, or selling the invention for a limited period in exchange for disclosing the invention to the public, thereby advancing the body of knowledge





Why Obtain a Patent?

- Patents are important
 - Protect your invention by excluding others
 - Property that can be monetized
 - Helps with company valuation
 - Proof to others that you have something
 - For early-stage companies, patents are often the only property since no sales, no clinical data, no other tangible property
- How to get a patent?
 - File a patent application with an invention that is novel, non-obvious and enabled



Anatomy of a Patent



What are the Parts of a Patent?

- Abstract
- Background of the Invention
- Summary of the Invention
- Figures with brief descriptions
- Detailed description or “specification”
 - Fully discloses what the invention is
 - How it is made?
 - How it can be used?
- Claim(s): sets the legal boundaries of protection
 - Independent
 - Dependent



US005901666A

United States Patent [19] [11] **Patent Number:** **5,901,666**
Belisle [45] **Date of Patent:** **May 11, 1999**

[54] **PET DISPLAY CLOTHING** 5,277,158 1/1994 Rossignol et al. 119/19
 5,305,425 4/1994 Mile 2315
 [76] Inventor: **Brice Belisle**, 112 Conslcyca St., 5,419,281 5/1995 Williams 119/19
 Brooklyn, N.Y. 11211 5,445,302 8/1995 Holtof 234/209
 5,548,842 8/1996 Wiseman, Sr. 249
 5,664,525 9/1997 Phillips et al. 119/822

[21] Appl. No.: 08/920,217

[22] Filed: Aug. 25, 1997

[51] Int. Cl.⁷ A01K 29/00

[52] U.S. Cl. 119/497

[58] Field of Search 119/452, 417,
119/421, 857, 497, 275, 69, 247, 102,
224/148.1, 148.2[56] **References Cited**

U.S. PATENT DOCUMENTS

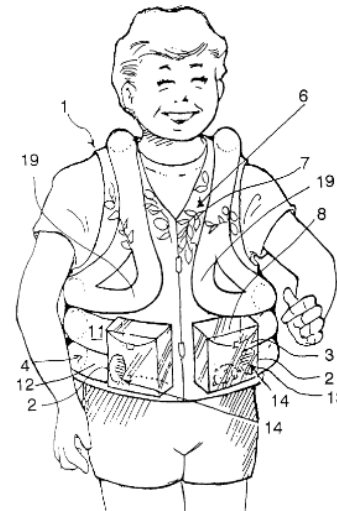
3,687,110 8/1972 Braublit 119/1
 3,859,961 1/1975 Willinger 119/15
 4,265,381 5/1981 Moscatelli 234/148
 5,176,102 1/1993 Tracy 119/19
 5,263,618 11/1993 Talavera 234/148

Primary Examiner—Thomas Price
Attorney, Agent, or Firm—Robert W. J. Usher

[57] **ABSTRACT**

A vest or belt is integrally formed with tubular, pet receiving passageways which extend around the wearer's body and terminate in pocket-like chambers for feeding and retrieval. Outer wall portions of the passageways are transparent so that a pet moving along the passageways can be seen by a spectator. Graphics or indicia depicting the pet's habitat or a pet story are etched on the vest and extend across portions of the passageways masking delineations or depicting the passageways as burrows.

14 Claims, 1 Drawing Sheet





Patentable Subject Matter and Statutory Requirements





Statutory requirements for patentability

- Subject matter eligibility is defined by the USPTO under § 101 and, once subject matter eligibility is determined, whether the novelty and non-obvious standards are met are dealt with in §§ 102 and 103:
 - § 101: Inventions potentially patentable
 - § 102: Novelty condition for patentability
 - § 103: Non-obviousness condition for patentability



What is patentable?



You can patent anything man made under the sun



Cannot patent laws of nature, naturally occurring things, abstract ideas



Can include device claims, medical method claims, manufacturing claims, system claims



Novelty





Novelty

- (a) Novelty; Prior Art.—A person shall be entitled to a patent unless
 - (1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or
 - (2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.



First-to-file

- The U.S. is a first to file system under the America Invents Act (AIA).
- No geographic limits.
- There is a *single* date to consider: effective filing date of the patent application.
- One year grace period for inventors' actions (public disclosures).

First inventor to file gets the patent.



Novelty – An Example

- Example 1
 - You invent a chair with four legs
 - The prior art only teaches a chair with three legs
 - Your invention is novel
- Example 2
 - You invent a chair with four legs and a back support
 - The prior art teaches a chair with three or more legs but is silent about a back support
 - The back support feature is novel and the combination of the four legs with back support is also novel



Obviousness



Obviousness

- An invention is not patentable if it is merely an obvious variation on the prior art.
- Steps to determine obviousness:

1

Determine the scope and contents of the prior art

2

Ascertain the differences between the prior art and the claims in issue

3

Resolve the level of ordinary skill in the pertinent art

4

Evaluate the evidence of secondary considerations



Test for Obviousness

- The Supreme Court came up with a test for obviousness, which helps determine obviousness as a question of law through factual inquiries:
 - **Prior Art:** Compare the invention to the prior art (whatever is already out there)
 - **Level of Ordinary Skill in the Field:** A patent is precluded if the claimed invention would be obvious to one having ordinary skill in the art. The fact that an improvement would not be obvious to a layperson does not preclude a patent.
- **Secondary Considerations:** Other factors can be considered to help determine whether the invention is obvious. It is likely non-obvious is:
 - It meets with great commercial success
 - There was a long felt need in the art
 - There was a failure of others to resolve the problem

Obviousness – An Example

- Example 1
 - You invent a chair with four **metal** legs to support more weight
 - The prior art only teaches a chair with four **wooden** legs
 - Your invention is probably obvious. Simple material substitutions are generally considered obvious
- Example 2
 - You invent a chair with four **adjustable** legs
 - The prior art teaches a chair with four adjustable legs but uses a **different adjustment mechanism** than your invention
 - The adjustable feature of your invention is probably not obvious in view of the prior art



Getting a Patent





Patent Process

- First assessment for whether or not the invention is patentable AND marketable
- (Optional) File provisional application
- (Optional) International (PCT Application)
 - non-binding examination and allows an applicant to postpone the applications for up to 30 months
- US Utility Application – binding examination
- Examination rounds and appeals require more time and money
- Total average cost of a US patent from start to finish: \$50K
- Total average time to obtain a US patent: 3-6 years



Patent Filing Requirements

- Title of Invention
- Name(s) of all Inventors
- Inventor(s) residence(s)
- Correspondence Address
- Attorney Information (if applicable)
- U.S. Government interest (ownership) (if applicable)
- Executed Oath or Declaration
- Application Data Sheet (ADS) (if applicable)
- All Applicable Fees



Prior Art Searching - Patentability





Prior Art Searching - Patentability

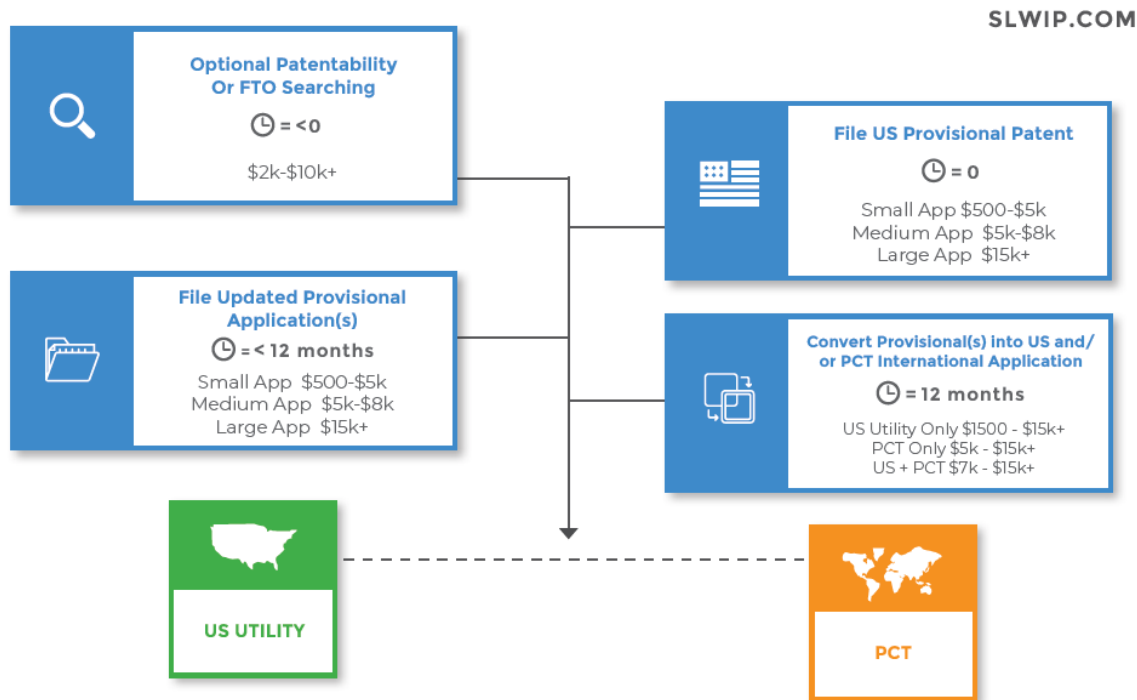
- Conducting prior art searching will let you see what prior art already exists and therefore allow you to determine if your invention is novel and non-obvious
- Better to spend the time and money upfront rather than spending a lot more to prepare and file a patent application that may not have a patentable invention
- Where do you search?
 - Google, PTO website, PCT website, EPO register, etc.
- Cost to search – depends on the complexity of the invention and number of hits.
 - Could be \$500 to \$50K

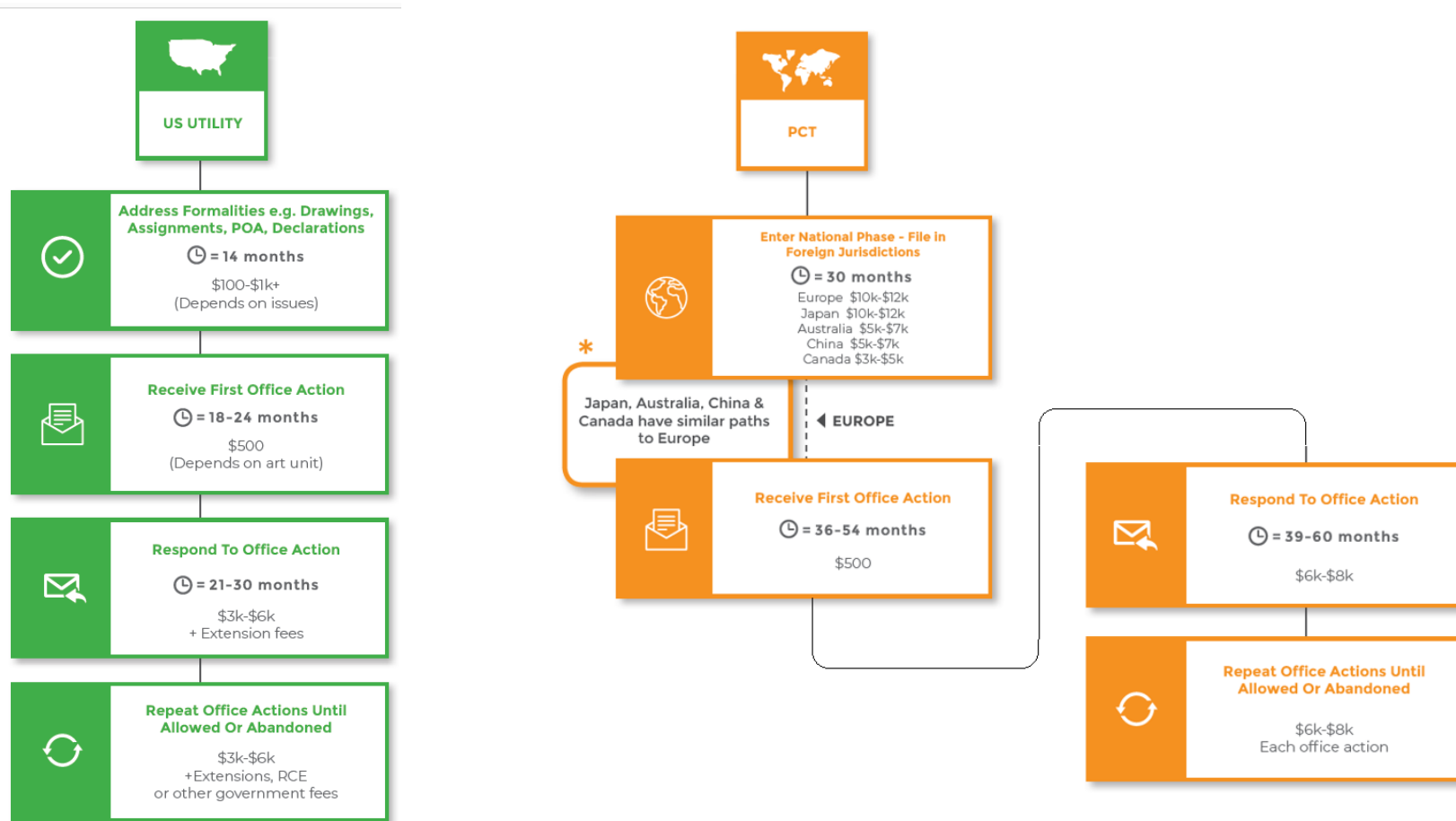


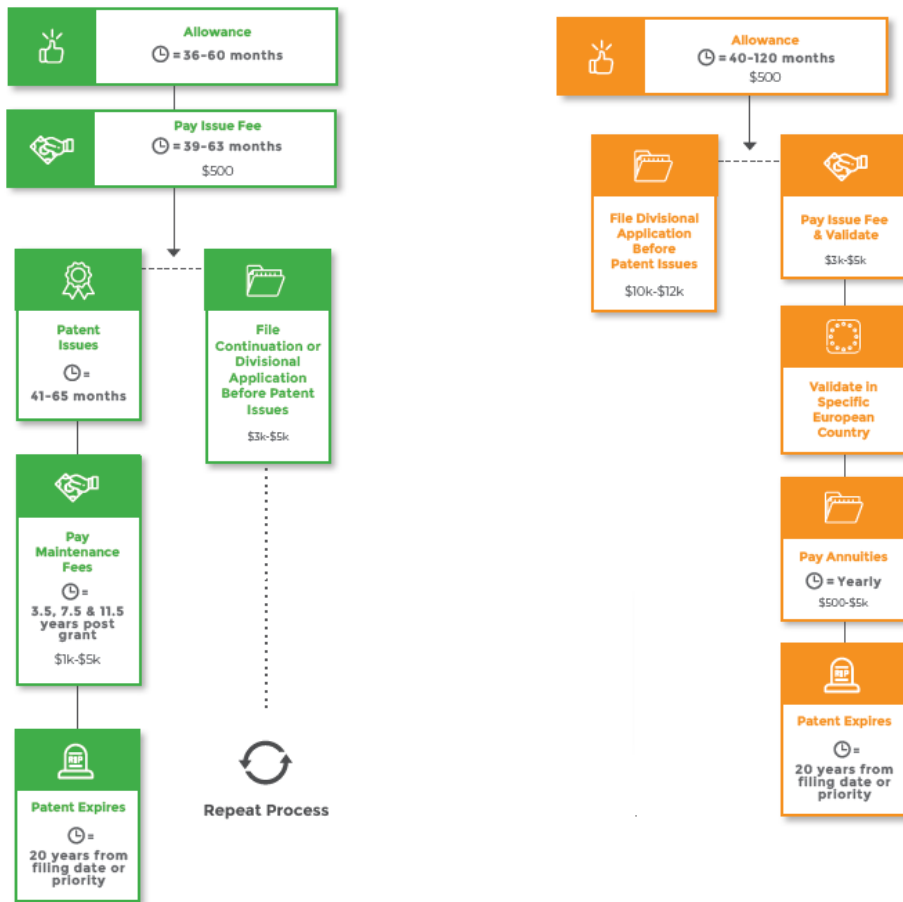
Filing a Patent



IP Roadmap: sample timeline







Office Action - Sample



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/160,229	10/15/2018	Justin Jeffrey Baker	VB-027058 US ORD	2061
26294 7590 06/15/2021 TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 1300 EAST NINTH STREET, SUITE 1700 CLEVELAND, OH 44114				
			EXAMINER	
			TALTY, MARIA CHRISTINA	
			ART UNIT	PAPER NUMBER
			3793	
			NOTIFICATION DATE	DELIVERY MODE
			06/15/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@tarolli.com
rklne@tarolli.com

Office Action Summary		Application No.	Applicant(s)	
		16/160,229	Baker et al.	
		Examiner	Art Unit	AIA (FITF) Status
		MARIA C TALTY	3793	Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 28 April 2021.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) This action is **FINAL**. 2b) This action is non-final.

3) An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) Claim(s) 14-24, 26-27 and 29-32 is/are pending in the application.
 5a) Of the above claim(s) 25 and 28 is/are withdrawn from consideration.

6) Claim(s) ____ is/are allowed.

7) Claim(s) 14-24, 26-27 and 29-32 is/are rejected.

8) Claim(s) ____ is/are objected to.

9) Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHFeedback@uspto.gov.

Application Papers

10) The specification is objected to by the Examiner.

11) The drawing(s) filed on 28 April 2021 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) All b) Some** c) None of the:

1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892) 3) Interview Summary (PTO-413)

2) Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date ____

Paper No(s)/Mail Date ____ 4) Other: ____

U.S. Patent and Trademark Office
PTOL 326 (Rev. 11-13)

Office Action Summary

Part of Paper No./Mail Date 20210520



Patent Term





Patent Term

- A US utility patent expires 20 years from its earliest non-provisional priority date
- In certain situations you can get additional patent term adjustment (PTA) if the PTO was delayed in prosecuting your patent
- In other situations you can get additional patent term extensions (PTE) for inventions that require certain FDA regulatory reviews and if the FDA is delayed
- The life of some patents may be shortened based on a Terminal Disclaimer if the claims in the patent are indistinct over another patent.



Cost to Obtain a US Patent





Costs

- Cost to obtain a granted US utility patent depend on the complexity of the invention, the length of the patent application and the complexity of the prosecution
- Ballpark estimates, assumed small entity fees which are half of regular large entity fees
 - To draft a patent application, simple invention \$3K-\$5K; medium invention \$7K-\$10K, complex \$12K+
 - Government filing and examination fees roughly \$1K for small entities
 - Prosecution to grant (depending on how many rejections the USPTO issues) \$500 - \$15K
 - Maintenance fees over the 20 year life of the patent, about \$12K for small entity
 - Costs can increase if you take extensions, have to request continued examination, appeal, etc.
 - Total ballpark roughly \$30K-\$50K



Costs for Foreign Patent Protection





Costs for Foreign Patent Protection

- Costs for some jurisdictions (e.g. Europe, Japan) can be 30-50% higher than US costs
- Some jurisdictions are less expensive (e.g. Canada, Australia)
- Be careful in your selection of foreign jurisdictions to pursue – costs will add up quickly
- In determining which jurisdictions to pursue think about where you may manufacture or sell your product and where a competitor may manufacture and sell
 - Prioritize larger markets, e.g. US/Europe vs. Canada/Australia



Other Related Topics





Annuities and Maintenance Fees

- US patents require maintenance fees 3 ½, 7 ½, and 11 ½ years after grant
 - Costs \$800, \$1800, \$3700
- Foreign patent applications and granted patents require annual annuities to be paid
 - Progressively increase from a few hundred dollars every year to several thousand dollars/year
 - Total annuities over 20 year life of patent can easily reach \$20K - \$25K



Continuations & Divisional Applications

- When talking about patents we usually refer to a patent family
 - A common application having a specification that discloses one or more inventions and variations of those inventions
 - Family may include a common application filed multiple jurisdictions, e.g. US, Europe, China, etc.
 - Family may include a common application sharing an earliest priority date but with different claims that pursue different inventions or different aspects of the same invention
 - Continuations allow you to claim things that you did not previously claim, improve (e.g. broaden) claims that you already patented, or claim
 - Keeping a continuation or divisional application pending keeps the patent family open and preserves your right to pursue additional protection



Patent Validity

- When you get a US patent granted, there is presumption of validity
- A granted patent is not always valid
- Patent can be invalidated after issuance based on lack of novelty or obviousness
- Patent validity can be challenged administratively in the PTO or during litigation in the courts
- A patent owner asserting his/her patent against an alleged infringer will likely have to deal with the alleged infringer asserting the defense of patent invalidity



Asserting Patent Infringement

- If you believe that a competitor is infringing your patent then you can file an infringement claim against the alleged infringer
- All patent infringement cases go through the federal district court system
- Most cases are settled out of court with royalty or other monetary payments, cross-licensing, etc.
- If your case goes to trial, plan on spending several million dollars and a few years
- Decisions can be appealed to the Federal Circuit and a few cases are elevated to the Supreme Court



Freedom to Operate (FTO)

- Just because you have a patent does not mean you are not infringing someone else's patent
- Your patent may cover an improvement to an invention and there still may be earlier patents that cover the broader invention
- FTO refers to your ability to practice your invention without infringing someone else's patent
- Perform searches to find relevant patents and make sure you are not infringing their claims
- Even if you do literally infringe their claims, the claims may be invalid or have a narrow interpretation
- This is a complex analysis
- Work with patent counsel



FTO Example

- Example 1
 - Your patented invention is a four legged chair with a back support
 - An earlier patent claims a chair comprising three legs.
 - Your invention literally infringes the earlier patent because the claim “comprises” three legs which means the patent covers three or more legs plus any other elements (open transition)
- Example 2
 - Your invention is a three legged chair with a back support
 - An earlier patent claims a chair comprising four legs
 - Your invention does not literally infringe the earlier patent



Patents and Fund Raising or Exit

- Investors/Strategics will look at your patents during fund raising or an exit strategy
- Make sure your patents cover your commercial product
- Make sure you know how your invention is distinguished from the prior art
- Investors will also perform other IP due diligence including verifying ownership of IP, freedom to operate, patent validity, etc.
- Prepare. Do not improvise.



Patent Ownership

- An inventor owns his/her invention unless there is an assignment or an obligation to assign the invention
- In the US, most US employers require their employees to assign inventions related to an employee's job to the company; see the employment or consulting agreement
- Ownership is perfected by executing an assignment document and recording it with the patent office; just like recording the deed to your house at the county recorder's office
- Obtain signatures and record promptly; it can be difficult as employees leave the company



Licensing of Patents

- Patent rights are like a house – you can own the house or rent out a part of the house
- Patents can be owned and practiced, sold, or they can be licensed
- If you own the patent, you have full rights, even if there is a joint owner (unless defined)
- A license grants certain rights to the invention to a person or entity
- A license can grant the rights to an invention for a particular field of use, a certain geographic territory, or any other condition



Portfolio Management

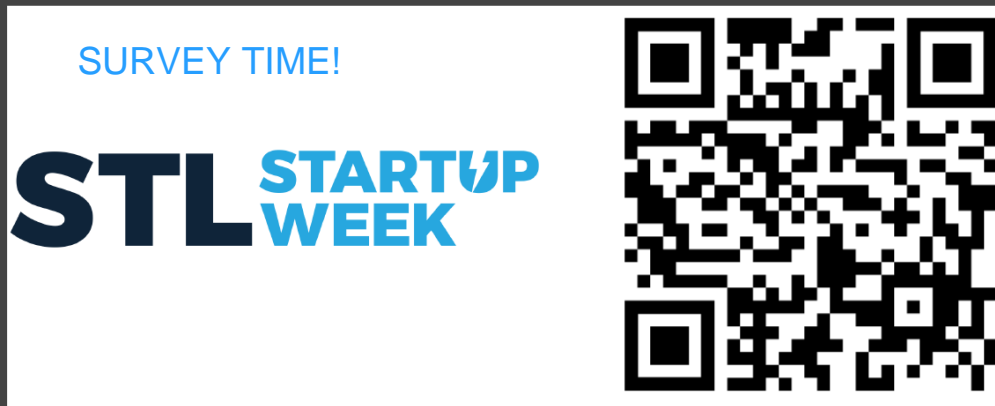
- Large patent portfolios can be very costly
- Active management of the portfolio is necessary
- Pursue inventions that are commercially valuable
- Let patents lapse for inventions that have low value
- Evaluate global patent portfolio and make sure countries you are pursuing are valuable to the business

Thank you for your interest.

Questions?

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