

PATENT PROTECTION 101

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IP OVERVIEW

Why “Intellectual Property?”

Creations of the mind - inventions, literary/artistic works, symbols, names, images, and designs used in commerce.

The product of one's intellect, properly protected, has value just like any other property - can be owned, sold, licensed, leased, etc.

PATENT

- A grant by a national government (to an inventor or a company) of the **right to exclude others** from making, using, selling, or offering to sell their invention for a limited period of time.
- A patent does not guarantee you the right to make, use, or sell your invention!

ANATOMY OF A PATENT

- Abstract
- Technical Field
- Background – what is the problem, how have others solved it.
- Summary – high level – here is how we solved the problem and why our solution is better. Set the stage to tell your story.
- Drawings
- Detailed Description – in depth – here is how we solved the problem and why our solution is better. Tell your story.
- Claims – the most important and least comprehensible part of the patent or application!

DRAWINGS

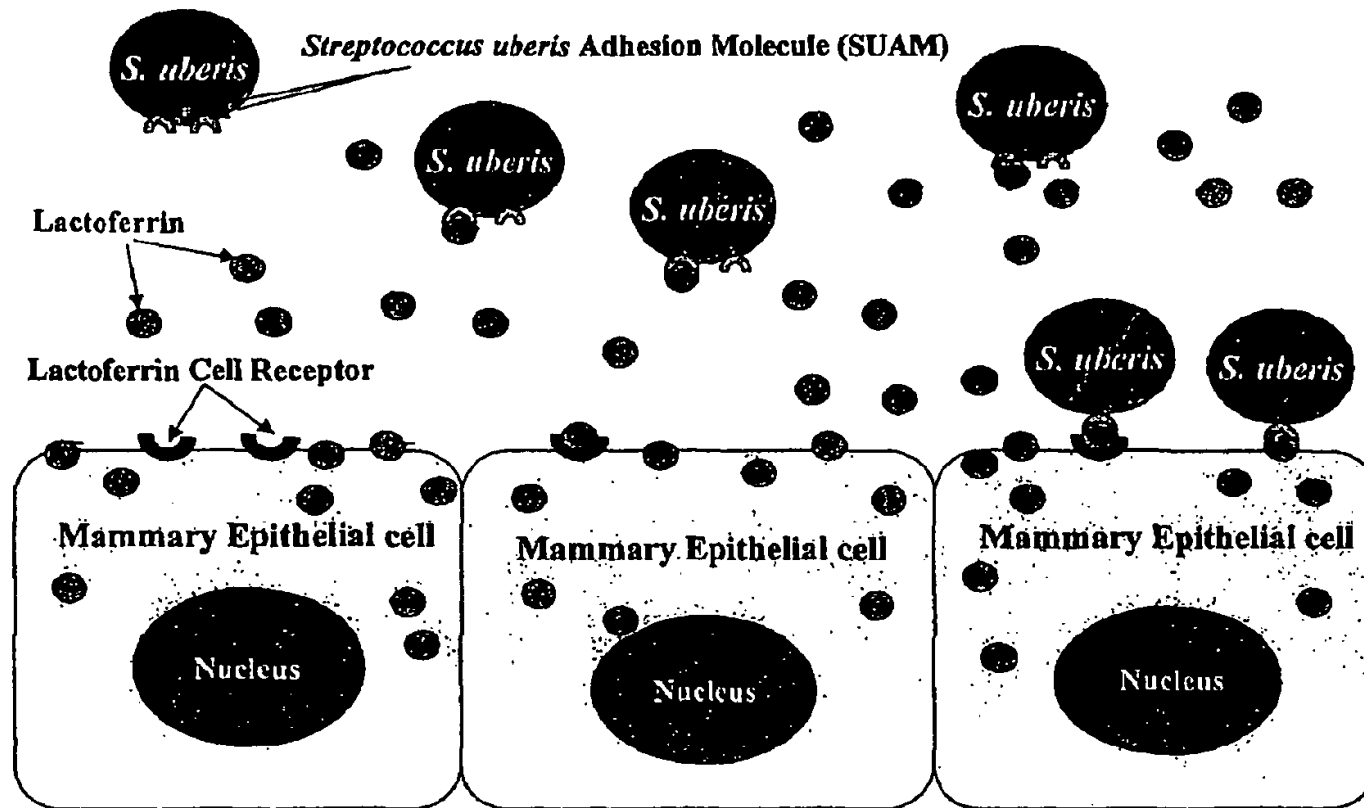


FIGURE 2

DESCRIPTION

Describe the invention in a single sentence.

1. A blood oxygenator, comprising:
 - a housing, a blood inlet, a blood outlet, a sweep gas inlet, and a sweep gas outlet;
 - a hollow membrane fiber array disposed within an interior of the housing for gas exchange to and from blood passing through the oxygenator;
 - an inlet blood flow redirector for evenly dispersing blood passing through the blood inlet through a distal end of the oxygenator, the inlet blood flow redirector including a conical tip extending into an interior lumen of a distal end of the blood inlet;
 - an outlet blood flow collector for collecting blood exiting the hollow membrane array prior to exiting the oxygenator via the blood outlet; and
 - an integrated pneumatic pump disposed substantially within a perimeter defined by the housing, further wherein the integrated pneumatic pump is disposed in an interior of the hollow fiber membrane array.

Concept to Reality

- “Wouldn’t that be cool!?” – not an invention. Invention requires conception and reduction to practice.
- Conception - "formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice." *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, [802 F.2d 1367, 1376](#) ([Fed. Cir.](#) 1986)
- “Wouldn’t that be cool” + “Here are x ways it would/could work” = Conception and Reduction to practice, i.e. invention.

Reduction to practice

- Actual reduction to practice: "[R]equires that the claimed invention work for its intended purpose." *Brunswick Corp. v. U.S.*, [34 Fed. Cl. 532, 584](#) (1995).
- Constructive reduction to practice: "[O]ccurs upon the filing of a patent application on the claimed invention." *Brunswick Corp. v. U.S.*, [34 Fed. Cl. 532, 584](#) (1995).
- "Simultaneous conception and reduction to practice": "In some instances, such as the discovery of genes or chemicals, an inventor is unable to establish a conception until he has reduced the invention to practice through a successful experiment." *The Regents of the University of California v. Synbiotics Co.*, [849 F.Supp. 740, 742](#) (S.D.Cal., 1994) (citing *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, [927 F.2d 1200, 1206](#) (Fed. Cir. 1991)).

REDUCTION TO PRACTICE

- Working prototype (actual reduction to practice)
- Good, descriptive drawings (constructive reduction to practice)
- Detailed explanation (constructive reduction to practice)

What is patentable?

- 35 U.S.C. Section 101 – “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 therefore ...”
- Patentable:
 - Apparatus, machine, etc. (article of manufacture);
 - Process of making or using (method);
 - Composition of matter;
 - Biotechnology;
 - Anything else “under the sun made by the hand of man.”
- Unpatentable:
 - Laws of nature – theory of relativity, natural correlations, things already found in nature, for example “isolated DNA” not otherwise distinguishable from natural DNA;
 - Natural phenomena – gravity;
 - Abstract ideas – pure software, pure mathematical algorithms.

Conditions for patentability

- Novelty – has the subject matter sought to be patented, determined at the time of invention, been discovered/made/performed before?
- Non-obviousness – even if novel, is the difference between the subject matter sought to be patented and the prior art such that the subject matter as a whole would be obvious to the skilled artisan?
- Utility – if the subject matter sought to be patented has no use, it is unpatentable regardless of novelty or non-obviousness. The patent system was established to promote “the useful arts.”

OTHER REQUIREMENTS FOR A UTILITY PATENT APPLICATION

How much data is enough/too much?

- Enablement – describe the invention in sufficient detail to “enable” a skilled artisan to make and use it.
- Written description – a full description of the claimed invention.
- The quid pro quo for obtaining the government-granted limited monopoly represented by a patent is full disclosure to the public.

Statutory bars

- US – one year from the first public disclosure or commercial offer for sale. No exceptions.
- Exception – experimental use. The invention must be “ready for patenting” before a patent application can be filed.
- Most foreign jurisdictions – no grace period – a patent application must be filed before **any** public disclosure to preserve patent rights.

Types of patent application

- Provisional patent application – establishes an early priority date for the invention without meeting all formal requirements of a full utility patent application; never examined, never issues as a patent; one year term only.
- Utility patent application – complete application meeting all formal requirements that will be examined by a patent examiner.
- Design patent application – ornamental design for an article of manufacture.
- Plant patent application – asexually reproduced plant variety; excludes certain tubers.
- PCT (Patent Cooperation Treaty) patent application – an international application that facilitates the filing of national/regional patent applications in many countries worldwide. Reserves the right to pursue patent protection for a period of 30 months from the filing date of the earliest priority application.



Tension between statutory bars and publication

- Best to file a patent application of some time before **any** disclosure, i.e. a talk at a conference, a poster presentation, a manuscript submitted to a journal for publication, etc.
- Use the provisional patent system – requires much less detail and buys a year before a full utility patent application must be filed.
- A provisional patent application should be as complete (i.e. as close to a utility patent application as is feasible), but almost anything can be filed as a provisional patent application.
- Manuscript preprints, printouts of poster presentations, slide presentation printouts, etc. – all good fodder for a provisional patent application!

How do I know/prove that I am an inventor?

Inventorship requires:

- Conception – every feature or limitation of the claimed invention, i.e. the inventor has a definite and permanent idea of the complete and operative invention.
- Reduction to practice.

How do I know/prove that I am an inventor?

- Lab notebooks can be critical!
- Care and feeding of the lab notebook:
 - Permanently bound – no spiral or comb bound
 - Indelible ink only
 - No erasures or removed pages – single line through errors
 - Avoid notes suggesting invention inoperable or abandoned
 - Sign and date pages when full
 - No blank areas on a page
 - Witnesses
 - Keep in a safe place – the lab notebook may one day be required as evidence in a legal proceeding!



King & Schickli PLLC

Your brightest ideas deserve our brand of protection.

THANK YOU!

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TECHNOLOGY TRANSFER

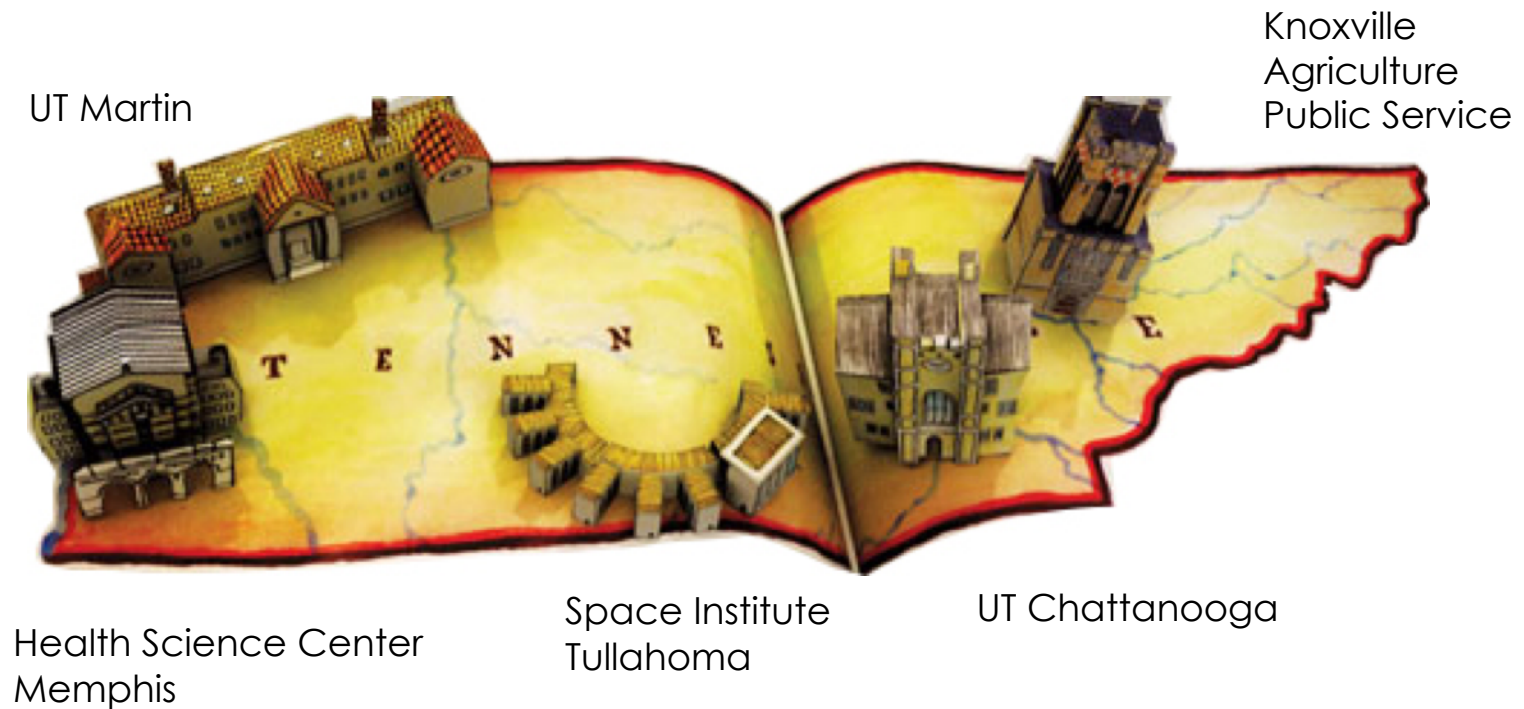
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STATEWIDE SERVICE

UTRF offices in Knoxville and Memphis serve all four campuses and three institutes of UT system

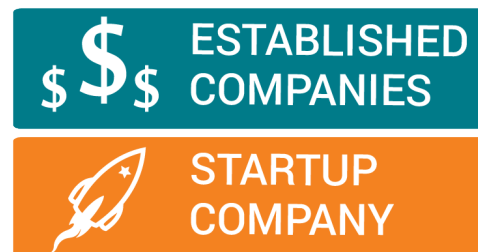
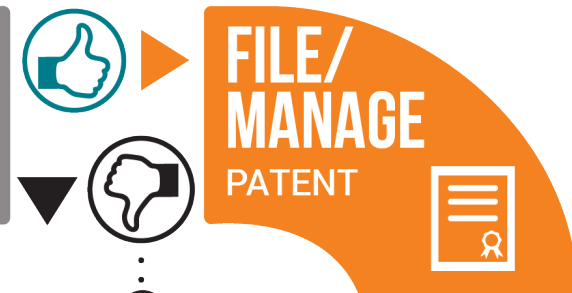
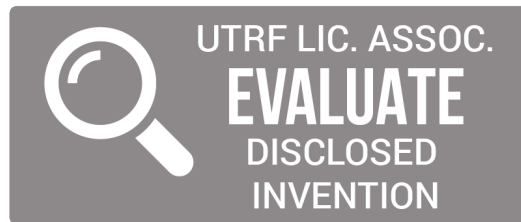




UTRF TECHNOLOGY TRANSFER

Technology Transfer is a process to move knowledge and inventions from UT to an external partner to create products and services for public benefit.

IDEAS
RESEARCH



RETURN INVENTION

i If your invention is declined, you will receive a formal close letter from UTRF, relinquishing UTRF's ownership rights.

If the rights are returned to you, you owe nothing to UTRF, regardless of what we may have spent.

WHAT HAPPENS AFTER I DISCLOSE MY INVENTION?

- Analyze the technology
 - Stage of development?
 - Incremental step or breakthrough?
- Analyze patentability
 - Oftentimes, great ideas are already patented, even if there is no product available.
 - For many areas, patents are crucial to commercialization
- Analyze market size and interest
- Present inventor with a report containing all this information and our initial decision



I.D.E.A. FOR UT INVENTORS & STAFF

fast



secure



easy to
track progress



IDEA is the secure, online portal for invention disclosures at the University of Tennessee. It offers a fast, easy way to submit disclosures.

- The application is available 24/7/365 and compatible with any PC/Mac/Phone/Tablet.
- The employee's UT netID is linked automatically to simplify the submission and approval process.
- Submission and approval status are monitored in real-time. Disclosures are submitted for commercialization in just minutes!
- IDEA is paperless and ecofriendly.

TEAMING UP FOR SUCCESS

INVENTOR PARTICIPATION IS CRITICAL FOR
SUCCESSFUL LICENSING OR BUSINESS START-UP.

- Industry contacts
- Ensure patent application fully and accurately describes the invention
- Highlight key advantages to promote effective marketing

UTRF LICENSING STAFF



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WHEN TO CONTACT UTRF

- ANYTIME!
- Before presenting in a public forum
- Before publication in any media

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