What is Intellectual Property?

- Intellectual Property
- Patent
- Trademark
- Industrial Design
- Geographical Indication
- Copyright

- Reference: This section is a summary of the “What is Intellectual Property” from World Intellectual Property Organization (WIPO) wipo_pub_450.pdf

What is Intellectual Property ?

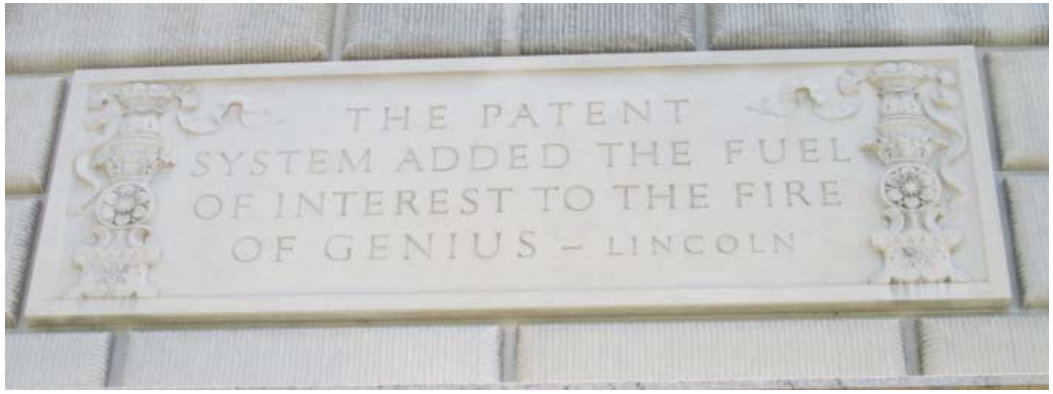
- Creations of the mind
  - Inventions
  - Literary and artistic works
  - Symbols, names, and images used in commerce
- 2 categories
  - Industrial Property
    - Patents for inventions
    - Trademarks
    - Industrial Designs and Geographical Indications
  - Copyright
    - Literary works: novels, poems, and plays
    - Films
    - Music
    - Artistic Works: Drawings, paintings, photographs, and sculptures
    - Architectural Designs

What are Intellectual Property Rights?

- Allows creators, or owners, of (1) **patents**, (2) **trademarks** , or (3) **copyrighted works** to benefit from their own works or investment in creation
- Universal Declaration of Human Rights, Article 27:
  - Right to benefit from the protection of **moral and material interests** resulting from authorship of scientific, literary or artistic productions.
- Paris Convention for the **Protection of Industrial Property** (1883)
- Berne Convention for the **Protection of Literary and Artistic Works (**1886)

What are Intellectual Property Rights?

- Why promote and protect intellectual property?



What are Intellectual Property Rights?

- Why promote and protect intellectual property?
  - First, the **progress and well-being of humanity** rest on its capacity to **create and invent new works** in the areas of technology and culture.
  - Second, the **legal protection of new creations encourages the commitment of additional resources** for further innovation.
  - Third, the promotion and protection of intellectual property **spurs economic growth**, creates new jobs and industries, and **enhances the quality** and enjoyment of life.

What is a Patent?

- A **patent**
  - an **exclusive right** granted for an invention – a **product** or **process** that provides a new way of doing something, or that offers a new technical solution to a problem.
  - provides patent owners with **protection** for their inventions.
  - Protection granted for a **limited period**, **generally 20 years.**

What is a Patent?

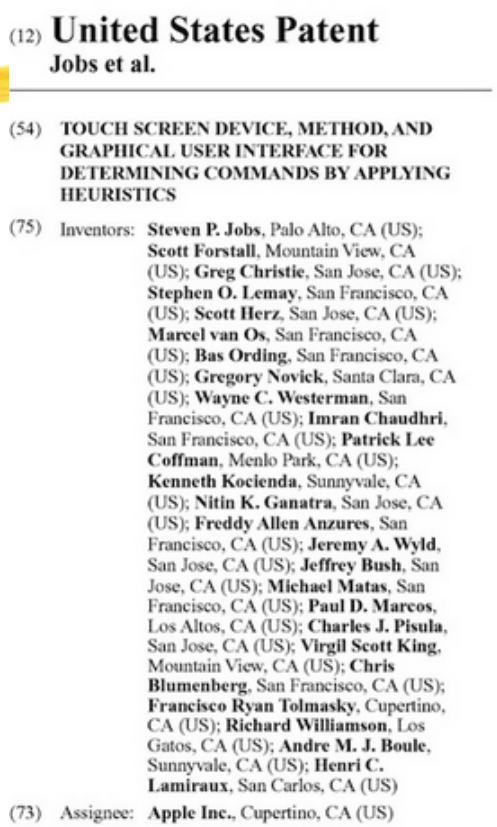
- **Patent Types**
  - **Utility Patents –** new and useful product/process
  - **Design Patents –** new design for an article of manufacture
  - **Plant Patents –** production of any distinct and new variety of plant

What is a Patent?

- What kind of protection?
  - Patent cannot be **commercially made, used, distributed or sold** without the patent owner's consent.
  - Patent rights, **enforced in courts** that hold the authority to stop **patent infringement**.
    - a court can also declare a patent **invalid** upon a successful challenge by a third party.

What is a Patent?

- What Role do Patents Paly in everyday life?
  - Patented inventions in every aspect of human life
    - **electric lighting** (patents held by Edison and Swan)
    - **sewing machines** (patents held by Howe and Singer)
    - **magnetic resonance imaging (MRI)** (patents held by Damadian)
    - **iPhone** (patents held by Apple).



(12) **United States Patent**
Jobs et al.

(54) **TOUCH SCREEN DEVICE, METHOD, AND GRAPHICAL USER INTERFACE FOR DETERMINING COMMANDS BY APPLYING HEURISTICS**

(75) Inventors: **Steven P. Jobs**, Palo Alto, CA (US); **Scott Forstall**, Mountain View, CA (US); **Greg Christie**, San Jose, CA (US); **Stephen O. Lemay**, San Francisco, CA (US); **Scott Herz**, San Jose, CA (US); **Marcel van Os**, San Francisco, CA (US); **Bas Ording**, San Francisco, CA (US); **Gregory Novick**, Santa Clara, CA (US); **Wayne C. Westerman**, San Francisco, CA (US); **Imran Chaudhri**, San Francisco, CA (US); **Patrick Lee Coffman**, Menlo Park, CA (US); **Kenneth Kocienda**, Sunnyvale, CA (US); **Nitin K. Ganatra**, San Jose, CA (US); **Freddy Allen Anzures**, San Francisco, CA (US); **Jeremy A. Wyld**, San Jose, CA (US); **Jeffrey Bush**, San Jose, CA (US); **Michael Matas**, San Francisco, CA (US); **Paul D. Marcos**, Los Altos, CA (US); **Charles J. Pisula**, San Jose, CA (US); **Virgil Scott King**, Mountain View, CA (US); **Chris Blumenberg**, San Francisco, CA (US); **Francisco Ryan Tolmasky**, Cupertino, CA (US); **Richard Williamson**, Los Gatos, CA (US); **Andre M. J. Boule**, Sunnyvale, CA (US); **Henri C. Lamiraux**, San Carlos, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

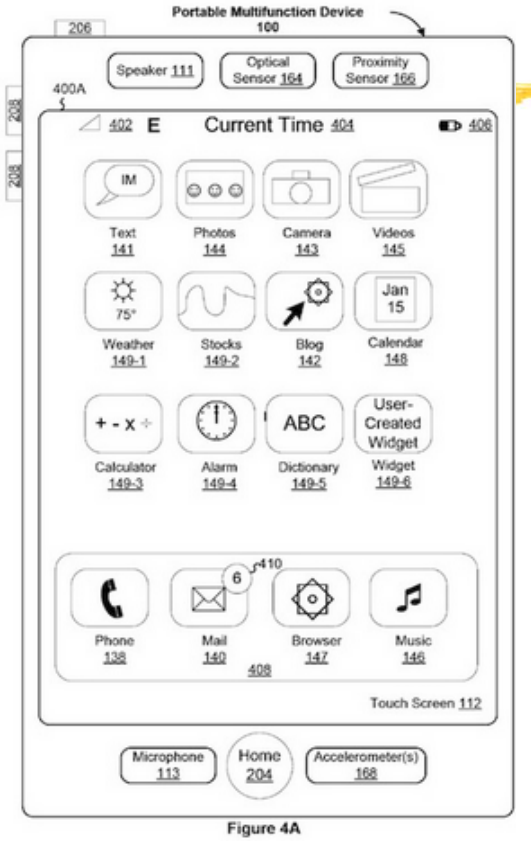


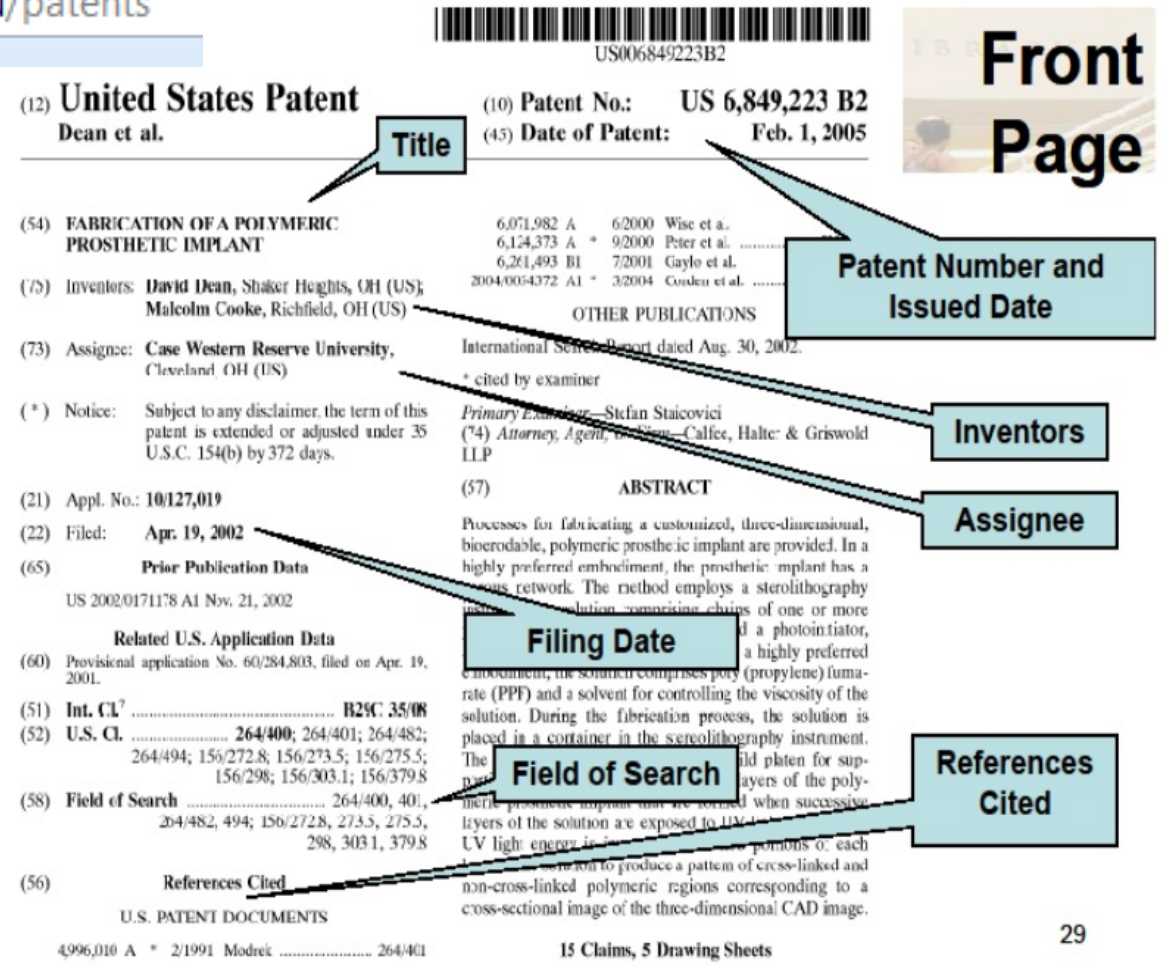
Figure 4A

What is a Patent?

- How is a patent granted?
  - **1** File a patent application.
  - 2 Content of the application
    - Title of the invention, as well as an indication of its Technical Field.
    - Background and a description of the invention, in clear language and enough detail that "an individual with an average understanding of the field could use or reproduce the invention."
    - Visual materials –drawings, plans or diagrams – that describe the invention in greater detail.
    - "claims", that is, information to help determine the extent of protection to be granted by the patent.
  - 3 Examination by Patent Examiners

Patent – Front Page

researchguides.case.edu/patents



US006849223B2

(12) **United States Patent**
Dean et al.

(10) **Patent No.: US 6,849,223 B2**
(45) **Date of Patent: Feb. 1, 2005**

(54) **FABRICATION OF A POLYMERIC PROSTHETIC IMPLANT**

(75) Inventors: **David Dean**, Shaker Heights, OH (US); **Malcolm Cooke**, Richfield, OH (US)

(73) Assignee: **Case Western Reserve University**, Cleveland, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 372 days.

(21) Appl. No.: **10/127,019**

(22) Filed: **Apr. 19, 2002**

(65) **Prior Publication Data**

US 2002/0171178 A1 Nov. 21, 2002

Related U.S. Application Data

(60) Provisional application No. 60/284,803, filed on Apr. 19, 2001.

(51) **Int. Cl.**[7] **B29C 35/08**

(52) **U.S. Cl.** **264/400**; 264/401; 264/482; 264/494; 156/272.8; 156/273.5; 156/275.5; 156/298; 156/303.1; 156/379.8

(58) **Field of Search** 264/400, 401, 264/482, 494; 156/272.8, 273.5, 275.5, 298, 303.1, 379.8

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Primary Examiner—Stefan Staicovici
(74) *Attorney, Agent, or Firm*—Calfee, Halter & Griswold LLP

(57) **ABSTRACT**

Processes for fabricating a customized, three-dimensional, bioerodable, polymeric prosthetic implant are provided. In a highly preferred embodiment, the prosthetic implant has a porous network. The method employs a sterolithography [illegible] solution comprising chains of one or more [illegible] a photoinitiator, a highly preferred embodiment, the solution comprises poly (propylene) fumarate (PPF) and a solvent for controlling the viscosity of the solution. During the fabrication process, the solution is placed in a container in the stereolithography instrument. The [illegible] platen for supporting layers of the polymeric prosthetic implant that are formed when successive layers of the solution are exposed to UV [illegible] UV light energy is [illegible] portions of each layer of the solution to produce a pattern of cross-linked and non-cross-linked polymeric regions corresponding to a cross-sectional image of the three-dimensional CAD image.

15 Claims, 5 Drawing Sheets

29

Front Page

Title

Patent Number and Issued Date

Inventors

Assignee

Filing Date

Field of Search

References Cited

General Information Concerning Patents --

uspto UNITED STATES PATENT AND TRADEMARK OFFICE

- Functions of the USPTO
  - grants patents for the protection of inventions and to **register** trademarks.
  - examines applications
  - publishes patent information, records assignments of patents,
  - maintains search files of U.S. and foreign patents,
  - maintains a search room for public use in examining issued patents and records.

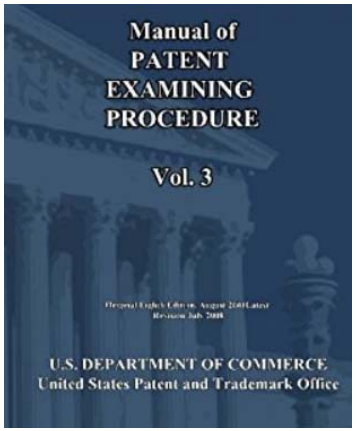
Google Patents

General Information Concerning Patents --

uspto UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Laws

- The **Constitution of the United States**
- Article I, section 8, "Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."
- The first patent law in 1790.
- Revision enacted July 19, 1952, and effect January 1, 1953 → codified in **Title 35, United States Code**.
- November 29, 1999, **American Inventors Protection Act of 1999 (AIPA)**.
- **The patent law specifies the subject matter for which a patent may be obtained and the conditions for patentability.**



UNITED STATES PATENT AND TRADEMARK OFFICE

What can/cannot be Patented

- The subject matter must be "**Useful**."
  - The term "useful" in this connection refers to the condition that the subject matter has a **useful purpose** and also includes **operative-ness**. (a machine which will not operate to perform the intended purpose would not be called useful, and therefore would not be granted a patent)
- **The laws of nature, physical phenomena, and abstract ideas are not patentable subject matter**.
- A patent **cannot be obtained upon a mere idea or suggestion**. A complete **description of the actual machine** or other subject matter is required.
- **Novelty** and **Non-Obviousness**

UNITED STATES PATENT AND TRADEMARK OFFICE

- **Novelty** and **Non-Obviousness**, Conditions for Obtaining a Patent
  - Must be **new** as defined in the patent law, which provides that an invention cannot be patented if:
    - "(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 [by the U.S.] or in an application for patent published or deemed published [by the U.S.], ……..."

UNITED STATES PATENT AND TRADEMARK OFFICE

Novelty and **Non-Obviousness**, Conditions for Obtaining a Patent

- Term "**otherwise available to the public**" refers to other types of disclosures of the claimed invention such as, for example,
  - an oral presentation at a scientific meeting,
  - a demonstration at a trade show,
  - a lecture or speech,
  - a statement made on a radio talk show,
  - a YouTube™ video, or
  - a website or
  - other on-line material.

UNITED STATES PATENT AND TRADEMARK OFFICE

Effective Filing Date

- The actual filing date of the U.S. **non-provisional patent application**.
- The filing date of the prior-filed **provisional application** provided the provisional application sufficiently describes the claimed invention.
- The filing date of a **prior-filed foreign patent application** to which foreign priority is claimed provided the foreign patent application sufficiently describes the claimed invention.

Example Patent

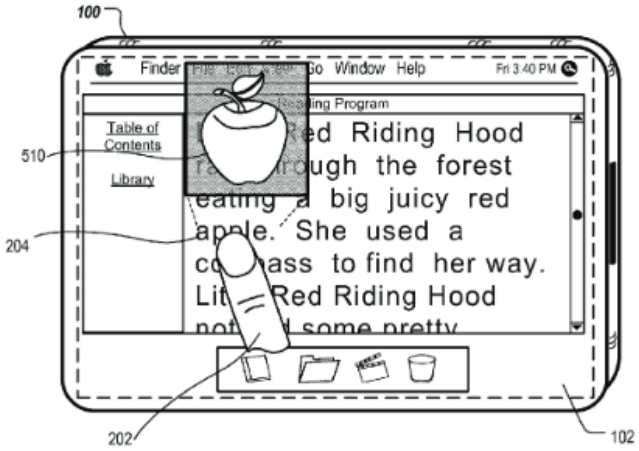
200 patents

Well as per the information available on the Web an iPhone has about **200 patents**. Weird as I was expecting more but this figure is based on some patent based research. Anyway this is just some data on some website. We can't believe anything on the Web unless it comes from official sources.

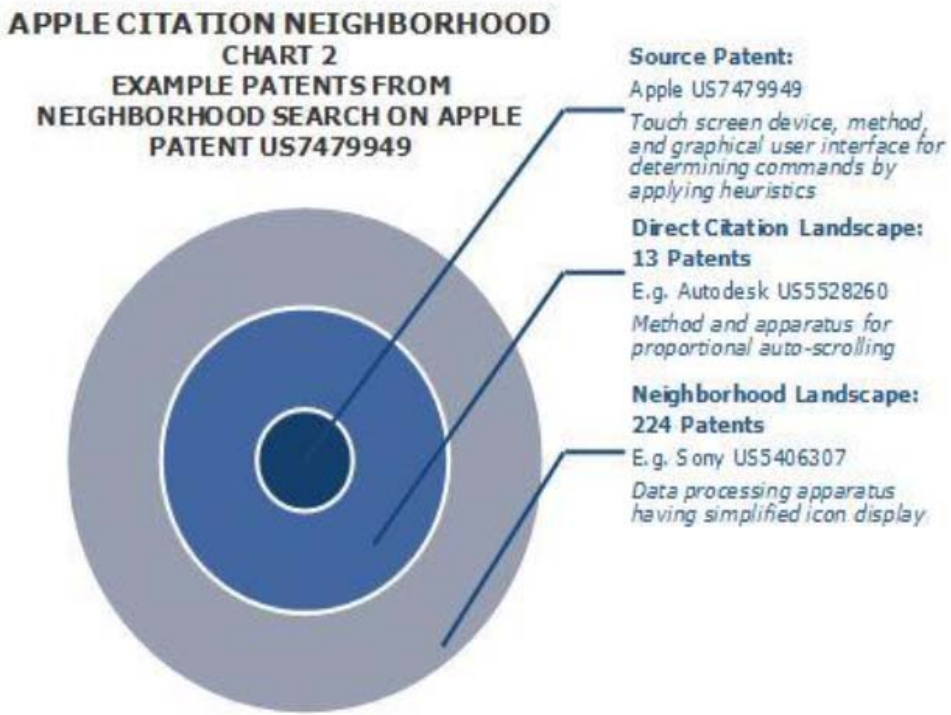
How many patents does an iPhone have? - Quora
https://www.quora.com/How-many-patents-does-an-iPhone-have

Assist Features for Content Display Device:
Patent # US20110167350, filed by Apple in January 2010, which addresses education by allowing users to interact with text via a touch-sensitive display in order to learn more about the text (see drawing).

ip-science.thomsonreuters.com/m/pdfs/iphone-report.pdf



Example Patent



ip-science.thomsonreuters.com/m/pdfs/iphone-report.pdf

CORE TECHNOLOGY AREAS OF APPLE PATENTS

FIGURE 1

TECHNOLOGY AREA	NUMBER OF INVENTIONS (PATENTS)
iPhone, Smartphone General	416
Camera	279
User Interface	232
Image Display/Screen	149
Battery/Power Control	88
Antenna	75
Calendar	31
Contact Management	15
Voice Control	5

Source: Derwent World Patents Index®

https://inovorg2011-2.wikispaces.com/file/view/2.1-How+many+patents+does+it+take+to+build+an+iPhone.pdf

Example Patent

US008897635B2

(12) **United States Patent**
Kim

(10) **Patent No.: US 8,897,635 B2**
(45) **Date of Patent: Nov. 25, 2014**

(54) **SYSTEM AND METHOD OF DETECTING AND LOCATING INTERMITTENT AND OTHER FAULTS**

(75) Inventor: **Charles J Kim**, Annandale, VA (US)

(73) Assignee: **Howard University**, Washington, DC (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 607 days.

(21) Appl. No.: **12/464,561**

(22) Filed: **May 12, 2009**

(65) **Prior Publication Data**

US 2010/0111521 A1 May 6, 2010

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/262,664, filed on Oct. 31, 2008, now Pat. No. 8,102,779.

(51) **Int. Cl.**

H04B 10/08	(2006.01)
G01R 31/06	(2006.01)
H01H 73/00	(2006.01)
G01R 31/28	(2006.01)
H04L 1/24	(2006.01)

(52) **U.S. Cl.**

(56) **References Cited**

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Taylor ["Line monitoring and fault location using spread spectrum on power line carrier" IEE Proc-Gener, Transm. Disturb., vol. 143 No. 5 Sep. 1996].*

(Continued)

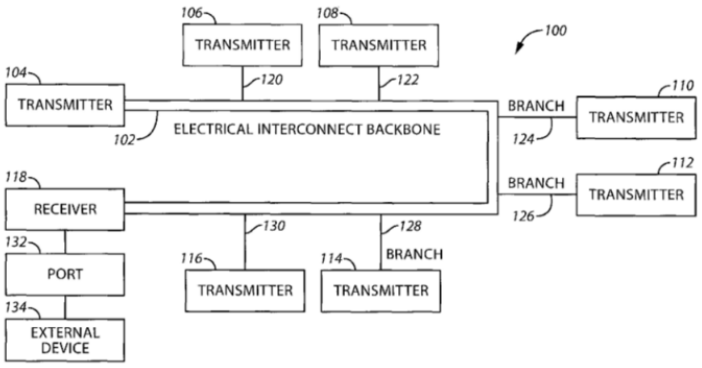
Primary Examiner — Oommen Jacob
(74) *Attorney, Agent, or Firm* — Fitch, Even, Tabin & Flannery LLP

(57) **ABSTRACT**

A signal is conducted from a controller module onto a network via a first coupling. The signal is transmitted across the

USPC 398/13, 9, 10; 370/242
See application file for complete search history.

22 Claims, 11 Drawing Sheets



What is claimed is:

1. A method for detecting intermittent electrical faults in a network comprising:

conducting a first signal from a first transmitter onto an electrical network via a first magnetic coupling, the electrical network including a plurality of segments of a transmission medium;

conducting a second signal from a second transmitter onto the electrical network via a second magnetic coupling;

transmitting the first signal and the second signal across the electrical network;

receiving selected ones of the first signal and the second signal at one or more receiver modules via one or more third magnetic couplings; and

at the one or more receiver modules, analyzing the received and unreflected first signal from the first transmitter and the received and unreflected second signal from the second transmitter, and determining from the analyzing of the received and unreflected first signal and the received and unreflected second signal whether an intermittent fault has occurred in one of the plurality of segments of

Example Patent

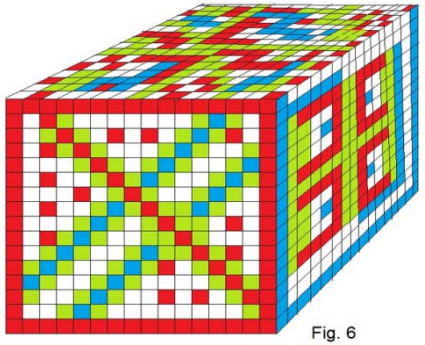


Fig. 6

Cellular Automata Application

Example Patent

(12) **United States Patent**
Kim

(10) **Patent No.: US 8,525,421 B2**
(45) **Date of Patent: Sep. 3, 2013**

(54) **LIGHTING APPARATUS AND METHOD**

(75) Inventor: **Charles J. Kim**, Annandale, VA (US)

(73) Assignee: **Howard University**, Washington, DC (US)

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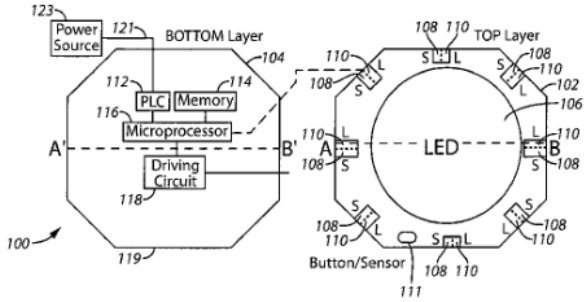
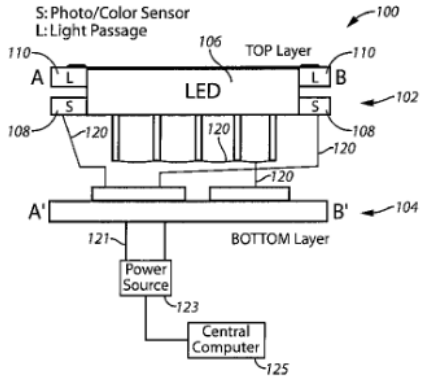
7,180,252	B2	2/2007	Lys et al.	

16 Claims, 17 Drawing Sheets





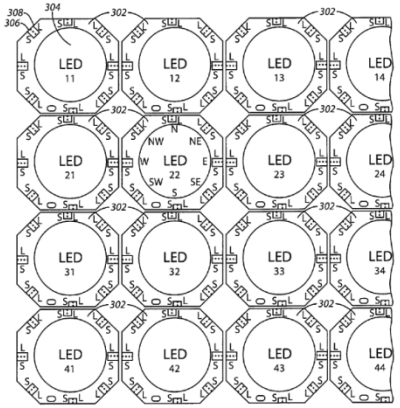


FIG. 3

Example - Copyright

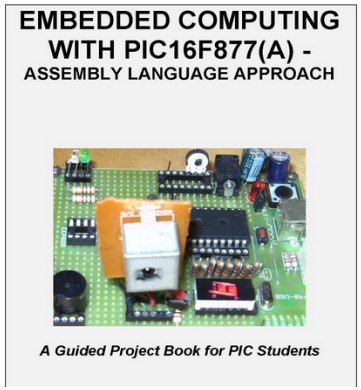
MWFTR

Embedded Computing with PIC16F877(A) *-Assembly Language Approach*

A complete guided project book for PIC students, 2006. p. 475

by Charles Kim, Ph.D.

Copyright Registration #: TX0008013944



- Embedded Computing with PIC 16F877-
  students - Topics covered, with full assembl
  download, LED light on/off, Piezo-electric b
  Voice synthesizer connection, DC **motor** con
  and Bipolar **Stepper** Motor control applicati
  external **serial EEPROM** application, **Inter**
  and **digital clock** application, **A/D conversio**
  communication, and so on. Again, complete source codes and subroutines for each every application and subject.

Certificate of Registration

This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Register of Copyrights, United States of America

Registration Number
TX 8-013-944
Effective Date of Registration:
July 30, 2014

Title

Title of Work: Embedded Computing with PIC16F877(A) - Assembly Language Approach

Completion/Publication

Year of Completion: 2006
Date of 1st Publication: September 01, 2006
Nation of 1st Publication: United States

Author

- **Author:** Charles Kim
  Author Created: text, photograph(s), computer program
  Citizen of: United States

Assignment #2 on Patent and Contemporary Issues

- Subject Title: Patent Dispute between Apple and Samsung
- Focus on
  - The technical (i.e., involved patents) issue of the litigation
  - What rulings have been made (and in which U. S. courts)
  - How much money was at stake

- Assignment Details
  - Write a technical article (following the principle of "**important things first and at the first paragraph**") on the subject regarding the focus items.
  - Submission: (a) **Word file: HW2_lastname.docx** and (b) **Hardcopy**
  - Grading: {First paragraph (10) + Entire Report (10) }x{ 1 – Similarity Score}
  - **Due: W 9/20/2017**
  - Individual Work