
Inventions, Patents and MIT Policy and Practice

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Outline

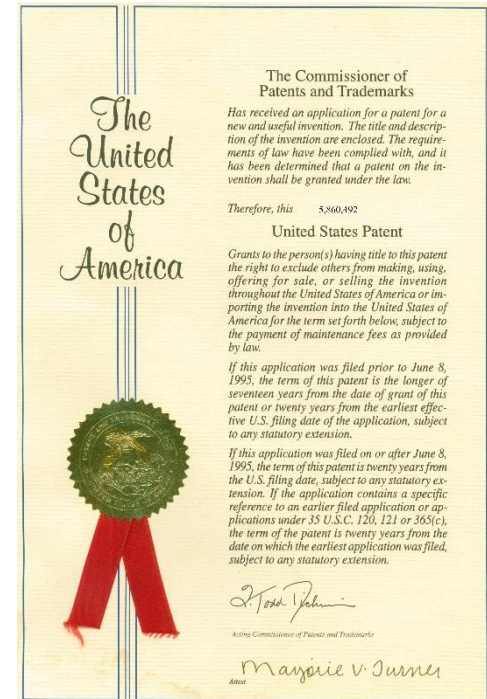
- Patents
- MIT Policy
- Licensing Philosophy
- Elements of the License Agreement
- Infringement
- Questions



What is a patent?

A grant by the government allowing you to exclude others from “making, using, selling, offering for sale, or importing” your invention for a period of 20 years.

US is now a First Inventor to File country



Types of Granted Patent Rights

1. Utility patent

- Machine - robot, motor, circuit
- Process - method of manufacturing
- Article of Manufacture - frying pan, hair comb
- Composition of Matter - chemical compound

2. Design patent

- ornamental design, appearance

3. Plant patent

- new and distinct variety of plant



Provisional Application

- Expires after 12 months
- Limited in its use
- Establishes an early filing date
- Strength of it depends on the construction



What's required to get a patent?

The invention must be:

1. Novel

- Cannot have been described in a printed publication, or in public use, on sale or otherwise available

2. Useful

- Solution to a problem

3. Not obvious

- Cannot have been obvious to one skilled in the art

Requirements for Patentability

Novelty

The disclosure rules:

- For the U.S.
 - Must file within one year following publication, public use, on sale, or otherwise publicly available
- For the rest of the world
 - Absolute novelty is required
 - Must file before first public disclosure
 - Oral disclosure counts!

Note – grace period, Paris convention, 1883:

Once you have a U.S. patent on file, it is okay to make public disclosures. The rest of the world gives us 12 months from the U.S. filing date to file applications in other countries.



Requirements for Patentability (continued)

Usefulness

- Usually not difficult to establish

Not Obvious

- Subjective, often difficult to establish
- Would one skilled in the field of the invention who has not seen the invention find it obvious?
- Factors considered
 - Commercial success attributable to inventive feature
 - Filling a long-felt need
 - Doing what others said could not be done or would not work



Kraft Snack 'n Seal Patent

- Kraft sued Kellogg for infringement
- Kellogg counterclaimed invalidity of the patent for obviousness
- CAFC Affirmed Invalid for obviousness



US006918532B2

(12) **United States Patent**
Sierra-Gomez et al.

(10) **Patent No.:** **US 6,918,532 B2**
(45) **Date of Patent:** **Jul. 19, 2005**

(54) **RESEALABLE FOOD CONTAINER**

3,235,165 A 2/1966 Jackson
3,272,422 A 9/1966 Miller

(75) Inventors: **Gladys Odette Sierra-Gomez**,
Woodbridge, NJ (US); **Eva Marie**
Peters, Cedar Grove, NJ (US); **Joseph**
Stiener, Warren, NJ (US); **Charles**
Francis Flynn, IV, Oak Ridge, NJ
(US); **James Spencer Mandle**,
Woodcliff Lake, NJ (US)

(Continued)

FOREIGN PATENT DOCUMENTS

EP 0 474 981 A1 3/1992
FR 1327914 5/1963

OTHER PUBLICATIONS

Patent Abstracts of Japan, vol. 1997, No. 10, Oct. 31, 1997
& JP 09 156677 A (Fuji Seal Co Ltd), (Jul. 6, 1997) abstract
in English and 7 figures.

(73) Assignee: **Kraft Foods Holdings, Inc.**, Northfield,
IL (US)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 119 days.

Primary Examiner—Bryon P. Gehman
(74) *Attorney, Agent, or Firm*—Stites & Harbison PLLC;
Marvin Petry

(21) Appl. No.: **10/414,502**

(22) Filed: **Apr. 16, 2003**

(65) **Prior Publication Data**

US 2004/0206637 A1 Oct. 21, 2004

(51) **Int. CL⁷** **B65D 65/26**; B65D 75/28;
B65D 85/00; B65D 25/10

(52) **U.S. CL** **229/87.08**; 206/459.1;
229/87.05; 383/203; 383/205; 426/119

(58) **Field of Search** 206/459.1, 807;
383/210–211, 203–206; 426/124, 122–123,
106, 119; 428/40.1, 41.7–41.8, 42.1; 229/87.05,
87.08

(56) **References Cited**

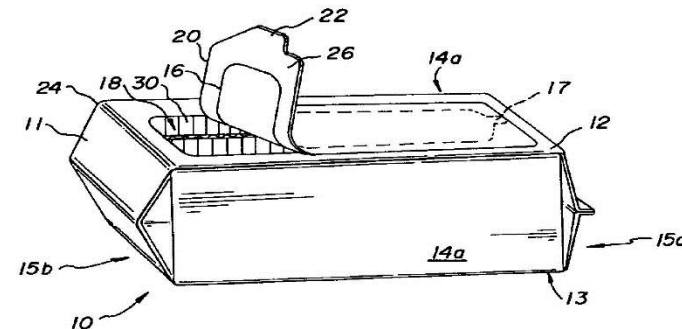
U.S. PATENT DOCUMENTS

1,171,462 A * 2/1916 Rice 229/87.05

(57) **ABSTRACT**

A container for a food product includes a wrapper which
surrounds a frame. The container can be any polygonal
shape which is defined by the shape of the frame. The
wrapper forms a top of the container which has an access
opening. A sealing layer is adhesively sealed to the top
around the opening. The sealing layer is resealable when a
tab of the sealing layer is pulled back. The sealing layer is
resealable against the top layer to seal the opening when the
sealing layer is moved back to a flat position on the top.
Various tamper-evident structures are provided to indicate
when the container has been initially opened or tampered
with.

25 Claims, 7 Drawing Sheets



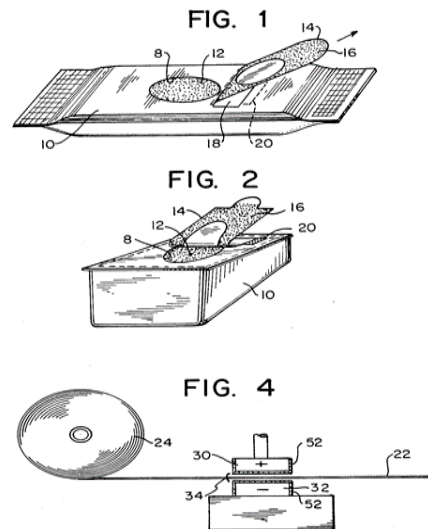
Claim 1

1. A polygonal shaped **food container** comprising:
 - a frame** defining the polygonal shape of the container,
 - said container having a top, a bottom and sides connecting the top and bottom,
 - the frame containing a food product comprised of discrete food articles;
 - a wrapper** surrounding said frame,
 - said wrapper forming the top, sides and bottom of the container;
 - said top having an access opening sufficiently large to provide hand access to substantially all of the discrete food articles contained within the frame,
 - such that substantially any one of the discrete food articles can be accessed and removed individually through said access opening; and
 - a sealing layer**, adhesively sealed to said top around said opening,
 - said sealing layer including a starter portion located near a side of the top which can be grasped by a user,
 - said sealing layer being releasable when said starter portion is pulled in a direction away from said side to in turn pull and thereby release at least a portion of said sealing layer to provide the hand access to said top access opening and
 - reclosable against said top to seal said opening when said sealing layer is moved back against the said top.



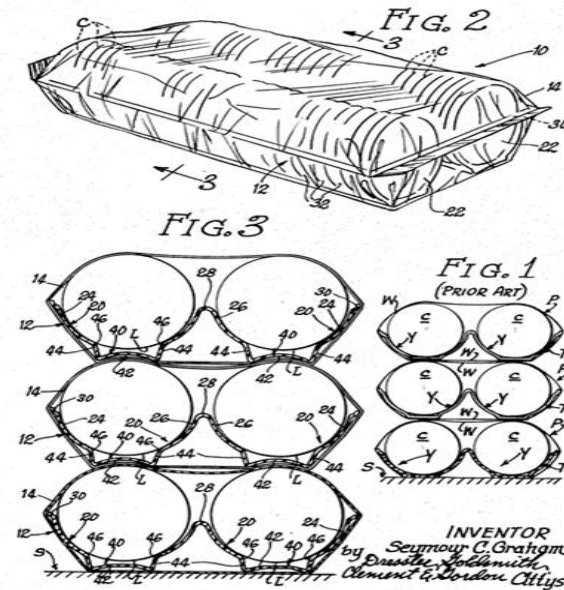
Prior Art

U.S. Patent Jun. 20, 1989 Sheet 1 of 2 4,840,270



Resealable "Wet Wipe" Dispenser

June 19, 1973 S. C. GRAHAM 3,740,238
STACKABLE COOKIE PACKAGE AND TRAY
Filed Jan. 4, 1971 2 Sheets-Sheet 1



Cookie Package and Tray

Reference ultimately used



Image from *Machinery Update* (2002)
Defs.' Ex. 13 at 59.



Image from *Machinery Update* (2001)
Defs.' Ex. 33 at 46.

Patenting Process @ MIT

- **Invention report (Technology Disclosure Form)**
 - Documents date of invention, provides no protection
- **Literature and patent search**
- **Patent application prepared and filed**
- **Patent Office responds ("Office Action")**
 - It may take well over a year to receive first "office action" rejecting most, if not all, claims
- **Reply to Patent Office**
 - Usually results in additional "final office action" rejecting some of the claims
- **Patent allowed**
- **Patent issued**
 - Typically 3 years after application was filed
- **Duration: 20 years from date application was filed**

Note: There is no "patent protection" until the patent issues.

Important Points

- A patent permits the owner to prohibit someone from using the invention without a “license”
 - License sets the terms under which the licensee can practice the patented invention. Upfront fees, royalties on sales, application limitations, geography, duration, etc.
- Having a patent doesn't necessarily allow the patent owner the right to use the invention because
- The use of any invention may infringe someone else's patent



Patent Example

Stool

A piece of furniture intended to be used by a person for sitting comprising

- a horizontal platform supported by three or more vertically disposed rods which fix the platform at a height more than 12 inches and less than 30 inches above a horizontal surface parallel to the horizontal platform.

Chair

A piece of furniture intended to be used by a person for sitting comprising

- a horizontal platform supported by three or more vertically disposed rods which fix the platform at a height more than 12 inches and less than 30 inches above a horizontal surface parallel to the horizontal platform, and
- a vertical element attached to one side of the horizontal platform against which a seated person may place his/her back for comfort.

Non-U.S. Patents

- **Paris Convention**
 - Twelve-month grace period
- **Patent Cooperation Treaty**
 - Covers most countries
 - Buys time – delays expense
 - Preliminary examination
- **National filings**
 - Translations
 - Annuities



M.I.T. Policy

- **M.I.T. owns the patent or copyright except when:**
 - Not invented under sponsored research, and
 - Made no significant use of M.I.T. administered funds or M.I.T. facilities
- **If industrially sponsored, sponsor(s) has the right to request a license. Non-exclusive license is essentially free; exclusive license, if available, is royalty-bearing**
- **If government sponsored, M.I.T. notifies sponsor of invention disclosure and M.I.T. must decide if it will file a patent application within two years**
 - If “yes”, government gets a royalty-free, government-purposes license
 - If “no”, M.I.T. waives its ownership right to the government agency that sponsored research; the agency may decide to file a patent application on behalf of the US government
- **After recovery of costs and 15% to fund the Technology Licensing Office (TLO), inventors receive one-third of license revenue**



Philosophy

- **Primary objective is to transfer technology**
 - Achieve commercial reality for invention
 - Not trying to obtain maximum \$\$\$
 - **Seek patent protection**
 - Necessary for successful licensing
 - No one wants to be first with un-protected, innovative product (Much better to be second)
 - **License exclusively**
 - Immature technology is high-risk, need potential for high reward
 - Exclusivity makes it easier to attract investment
 - **Don't let financial greed obstruct licensing**
 - If licensee successful, everyone will win
 - Set running royalty to be a small fraction of added profit
-



Elements of the License Agreement

- **Definitions, especially field of use**
 - Example: “...automotive safety applications related to occupant sensing.”
- **Grant of rights**
 - To make, have made, use, sell, lease and import
 - To sublicense
- **Retained rights**
 - For M.I.T. research, teaching and educational purposes
 - For government
 - For industrial sponsor
- **Exclusivity**
 - For specific field of use
 - Limited term (not always)

Elements of the License Agreement (continued)

- **Diligence**
 - Business plan
 - Obtain \$xx Million capitalization
 - Fund \$yy million in research (internal or at M.I.T.)
 - Perform against product development plan
 - Working model by <date>
 - Cumulative product sales (units and/or \$\$) by <dates>
- **Failure to perform as specified may result in loss of license!**
- **Royalties**
 - License issue fee
 - Equity
 - License maintenance fee, creditable to royalties
 - Royalty on product sales, generally a % of sales
 - Share of sublicense income
- **Patent cost reimbursement**



Typical Terms

- **Exclusive**
- **Field of Use: Limited**
- **License Issue Fee: \$25 - \$100K**
- **Royalty: 3-5%**
- **Minimum annual royalty: escalates over time**
- **Equity: 5% after significant funding**
 - **Startups**
 - **In partial lieu of License Issue Fee**
- **Patent expense reimbursement**



Sample Companies

- **OmniGuide – optical waveguide**
- **Editas Medicine - CRISPR**
- **Elesys – smart sensor for airbag deployment**
- **Alnylum Pharma - SiRNA**
- **Sony, Moto, Panasonic, Samsung, LG, etc. - DTV**
- **Carl Zeiss Meditec – Optical Coherence Tomography (OCT)**
- **LightLabs (now St. Jude) Imaging – OCT**
- **Zimmer - prostheses**
- **Neurometrix – neural monitors**
- **Cytec – water purification polymers**
- **Momenta Pharma – heparin (anticoagulant) products**
- **Z Corp – 3D printers**
- **Ambri (formerly Liquid Metal Battery)**
- **QD Vision (acquired by Samsung) – quantum dot nanomaterial**



MIT Licensing Office 2017

• Staff	42
Officers	12
Associates	12
Support	18
• Technology Disclosures	794
• Patents filed (new US utility apps)	271
• Patent issued (all US utility)	298
• Licenses and Options	
Licenses (start-ups)	101 (25)
Options	36
• Active agreements	~900



MIT Licensing Office FY 2017

- **Royalty income** \$27.0 million
- **Equity cash-in** \$ 5.6 million
- **Operating expense** \$ 5.5 million
- **Litigation & Audit** \$ 0.9 million
- **Patent expense** \$21.6 million
(Reimbursement = \$10.7 million)
- **Inventors** \$ 7.9 million
- **Other institutions** \$ 3.2 million
- **MIT (DLCs and GIB)** \$23.9 million



Enforcement

Infringement	Defenses
Unauthorized making, using, offer of sale, selling, or importing	What the entity does is not infringement
Patentee may sue for: <ul style="list-style-type: none">✓ an injunction✓ damages (\$\$\$)✓ ITC ban on imports	Invalidity of the patent

Patent Solution Readiness

When to Invest in Patent Protection

Pregame Research Early Stage Iterative Investment	Prior Art Search Patent Scout – http://tlo.mit.edu/learn-about-intellectual-property/conduct-your-own-patent-search USPTO – https://www.uspto.gov Entity Size Discounts for small business
Value to VCs/Angels	Where to file Focus on US and EP initially How many to file File 1-2 patents but with a robust specification Assignments Clear chain of title all the way through Avoid issues of ownership Disclosure Don't disclose if you don't have to Use Confidentiality Agreements even if patent is published
Do I Need an Attorney?	BU Law Clinic, IAP, USPTO Recommend hiring an attorney but first use all resources



Questions

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