

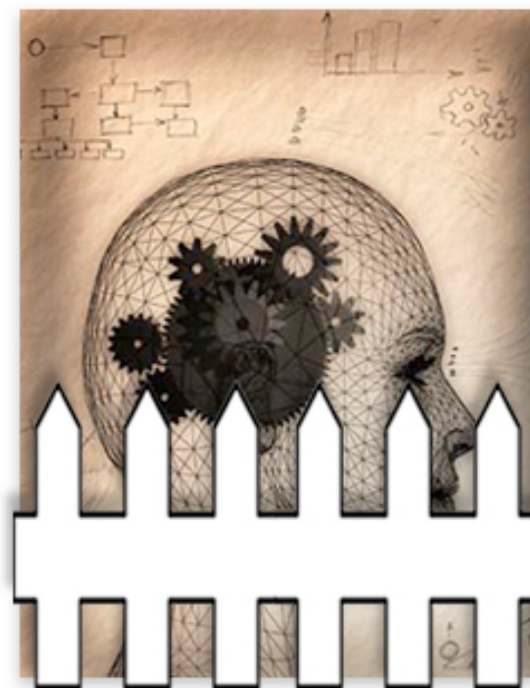
Rethinking Intellectual Property: History, Theory, and Economics

History and Law

Stephan Kinsella

C4SIF.org, Mises.org

Mises Academy
March 22, 2011



How I got here

- ▶ It usually begins with Ayn Rand...
- ▶ Law school...
- ▶ The Firm



How I got here (cont.)

- ▶ Mises
- ▶ Rothbard
- ▶ Hoppe



Overview of Course

1. History and Law: overview of modern IP law. Historical Origins of copyright and patent. Overview of justifications for IP
2. Property, Scarcity, and Ideas (the nature of property rights, role of scarcity, and the function of the market)
3. Examining the Utilitarian Case for IP
4. Examining Rights-Based Arguments for IP: creation as a source of rights
5. Integrating IP Theory with Austrian Economics and Libertarian Theory
6. FUTURE: Proposed Reforms; Imagining a post-IP world; the future of open vs. closed

Readings

- ▶ AIP = Kinsella, *Against Intellectual Property*
- ▶ AIM = Boldrin & Levine, *Against Intellectual Monopoly*
 - Both available at <http://c4sif.org/resources/>
- ▶ This week
 - Legal Background: AIP, pp. 9–14; Various optional readings
 - History
 - ▶ AIM, ch. 2, pp. 33–35 ("World Before Copyright" section); ch. 3, pp. 48–51 ("World Without Patent" section)
 - ▶ AIP, pp. 9–14
 - ▶ Various online articles on patent and copyright history
 - ▶ Various optional readings

Law: Intellectual Property: A Type of Property?

- ▶ Real property (land)
- ▶ Personal property (cars, apples, gold)
- ▶ Intellectual “Property”?

Law: What is Intellectual Property?

- ▶ Intellectual property is a broad concept that covers several types of legally recognized rights arising from some type of intellectual creativity, or that are otherwise related to ideas.
- ▶ IP rights are rights to intangible things—to ideas, as expressed (copyrights), or as embodied in a practical implementation (patents).
- ▶ IP rights are rights in ideal objects, “which are distinguished from the **material substrata** in which they are **instantiated**.”

Law: What is Intellectual Property? (cont.)

- ▶ **Four traditional types**
 - **Patent**
 - **Copyright**
 - ▶ Moral Rights
 - ▶ Common law copyright
 - Trade secret
 - Trademark
 - ▶ Domain name implications
- ▶ **Reputation rights**
 - Defamation (libel and slander)
- ▶ **Newer IP “innovations”**
 - Database rights
 - Semiconductor maskworks
 - Boat hull designs

What is a Copyright?

- ▶ a right given to authors of “original works,” such as books, articles, movies, and computer programs.
- ▶ Copyright gives the exclusive right to **reproduce** the work, **prepare derivative** works, or to perform or present the work publicly.
- ▶ Copyrights protect only the form or expression of ideas, not the underlying ideas themselves.
- ▶ Basically: a legal right granted by a state agency to allow the holder to petition state

What is a Copyright?

- ▶ Protects “original works of authorship” that are fixed in a tangible form of expression
 - Examples: song lyrics, novels, paintings
- ▶ Author given the exclusive rights to:
 - **reproduce** the work
 - prepare **derivative works**, or
 - to perform or present the work publicly
- ▶ Term: life of the author plus **seventy years**, or 95 years if a work for hire.

What is a Copyright?

- ▶ Copyright Secured Automatically upon Creation
 - No publication, registration, or “copyright notice” is necessary
 - Common misconception

I have a copyright in this page.

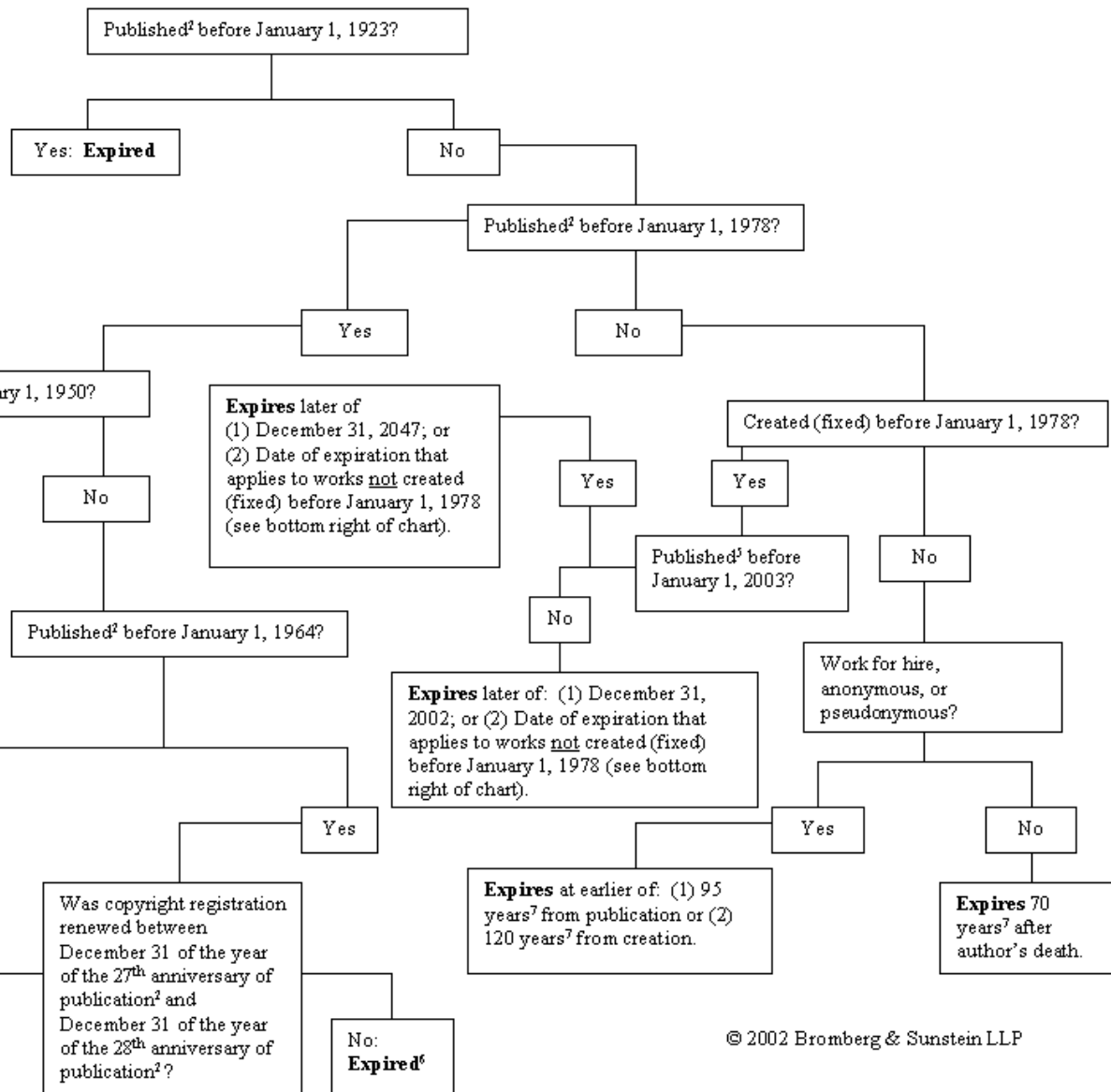
- ▶ And a self-referential one at that!
- ▶ You can't copy me and I can't be "copyrighted"
 - (Copyright is a noun, not a verb)

FLOWCHART FOR DETERMINING WHEN U.S. COPYRIGHTS IN FIXED¹ WORKS EXPIRE

EFFECT OF COPYRIGHT NOTICE

Published before March 1, 1989: Publication without copyright notice caused works to enter to public domain, subject to certain exceptions.³

Published on or after March 1, 1989: Copyright notice not required.⁴



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What is a Patent?

- ▶ a property right in inventions
 - in devices or processes that perform a “useful” function.
 - grants the inventor a **limited monopoly** on the manufacture, use, or sale of the invention.
 - patent actually only grants to the patentee the **right to exclude** (i.e., to prevent others from practicing the patented invention); it does not actually grant to the patentee the right to use the patented invention.
 - Prosecution and “red ribbon copy” (above right)
- ▶ three categories of subject matter that are unpatentable: “laws of nature, natural phenomena, and abstract ideas.”
- ▶ Since 1995, patents last from the date of issuance until twenty years from the original filing date of the patent application (the previous term was seventeen



What is a Patent?(cont.)

- ▶ Basically, patent law allows someone to petition one state agency for a monopoly privilege,
- ▶ Which can be used to sue competitors in the state's courts
- ▶ Like copyright, it's a state-granted right that allows the holder to petition state courts to penalize people "infringing" the patent grant

What is a Patent? (cont.)

- ▶ Utility, plant, and design patents
- ▶ Utility patents: for inventions
- ▶ Obtain by filing a “patent application” with a government agency
 - It’s examined by an “Examiner” and then later “issues” as an issued patent
- ▶ Gives patentee “the right to **exclude** others from **making, using, offering for sale, or selling**” the invention in the United States or “**importing**” the invention into the United States.
 - What is granted is not the **right** to make, use, offer for sale, sell or import, but the **right to exclude** others from making, using, offering for sale, selling or importing the invention.

What is a Patent? (cont.)

- ▶ Utility patent has parts:
 - Abstract, Title, Inventors, Assignee (owner)
 - Detailed Description
 - Drawings
 - **Claims:** the “metes and bounds”—the claimed “property”

Sample Independent Patent “Claim”

▶ Pat No. [6,560,259](#): Independent claim 1:

- “1. A unipolar surface emitting semiconductor laser having a wide lasing region for producing a spatially coherent output beam **comprising**:
 - ▶ [a] a **semiconductor resonance cavity** for producing a laser mode of diverging counter-propagating traveling wave beams of light derived from unipolar inter-subband transitions within the wide lasing region of the semiconductor laser;
 - ▶ [b] a **diffraction grating** for resonantly coupling the diverging counter-propagating traveling wave beams while also coupling a portion of the traveling wave beams into an output beam transverse to the wide lasing region; and
 - ▶ [c] a **semiconductor layer** for coating with the traveling wave beams of the resonance cavity and having an effective index of refraction that varies quadratically in a direction transverse to the traveling wave beams of light with the lowest values thereof at centralized portions of the laser and higher values thereof at noncentralized portions of the laser.”

Sample Dependent Patent “Claims”

- ▶ Pat No. [6,560,259](#): Dependent claims:
 - “2. The laser of claim 1, **wherein** the diffraction grating comprises a second order Bragg grating.”
 - “3. The laser of claim 1, **further comprising** a reflecting surface spaced from the grating such that a portion of the output beam that is reflected from the reflecting surface before being combined with other portions of the output beam remains in-phase with the other portions of the output beam.”

- (54) **SPATIALLY COHERENT SURFACE-EMITTING, GRATING COUPLED QUANTUM CASCADE LASER WITH UNSTABLE RESONANCE CAVITY**
- (75) **Inventor:** Wen-Yen Hwang, Sugar Land, TX (US)
- (73) **Assignee:** Applied Optoelectronics, Inc., Sugar Land, TX (US)
- (*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 149 days.
- (21) **Appl. No.:** 09/854,800
- (22) **Filed:** May 14, 2001

Related U.S. Application Data

- (60) Provisional application No. 60/208,112, filed on May 31, 2000.
- (51) **Int. Cl.**⁷ **H01S 3/08**
- (52) **U.S. Cl.** **372/45; 372/43; 372/102**
- (58) **Field of Search** 372/45, 102, 46, 372/43, 50; 438/31; 385/37; 359/34, 500

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U.S. PATENT DOCUMENTS

5,457,709	A	10/1995	Capasso et al.	
5,468,656	A	11/1995	Shieh et al.	
5,509,025	A	4/1996	Capasso et al.	
5,568,311	A	10/1996	Matsumoto	372/46
5,727,016	A	3/1998	Paxton	
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(List continued on next page.)

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Luo et al., "Grating-Tuned External-Cavity Quantum-Cascade Semiconductor Lasers," *Applied Physics Letter*, vol. 78, No. 19, (2001), pp. 2834-2836.

(List continued on next page.)

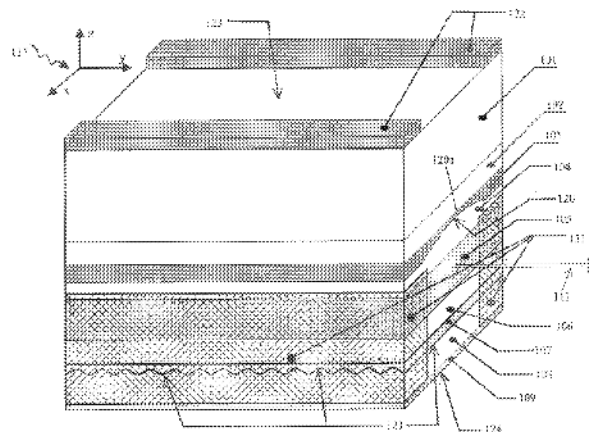
Primary Examiner—Albert W. Paladini

(74) *Attorney, Agent, or Firm*—N. Stephan Kinsella

(57) **ABSTRACT**

A surface emitting, unipolar, quantum cascade semiconductor laser is constructed of a multilayer semiconductor structure on a substrate. The laser has doped semiconductor material only of one conductivity type. The laser includes a core region having a larger effective refractive index than cladding regions. The core region includes a plurality of repeat units, each repeat unit having a nominally identical active region and a carrier injection and relaxation region. The repeat units are for quantum cascade generation of a lasing resonance mode within a lasing resonance cavity of the multilayer semiconductor structure. A diffraction grating is fabricated within the multilayer semiconductor structure. The grating resonantly couples diverging counter-propagating traveling wave beams of the laser resonance mode while also diffracting light into an upward direction perpendicular to a grating plane and toward the substrate surface, and also into a downward direction. A mirror reflects the downwardly coupled light toward the upward direction again. The optical distance between reflecting mirror and the grating is selected to combine the reflected light with the upwardly coupled light in-phase as the output beam. A lens-like media structure having an effective refractive index profile that varies quadratically in a direction transverse to the laser resonance cavity is included in the multilayer semiconductor structure. The lowest value of the profile is located at a central portion of the laser. The profile monotonically increases moving away from the central portion. The lens-like media structure interacts with the counter-propagating traveling wave beams to provide single mode output.

47 Claims, 5 Drawing Sheets



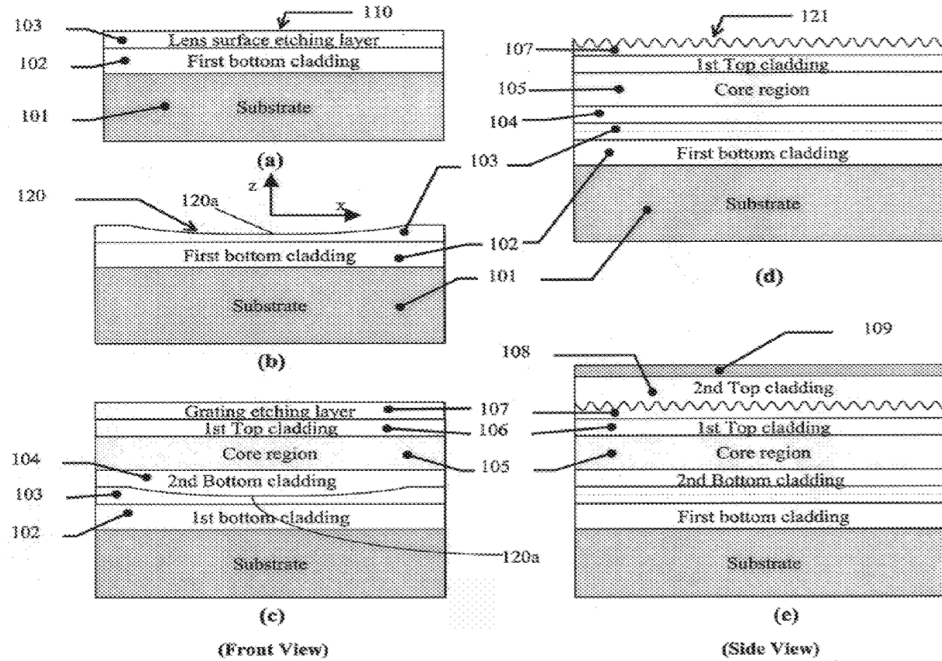


Fig. 3 300

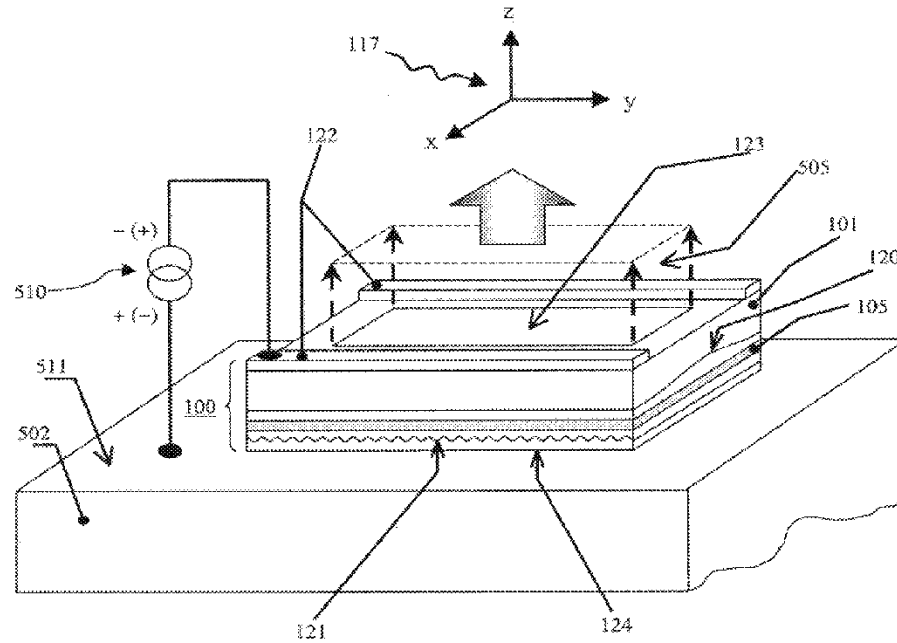


Fig. 5 500

**SPATIALLY COHERENT SURFACE-
EMITTING, GRATING COUPLED
QUANTUM CASCADE LASER WITH
UNSTABLE RESONANCE CAVITY**

**CROSS-REFERENCE TO RELATED
APPLICATION**

This application claims the benefit of U.S. provisional application No. 60/208,112, filed May 31, 2000, which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to sources of electromagnetic laser radiation and, in particular, to unipolar semiconductor quantum cascade (QC) lasers and fabrication thereof.

2. Description of the Related Art

The following descriptions and examples are not admitted to be prior art by virtue of their inclusion within this section.

Lasers have a wide range of industrial and scientific uses. There are several types of lasers, including gas lasers, solid-state lasers, liquid (dye) lasers, and free electron lasers. Semiconductor lasers are also in use. The possibility of amplification of electromagnetic waves in a semiconductor superlattice structure, i.e., the possibility of semiconductor diode lasers, was predicted in a seminal paper by R. F. Kazarinov, et al., "Possibility of the Amplification of Electromagnetic Waves in a Semiconductor with a Superlattice," *Soviet Physics Semiconductors*, vol. 5, No. 4, pp. 707-709 (October 1971). Semiconductor laser technology has continued to develop since this discovery.

There are a variety of types of semiconductor lasers. Semiconductor lasers may be diode lasers (bipolar) or non-diode lasers such as quantum cascade (QC) lasers (unipolar). Semiconductor lasers of various types may be electrically pumped (by a DC or AC current), or pumped in other ways, such as by optically pumping (OP) or electron beam pumping. Semiconductor lasers are used for a variety of applications and can be built with different structures and semiconductor materials, such as gallium arsenide.

Additionally, semiconductor lasers may be edge-emitting lasers or surface-emitting lasers (SELS). Edge-emitting semiconductor lasers output their radiation parallel to the wafer surface, while in SELs, the radiation is output perpendicular to the wafer surface. One type of SEL is the vertical cavity surface emitting laser (VCSEL). The VCSEL structure usually consists of an active (gain) region sandwiched between two distributed Bragg reflector (DBR, or mirror stack) mirrors. The DBR mirrors of a typical VCSEL can be constructed from dielectric or semiconductor layers (or a combination of both, including metal mirror sections). Other types of VCSELs sandwich the active region between metal mirrors. The area between the reflective planes is often referred to as the resonator, or resonance cavity.

Semiconductor diode lasers are attractive as sources of optical energy in industrial and scientific applications. For example, semiconductor diode lasers have a relatively small volume and consume a small amount of power as compared to conventional laser devices. Also, semiconductor diode lasers are monolithic devices that do not require combining a resonance cavity with external mirrors and other structures to generate a coherent output laser beam. Further, the continuous development of semiconductor lasers in the last two decades has significantly improved their maximum output power to the kilowatt range, spanning wavelengths of

more than 10 μm . Semiconductor lasers are now widely used in industrial processing, telecommunications, data storage, and the like. Despite these improvements, however, semiconductor diode lasers still have a relatively low power output, as compared to other, conventional types of laser devices.

Semiconductor diode lasers, including quantum well lasers, are bipolar semiconductor laser devices. A diode laser typically has n-type layers on one side, and p-type layers on the other side, of an undoped active or core region. Such bipolar laser devices rely on transitions between energy bands in which conduction band electrons and valence band holes, injected into the active region through a forward-biased p-n junction, radiatively recombine across the bandgap. Thus, in diode lasers, the bandgap of the available active region materials essentially determines, and limits, the lasing wavelength. For example, the longer the laser wavelength needed, the smaller the required material bandgap, and vice versa. Unfortunately, the characteristics of small bandgap materials can make it difficult, expensive, or impractical to obtain lasing operation at certain desired wavelengths, such as mid-infrared (mid-IR or MIR) wavelengths.

Semiconductor lasers are typically powered by applying an electrical potential difference across the active region, which causes a current to flow therein. Electrons in the active region attain high energy states as a result of the potential applied. When the electrons spontaneously drop in energy state, photons are produced. Some of those photons travel in a direction perpendicular to the reflective planes of the laser. As a result of the ensuing reflections, the photons can travel through the active region multiple times. When those photons interact with other high energy state electrons, stimulated emission can occur so that two photons with identical characteristics are present. If most electrons encountered by the photons are in the high energy state, the number of photons traveling between the reflective planes tends to increase. A typical laser includes a small difference in reflectivity between its mirrors. The primary laser output is emitted through the reflective plane having lower reflectivity.

The aforementioned QC was initially described in U.S. Pat. No. 5,457,709, which is incorporated herein by reference in its entirety. See also U.S. Pat. Nos. 5,509,025, 5,901,168, and U.S. Pat. No. 6,055,257, which are incorporated herein by reference in their entireties. Unlike diode lasers, QC lasers are unipolar, that is, they are based on one type of carrier (typically electrons in the conduction band), which make inter-subband transitions between energy levels created by quantum confinement. In a unipolar semiconductor laser, electronic transitions between conduction band states arise from size quantization in the active region heterostructure. The inter-subband transitions are between excited states of coupled quantum wells for which resonant tunneling is the pumping mechanism.

A single active region unipolar semiconductor laser is possible, but multiple active regions may be used as well. QC lasers, for example, typically comprise an active region having a plurality (e.g., 25) of essentially identical undoped active regions, sometimes referred to as radiative transition (RT) regions. Each active (RT) region comprises a plurality of semiconductor layers, and has quantum well regions interleaved with barrier regions, to provide two or more coupled quantum wells. These coupled quantum wells have at least second and third associated energy states for the charge carriers (e.g. electrons). The second energy state is of lower energy than the third energy state, which correspond

toward the +z direction as part of the output laser beam, as described above. An unstable resonance cavity structure has a lens-like media structure to cause beam divergence of the counter-propagating light, which advantageously prevents filamentation effects that cause multimode lasing under high injection current. The combined effect of the grating and the unstable resonance cavity allows the laser to maintain a narrow spectral, single mode, and small diffraction output at high injection current. The output light emitted from the surface area 123 is slightly larger than the current confined stripe area, which is the area between the two regions 122 in FIGS. 1 and 5.

It will be understood that various changes in the details, materials, and arrangements of the parts which have been described and illustrated above in order to explain the nature of this invention may be made by those skilled in the art without departing from the principle and scope of the invention as recited in the following claims.

What is claimed is:

1. A unipolar surface emitting semiconductor laser having a wide lasing region for producing a spatially coherent output beam comprising:

a semiconductor resonance cavity for producing a laser mode of diverging counter-propagating traveling wave beams of light derived from unipolar inter-subband transitions within the wide lasing region of the semiconductor laser;

a diffraction grating for resonantly coupling the diverging counter-propagating traveling wave beams while also coupling a portion of the traveling wave beams into an output beam transverse to the wide lasing region; and

a semiconductor layer for coating with the traveling wave beams of the resonance cavity and having an effective index of refraction that varies quadratically in a direction transverse to the traveling wave beams of light with the lowest values thereof at centralized portions of the laser and higher values thereof at noncentralized portions of the laser.

2. The laser of claim 1, wherein the diffraction grating comprises a second order Bragg grating.

3. The laser of claim 1, further comprising a reflecting surface spaced from the grating such that a portion of the output beam that is reflected from the reflecting surface before being combined with other portions of the output beam remains in-phase with the other portions of the output beam.

4. The laser of claim 2, wherein the diffraction grating comprises a second Bragg order grating.

5. The laser of claim 1, wherein the semiconductor layer comprises a trough to provide the effective index of refraction variation.

6. A surface emitting semiconductor laser having longitudinal and lateral dimensions, and a transverse dimension perpendicular thereto, a wide active lasing region perpendicular to the transverse dimension for producing a spatially coherent output beam comprising:

a semiconductor resonance cavity producing a laser mode of diverging counter-propagating traveling wave beams of light derived from unipolar inter-subband transitions within an active region of the semiconductor laser and along a centralized axis parallel to the longitudinal dimension; and

a diffraction grating for resonantly coupling the diverging counter-propagating traveling wave beams while also coupling a portion of the traveling wave beams into an output beam transverse to the centralized axis; and

a semiconductor layer for coating with the traveling wave beams and having an effective index of refraction that varies quadratically in a direction transverse to the centralized axis, with lowest values thereof at centralized portions proximate or on the centralized axis of the laser and higher values thereof at noncentralized portions of the laser.

7. The laser of claim 6, wherein the diffraction grating comprises a second order Bragg grating.

8. The laser of claim 6, wherein the semiconductor layer comprises a trough to provide the effective index of refraction variation.

9. The laser of claim 8, wherein the diffraction grating comprises a second order Bragg grating.

10. A unipolar surface emitting semiconductor laser having longitudinal and lateral dimensions, and a transverse dimension perpendicular thereto, and a wide active lasing region perpendicular to the transverse dimension for producing a spatially coherent output beam comprising:

a semiconductor resonance cavity for producing a laser mode of diverging counter-propagating traveling wave beams of light derived from unipolar inter-subband transitions within an active region of the semiconductor laser and along a centralized axis parallel to the longitudinal dimension;

a diffraction grating having grooves extending perpendicular to the longitudinal axis for resonantly coupling the diverging counter-propagating traveling wave beams while also coupling a portion of the traveling wave beams into an output beam perpendicular to the centralized axis; and

a semiconductor layer for coating with the traveling wave beams and having an effective index of refraction that varies quadratically in a direction perpendicular to the centralized axis, with the lowest value thereof at centralized portions of the laser and the higher values thereof at noncentralized portions of the laser proximate the centralized axis.

11. A unipolar semiconductor laser, comprising:

a multilayer semiconductor structure comprising: doped semiconductor material of only one conductivity type;

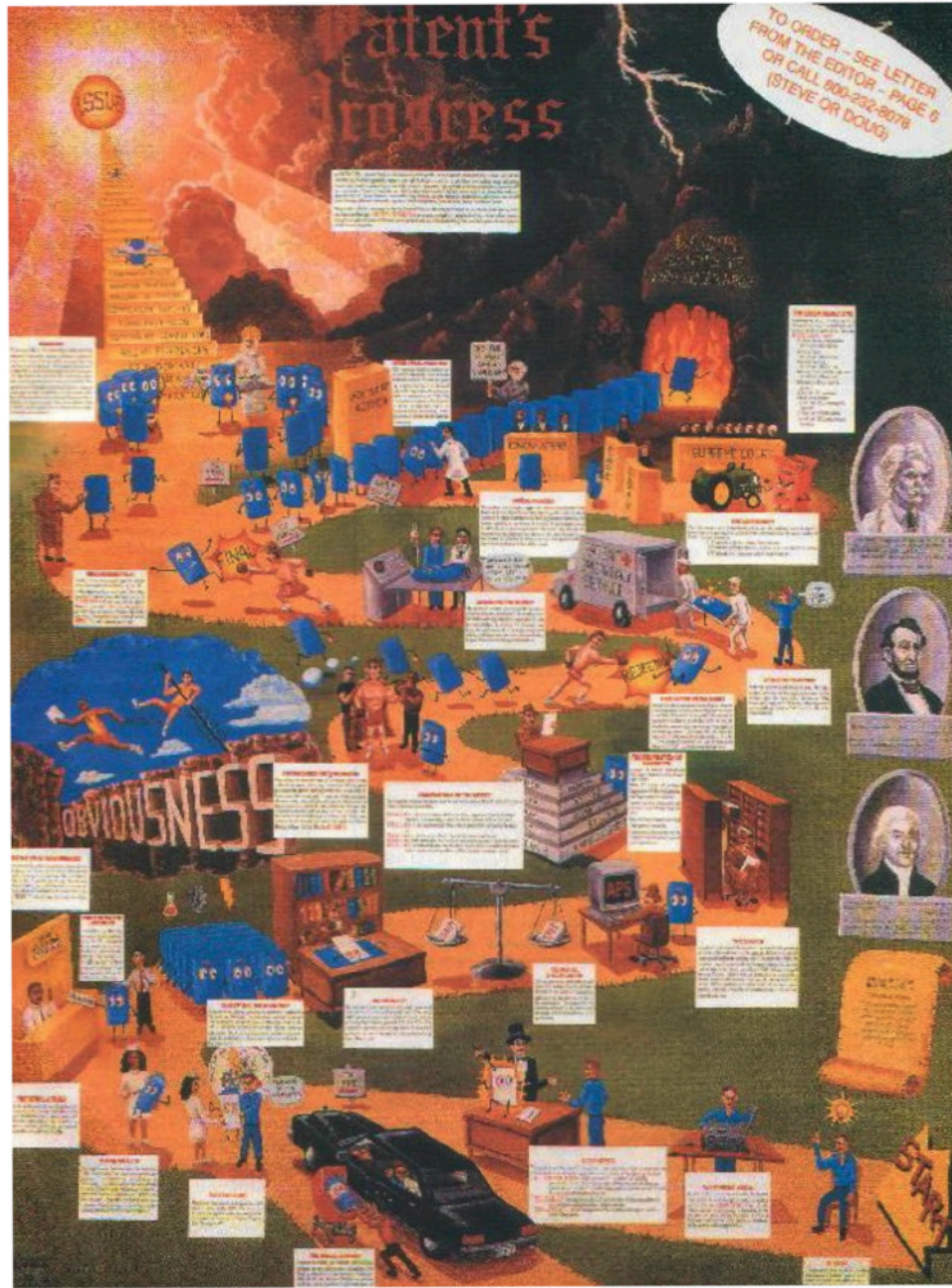
a plurality of nominally identical active regions, each active region separated from an adjoining active region by a carrier injection/relaxation region, and comprising one or more quantum wells having a higher energy state and a lower energy state for carriers of the one conductivity type;

the energy relaxation region selected to provide for energy relaxation of the carriers of the one conductivity type when a current source or electrical bias is coupled to the semiconductor laser, some of the carriers of the one conductivity type being introduced into the energy relaxation region from the active region;

some of the carriers of the one conductivity type undergoing a radiative transition from the higher energy state to the lower energy state;

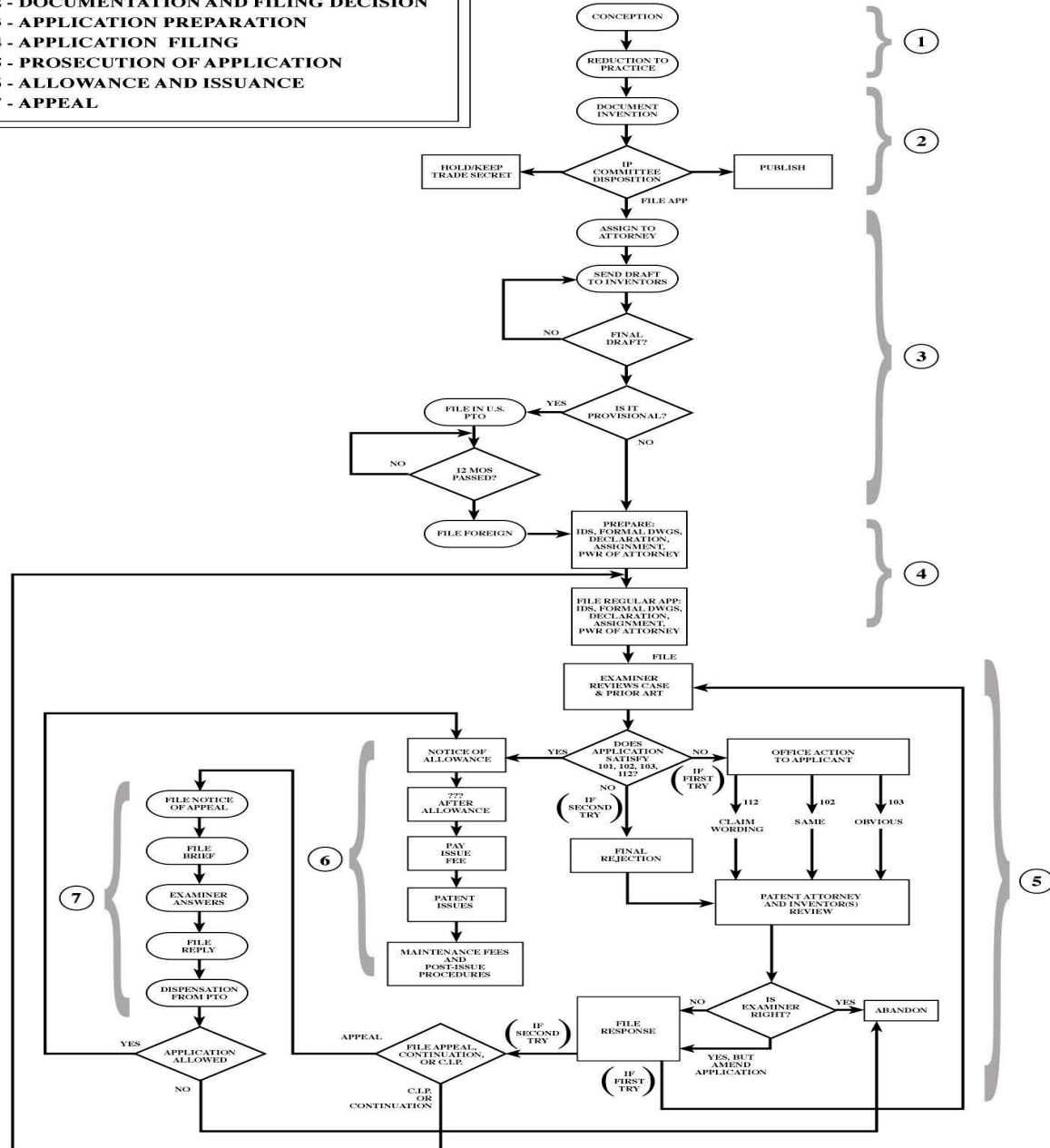
a diffraction grating for providing feedback in a portion of the multilayered semiconductor structure to enhance the radiative transitions; and

a reflecting surface disposed relative to the grating such that light directed in one direction by the grating and reflected from the reflecting surface that forms a portion of the output light from the laser is in phase with other light directed in a different direction by the grating that forms another portion of the output light.

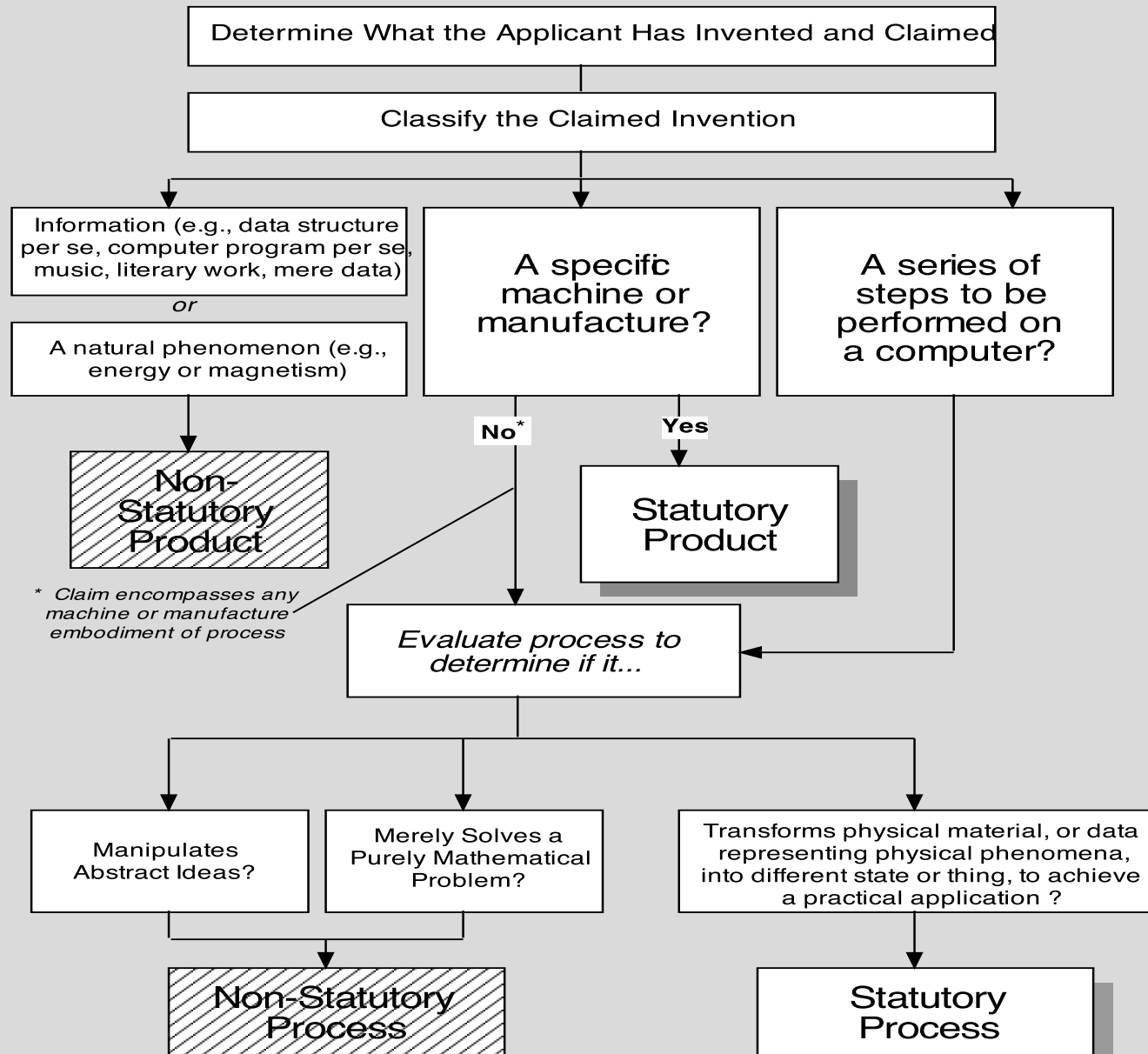


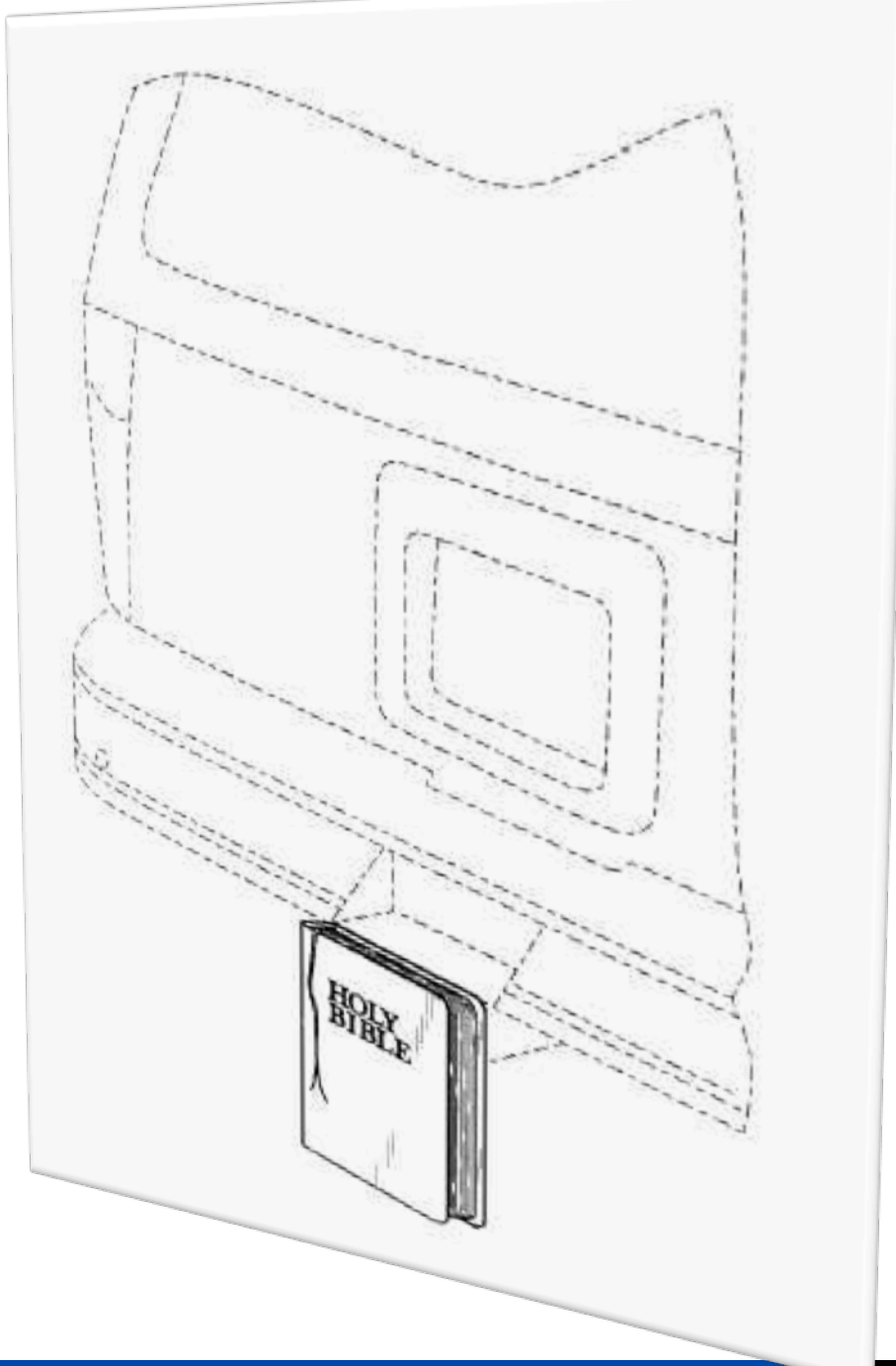
Patent Prosecution Process

- 1 - CREATION OF THE INVENTION
- 2 - DOCUMENTATION AND FILING DECISION
- 3 - APPLICATION PREPARATION
- 4 - APPLICATION FILING
- 5 - PROSECUTION OF APPLICATION
- 6 - ALLOWANCE AND ISSUANCE
- 7 - APPEAL

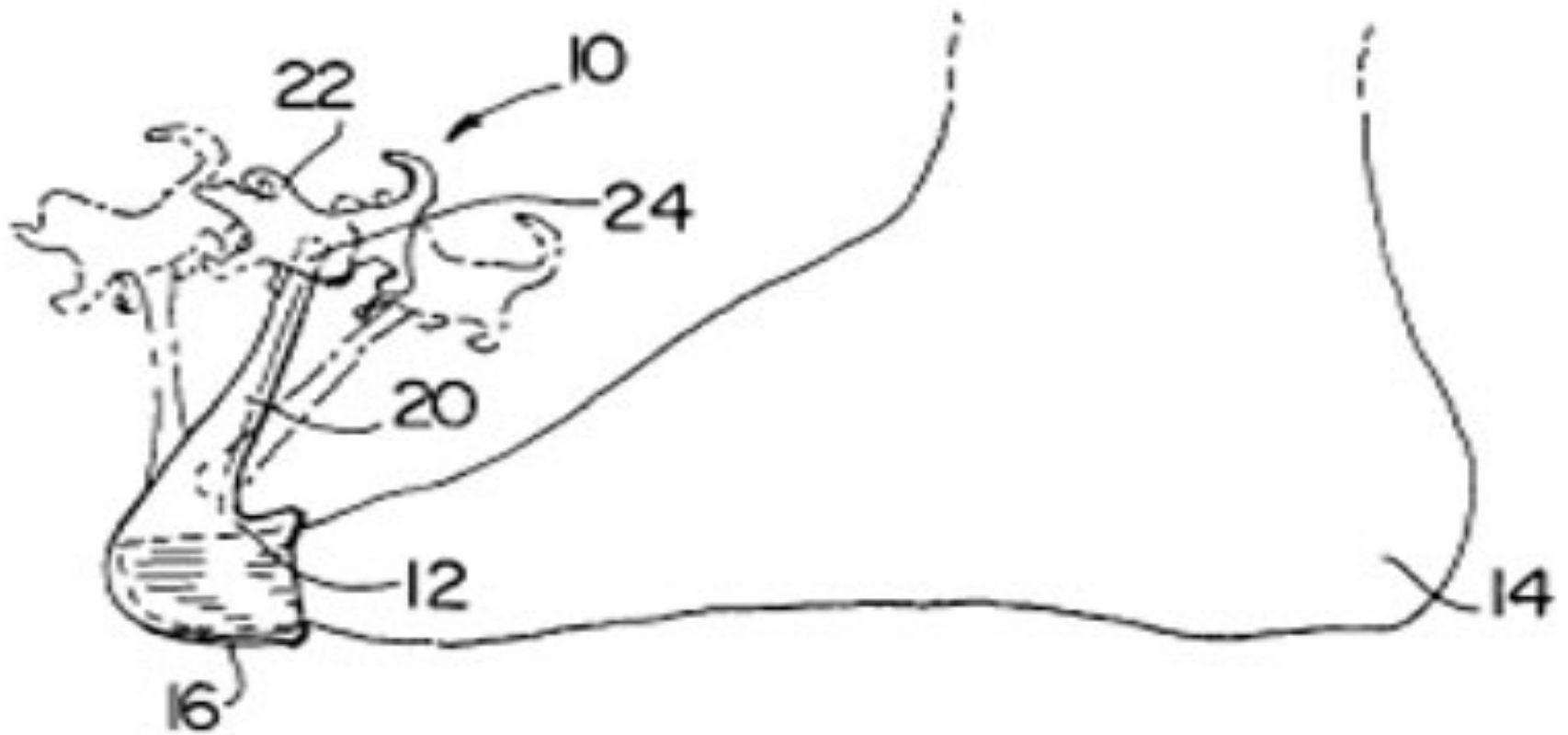


Outline of § 101 Evaluation Process for Computer-Implemented Inventions

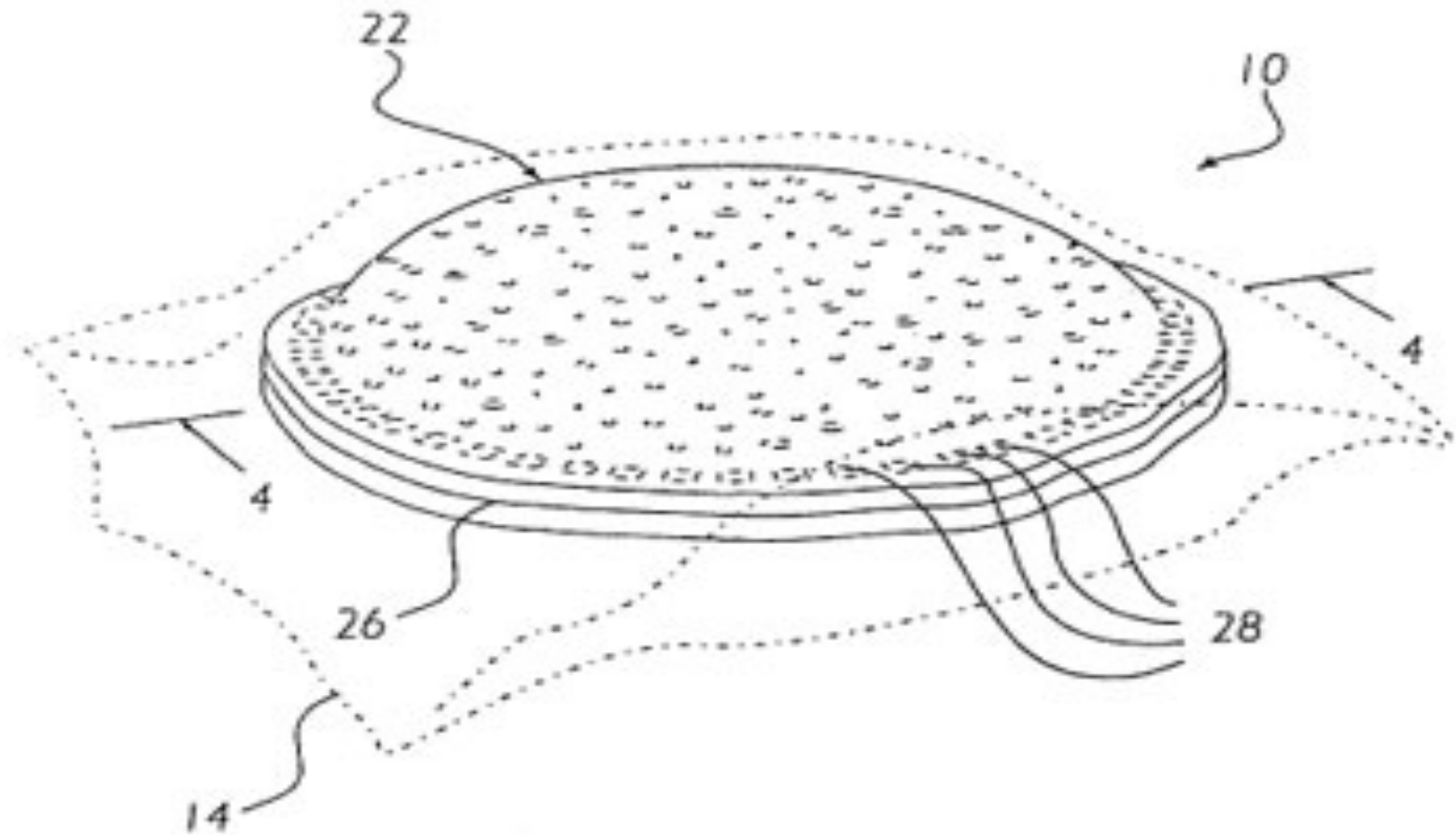




Toe puppet



Sealed Crustless Sandwich



Pumpkin Garbage Bag



[54] CHRISTMAS TREE STAND WATERING SYSTEM

[76] Inventor: Vincent D. Spinosa, 284 Hovendon Ave., Brockton, Mass. 02402

[21] Appl. No.: 428,340

[22] Filed: Oct. 27, 1989

[51] Int. Cl. 3 A47G 7/02

[52] U.S. Cl. 40/40.5; 47/79

[58] Field of Search 47/40.5, 79, 48.5

[56] References Cited

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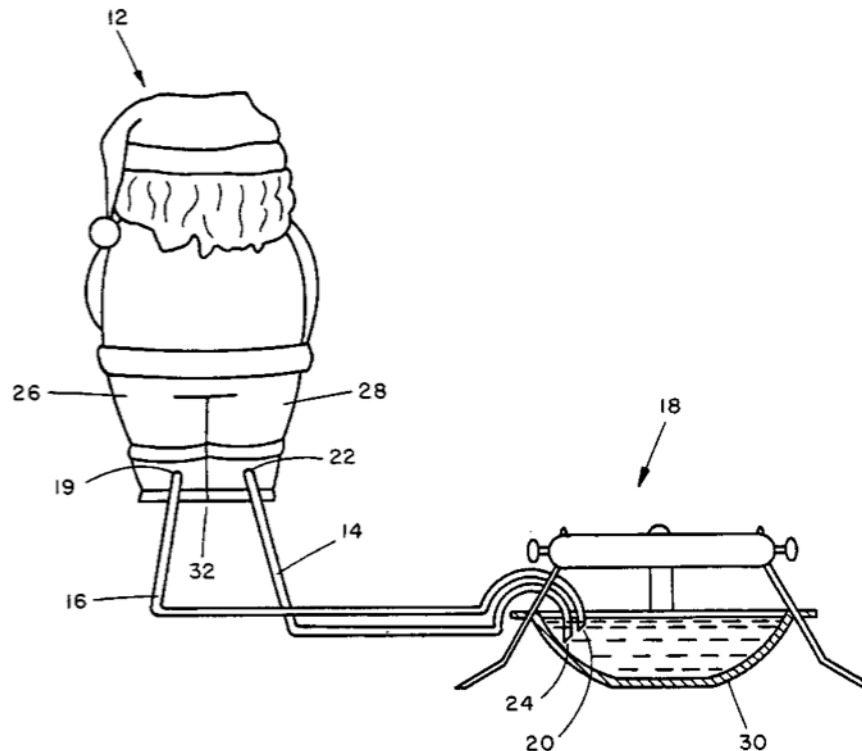
Popular Science Dec. 1978, p. 140.

Primary Examiner—Henry E. Raduazo

[57] ABSTRACT

This is a watering system for a stand for a botanical specimen. The watering system includes an ornamental reservoir from which a water hose and an air hose extend. The hoses have terminal ends which are positioned in the container of the stand. The container is filled with water and the terminal ends are cut on a bias. As the water in the container is depleted, the biased terminal end of the air hose is opened to the atmosphere causing water to flow from the reservoir to the container through the water hose. The watering system could also use a single hose of greater diameter than either of the hoses of the first embodiment. The terminal end of the hose is positioned in the container and is cut on a bias. As the water in the container is depleted, the biased terminal end of the hose is opened to the atmosphere causing water to flow from the reservoir to the container through the bottom half of the hose.

4 Claims, 2 Drawing Sheets

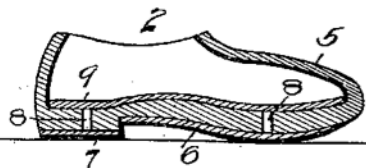
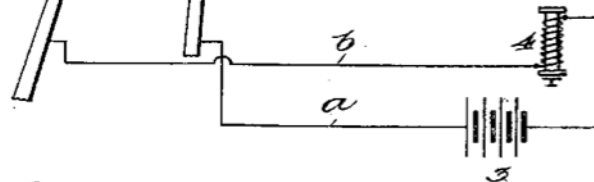


J. M. SEIBERT.
INITIATION APPARATUS.
APPLICATION FILED JULY 24, 1905.

Fig. 1.



Fig. 2.



Witnesses
D. H. Mochman
R. C. Braddock.

Inventor
John M. Seibert

334
D. P. Wolhaupter
Attorney

[54] METHOD OF EXERCISING A CAT
[76] Inventors: Kevin T. Amiss, 255 S. Pickett St., #301, Alexandria, Va. 22304; Martin H. Abbott, 10549 Assembly Dr., Fairfax, Va. 22030

[21] Appl. No.: 144,473
[22] Filed: Nov. 2, 1993
[51] Int. Cl.⁶ A01K 29/00
[52] U.S. Cl. 119/707
[58] Field of Search 119/702, 707, 174, 905; 446/485

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Primary Examiner—Todd E. Manahan

[57] **ABSTRACT**

A method for inducing cats to exercise consists of directing a beam of invisible light produced by a hand-held laser apparatus onto the floor or wall or other opaque surface in the vicinity of the cat, then moving the laser so as to cause the bright pattern of light to move in an irregular way fascinating to cats, and to any other animal with a chase instinct.

4 Claims. 1 Drawing Sheet

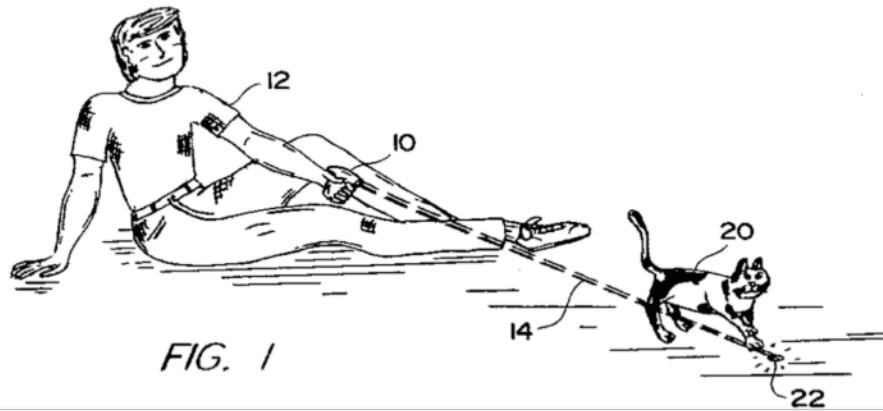


FIG. 1

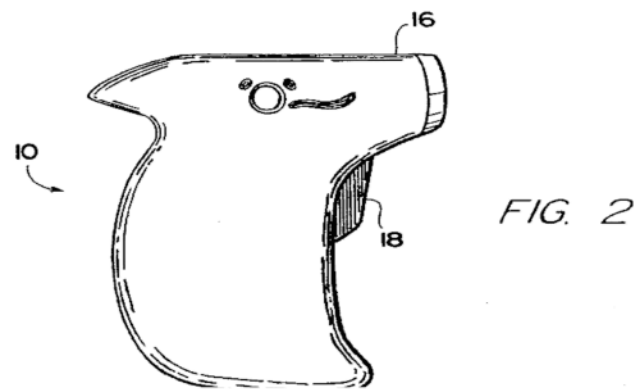


FIG. 2

- [54] PAT ON THE BACK APPARATUS
- [76] Inventor: **Ralph R. Piro**, 676 Centre Ave.,
Lindenhurst, N.Y. 11757
- [21] Appl. No.: 739,669
- [22] Filed: **May 31, 1985**
- [51] Int. Cl.⁴ **A61H 7/00**
- [52] U.S. Cl. **128/61; 4/559;**
15/143 R; 15/210 R; 224/265; 269/3; 272/1 R;
272/76; 446/26; 128/67
- [58] Field of Search 128/24.2, 24 R, 24 A,
128/25 B, 28, 32-40, 45, 46, 47, 50-53, 56, 57,
59, 61, 62, 65, 66, 67; 272/96, 8 N, 8 R, 76, 27
R, 27 N, 1 R; 15/28, 29, 210 R, 143 R, 144 R,
145; 4/559; 2/44, 45; 269/3; 224/265; 446/26,
28

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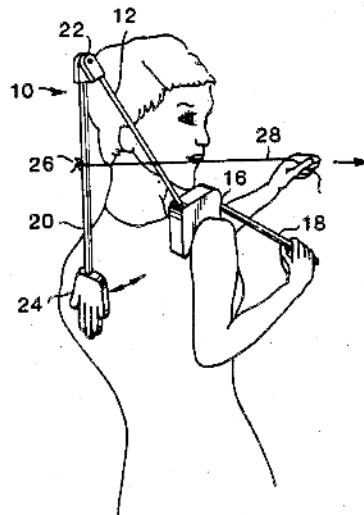
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603405	1/1926	France	272/1 R
36643	10/1935	Netherlands	224/265
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Primary Examiner—Clyde I. Coughenour
Attorney, Agent, or Firm—John J. Byrne; Bradford E. Kile; Kevin M. O'Brien

[57] **ABSTRACT**

A self-congratulatory apparatus having a simulated human hand carried on a pivoting arm suspended from shoulder supported member. The hand is manually swingable into and out of contact with the user's back to give an amusing or an important pat-on-the-back.

4 Claims, 2 Drawing Figures



- [54] **METHOD AND SYSTEM FOR PLACING A PURCHASE ORDER VIA A COMMUNICATIONS NETWORK**
- [75] Inventors: **Peri Hartman; Jeffrey P. Bezos; Shel Kaplan; Joel Spiegel**, all of Seattle, Wash.
- [73] Assignee: **Amazon.com, Inc.**, Seattle, Wash.
- [21] Appl. No.: **08/928,951**
- [22] Filed: **Sep. 12, 1997**
- [51] Int. Cl.⁶ **G06F 17/60**
- [52] U.S. Cl. **705/26; 705/27; 345/962**
- [58] Field of Search **705/26, 27; 380/24, 380/25; 235/2, 375, 378, 381; 395/188.01; 345/962**

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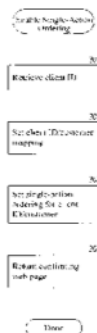
(List continued on next page.)

Primary Examiner—James P. Trammell
Assistant Examiner—Demetra R. Smith
Attorney, Agent, or Firm—Perkins Coie LLP

[57] **ABSTRACT**

A method and system for placing an order to purchase an item via the Internet. The order is placed by a purchaser at a client system and received by a server system. The server system receives purchaser information including identification of the purchaser, payment information, and shipment information from the client system. The server system then assigns a client identifier to the client system and associates the assigned client identifier with the received purchaser information. The server system sends to the client system the assigned client identifier and an HTML document identifying the item and including an order button. The client system receives and stores the assigned client identifier and receives and displays the HTML document. In response to the selection of the order button, the client system sends to the server system a request to purchase the identified item. The server system receives the request and combines the purchaser information associated with the client identifier of the client system to generate an order to purchase the item in accordance with the billing and shipment information whereby the purchaser effects the ordering of the product by selection of the order button.

26 Claims, 11 Drawing Sheets



(54) **DOG WASTE CATCHER AND HOLDER**

6,386,606 B1 *	5/2002	Marshall	294/1.5
6,485,073 B1 *	11/2002	Harrison	294/1.4
6,702,349 B1 *	3/2004	Clements	294/1.5

(76) Inventor: **Setsuko Borman**, 12012 132nd St.
East, Puyallup, WA (US) 98374

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 133 days.

DE	3807-7221	*	9/1989	294/1.5
FR	2559-350	*	8/1985	294/1.5

* cited by examiner

(21) Appl. No.: **10/794,871**

Primary Examiner Dean J. Kramer

(22) Filed: **Mar. 8, 2004**

(74) *Attorney, Agent, or Firm* Christensen O'Connor Johnson Kindness PLLC

(65) **Prior Publication Data**

(57) **ABSTRACT**

US 2004/0201232 A1 Oct. 14, 2004

Related U.S. Application Data

(60) Provisional application No. 60/462,192, filed on Apr. 14, 2003.

(51) **Int. Cl.**
A01K 29/00 (2006.01)

(52) **U.S. Cl.** 294/1.5

(58) **Field of Classification Search** 294/1.1,
294/1.3-1.5, 55; 248/99; 15/257.1
See application file for complete search history.

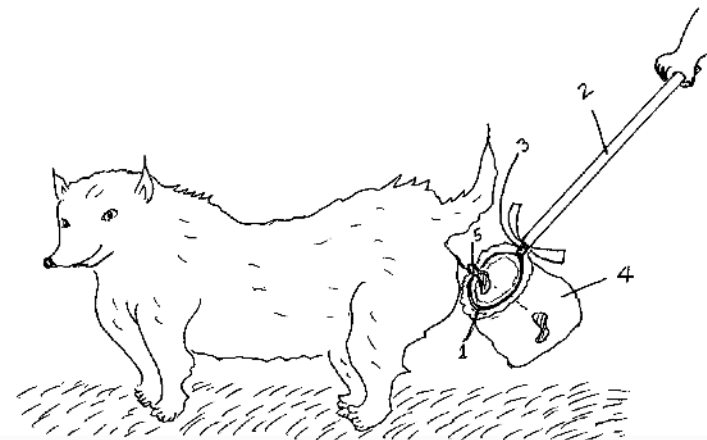
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A dog waste catcher and holder is a very simple, light-weight and economical portable device designed to catch and hold a dog's droppings before they fall on the ground or grass. It is carried by a dog's owner or caretaker while he or she walks the dog. This is a device comprised of a loop shaped device to hold a plastic bag, a carrying rod of which one end is attached to the loop shaped device, a securing device such as a bracket to attach the loop shaped device to one end of the carrying rod, and a plastic bag, preferably a plastic bag such as a grocery bag, etc. placed inside the loop shaped device with its upper portion folded over the loop and its ends tied to the rod where the loop shaped device is attached. As soon as the dog shows the motion to excrete, this device can be placed under the dog's bottom and catches the waste in the plastic bag as it excretes. Once the dog has finished excreting, the plastic bag is removed and discarded. This is a very simple and sanitary way of catching and discarding the dog waste.

3 Claims, 1 Drawing Sheet



(54) **GARMENT HAVING A BUTTOCKS CLEAVAGE REVEALING FEATURE**

(76) Inventor: **Thomas A. Bontems**, 1909 E. Palmercroft Dr., Tempe, AZ (US) 85282

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/042,965**

(22) Filed: **Jan. 9, 2002**

(51) **Int. Cl.**⁷ **A41B 9/00**

(52) **U.S. Cl.** **2/227; 2/228; 2/69; 2/400**

(58) **Field of Search** 2/400-408, 227, 2/228, 238, 67, 211, 105, 69, 79, 80, 78.1, 83, 78.2, DIG. 1; 450/94, 95, 99, 102-105, 108; D2/700, 712, 718, 731, 732-738, 742

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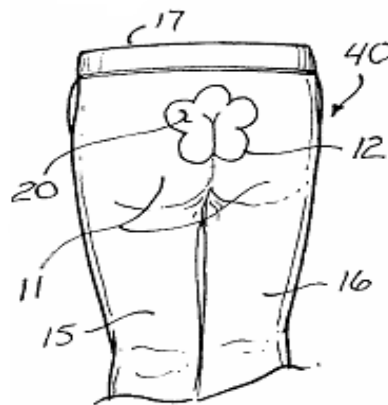
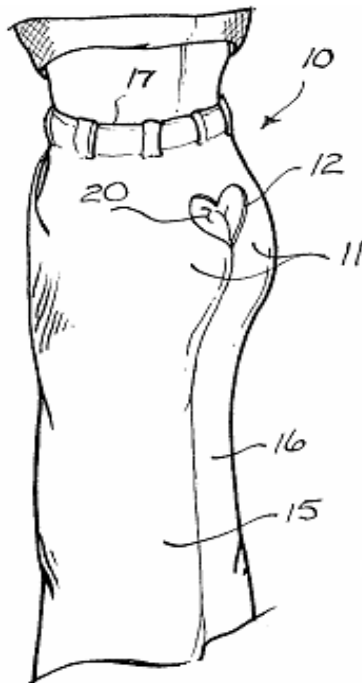
Primary Examiner—Gloria M. Hale

(74) *Attorney, Agent, or Firm*—Parsons & Goltry; Robert A. Parsons; Michael W. Goltry

(57) **ABSTRACT**

Disclosed is a garment having a buttocks covering portion and a buttocks cleavage-revealing portion disposed at the buttocks covering portion. The buttocks cleavage-revealing portion is an opening and see-through material is disposed at the opening. The garment is a pant having leg portions depending from a waist, and the opening is disposed below the waist.

17 Claims, 1 Drawing Sheet



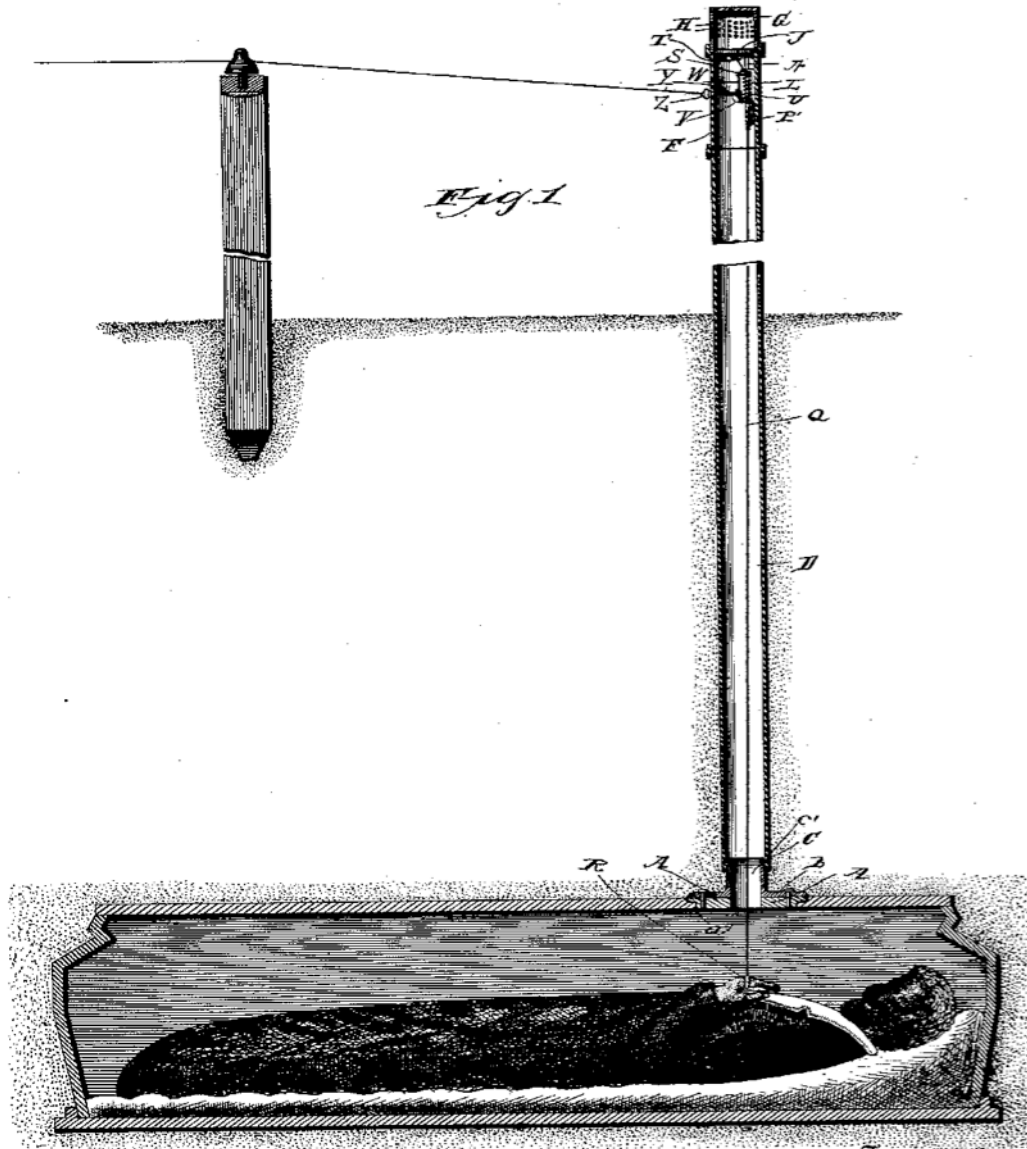
(No Model.)

W. H. WHITE,

ANNUNCIATOR FOR THE SUPPOSED DEAD.

No. 465,548.

Patented Dec. 22, 1891.



Witnesses

G. M. Shreve.
H. E. Price

Inventor

W. H. White.

By *H. S. Attorneys*

Higdon & Higdon.

[54] METHOD OF CONCEALING PARTIAL BALDNESS

[76] Inventors: Frank J. Smith, 233 Cosmos Drive; Donald J. Smith, 517 Brockway Ave., both of Orlando, Fla. 32807

[22] Filed: Dec. 23, 1975

[21] Appl. No.: 643,681

[52] U.S. Cl. 132/53

[51] Int. Cl.² A41G 3/00

[58] Field of Search 132/53, 54, 9, 7, 5; 2/9

[56] References Cited

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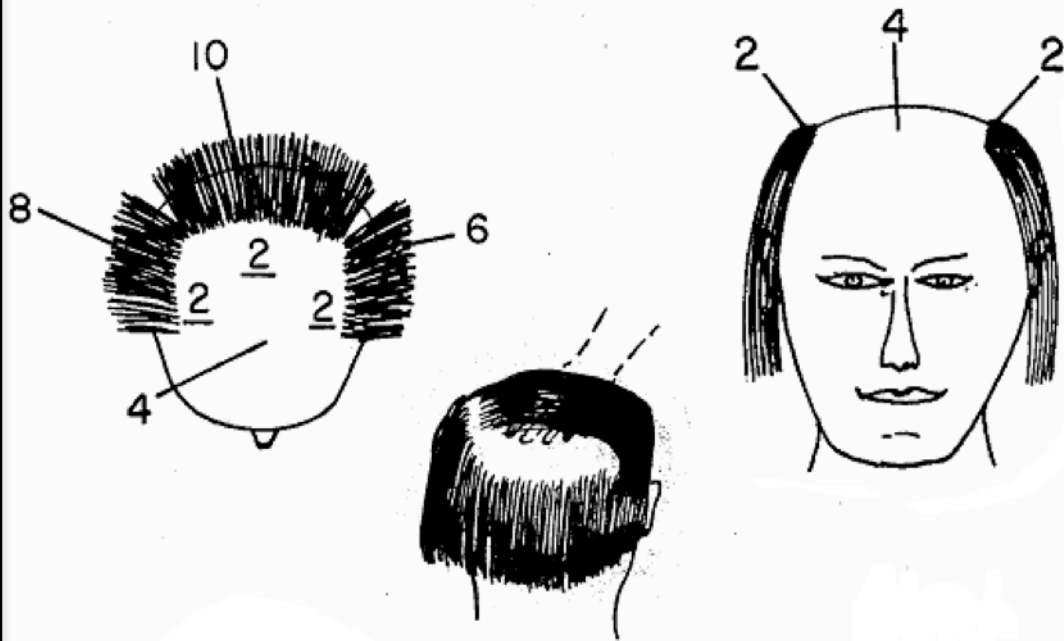
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Primary Examiner—G.E. McNeill
Attorney, Agent, or Firm—John B. Dickman, III

[57] ABSTRACT

A method of styling hair to cover partial baldness using only the hair on a person's head. The hair styling requires dividing a person's hair into three sections and carefully folding one section over another.

5 Claims, 6 Drawing Figures



[54] METHOD OF PUTTING

[76] Inventor: Dale D. Miller, 4801 Indigo Dr., Wausau, Wis. 54401

[21] Appl. No.: 624,264

[22] Filed: Mar. 29, 1996

[51] Int. Cl.⁶ A63B 53/00

[52] U.S. Cl. 473/409; 473/131; 473/300

[58] Field of Search 473/131, 409, 473/207, 212, 213, 214, 226, 251, 266, 293, 300, 294, 252

[56] References Cited

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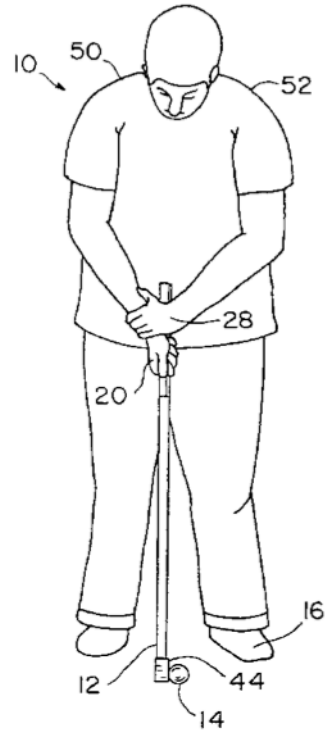
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4,605,228	8/1986	Guendling, Jr.	473/293

Primary Examiner—Steven B. Wong
Attorney, Agent, or Firm—Andrus, Scales, Starke & Sawall

[57] ABSTRACT

A method of putting features the golfer's dominant hand so that the golfer can improve control over putting speed and direction. The golfer's non-dominant hand stabilizes the dominant hand and the orientation of the putter blade, but does not otherwise substantially interfere with the putting stroke. In particular, a right-handed golfer grips the putter grip with their right hand in a conventional manner so that the thumb on the right hand is placed straight down the top surface of the putter grip. The golfer addresses the ball as if to stroke the putter using only the right hand. Then, the golfer takes the left hand and uses it to stabilize the right hand and the putter. To do this, the golfer places their left hand over the interior wrist portion of the right hand behind the thumb of the right hand with the middle finger of the left hand resting on the styloid process of the right hand. The golfer presses the ring finger and the little finger of their left hand against the back of the right hand. The golfer also presses the palm of the left hand against the putter grip and squeezes the right hand with the left hand. The golfer then takes a full putting stroke with the above described grip.

13 Claims, 2 Drawing Sheets



[54] **METHOD OF BRA SIZE DETERMINATION BY DIRECT MEASUREMENT OF THE BREAST**

[76] Inventor: **Edward Pechter**, 25880 Tournament Rd, #217, Valencia, Calif. 91355

[21] Appl. No.: **09/149,186**

[22] Filed: **Sep. 8, 1998**

Related U.S. Application Data

[60] Provisional application No. 60/057,838, Sep. 8, 1997.

[51] **Int. Cl.⁶** **G01F 17/00**

[52] **U.S. Cl.** **73/149**

[58] **Field of Search** 73/149, 429; 128/774, 128/778; 33/2 R, 262, 511, 512, 759

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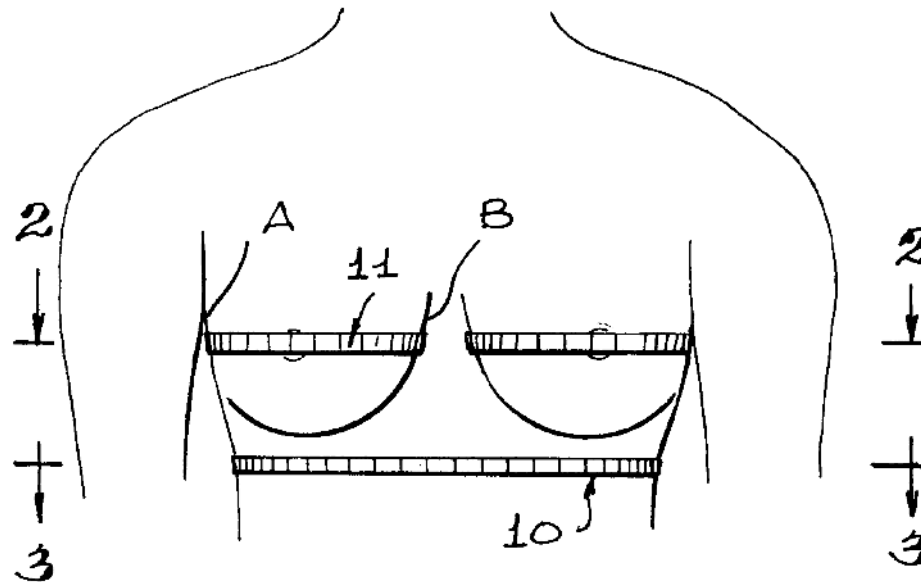
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5,619,804	4/1997	Vogt et al.	33/763

Primary Examiner—Benjamin R. Fuller
Assistant Examiner—Jewel V. Thompson
Attorney, Agent, or Firm—Roger A. Marrs

[57] **ABSTRACT**

This relates to a method of direct measurement to determine cup size of the breast which includes band size measurement by initially measuring the user's chest or torso circumference with a flexible tape measure immediately below the breasts followed by the step of adding five inches to the measured number and incorporating conventional rounding-off procedures. Next, cup size is determined by directly measuring with the tape the circumference of each unclothed breast from the beginning of the breast mound at one side laterally to the parasternal area medially. Next, a measurement conversion is made wherein a measurement of seven inches corresponds to an "A" size cup, eight inches a "B" size cup, nine inches a "C" cup, etc. Each one inch increment determines a cup size.

8 Claims, 1 Drawing Sheet



Patent & IP Myths

- ▶ **Small inventors**
 - Don't usually benefit--wallpaper
 - Mostly corporate wars
- ▶ **First to invent**
 - Rand
- ▶ **Poor Man's Patent**
 - And poor man's copyright
- ▶ **Big Oil and 100 mpg Carburetors**
 - Patents are public—if they are bought up, where are they?
- ▶ **Right to practice**
 - Patents only give right to stop others (to destroy)
 - 3-legged stool example
 - Cross-licensing
 - ▶ Barrier to entry/small firms excluded

Patent & IP Myths (cont.)

- ▶ Lone genius/towering genius
 - All stand on others shoulders
 - Use the inherited body of human knowledge
 - Simultaneous invention
- ▶ Patents and copying
 - No copying requirement, no “theft”
 - Independent invention not a defense
 - Prior invention not a defense
 - Copying not usually alleged and not usually present in IP lawsuits
 - Does not aid innovators with a little monopoly

Patent & IP Myths (cont.)

▶ Copyright existed at common law

- Lord Camden (vs. London booksellers): claims that copyright arose in common law are “founded on patents, privileges, Star-chamber decrees, and the by laws of the Stationers’ Company; all of them the effects of the grossest tyranny and userpation; the very last places in which I would have dreamt of finding the least trace of the common law.”
- Common law copyright was right of author to prevent publication of an **unpublished** manuscript

▶ Natural law

- ahistorical

▶ Evidence

- It’s against IP

▶ Benevolent state/FDA

- State taxes, regulates, distorts, penalizes, destroys, incarcerates, bombs
- Not out for the little guy

▪ Does not aid innovators with a little mo

Other IP: Trademarks

▶ Trademark

- A trademark is a word, phrase, symbol, or design used to identify the **source of goods** or services sold, and to distinguish them from the goods or services of others.
- For example, the Coca-Cola® mark and the design that appears on their soft drink cans **identifies them** as products of that company, distinguishing them from competitors such as Pepsi®.
- Prohibits use of “confusingly similar” marks to identify their own goods and services.
- Unlike copyrights and patents, trademark rights can last indefinitely if the owner continues to use the mark.
 - ▶ The term of a federal trademark registration lasts ten years, with ten-year renewal terms being available.

Other IP: Trade Secrets

▶ Trade Secret

- any **confidential** formula, device, or piece of information which gives its holder a **competitive advantage** so long as it **remains secret**.
- E.g., the formula for Coca-Cola
- Trade secrets can include information that is not novel enough to be subject to patent protection, or not original enough to be protected by copyright (e.g., a **database of seismic data** or **customer lists**)
- Protected under **state law**
 - ▶ Some federal law too
- The trade secret theoretically may last indefinitely, although disclosure, **reverse-engineering**, or independent invention may destroy it
- One disadvantage of relying on trade secret protection is that a competitor who independently invents the subject of another's trade secret can obtain a patent on the device or