UNITED STATES
PATENT AND TRADEMARK OFFICE

TC 1700 Customer Partnership

20 March 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

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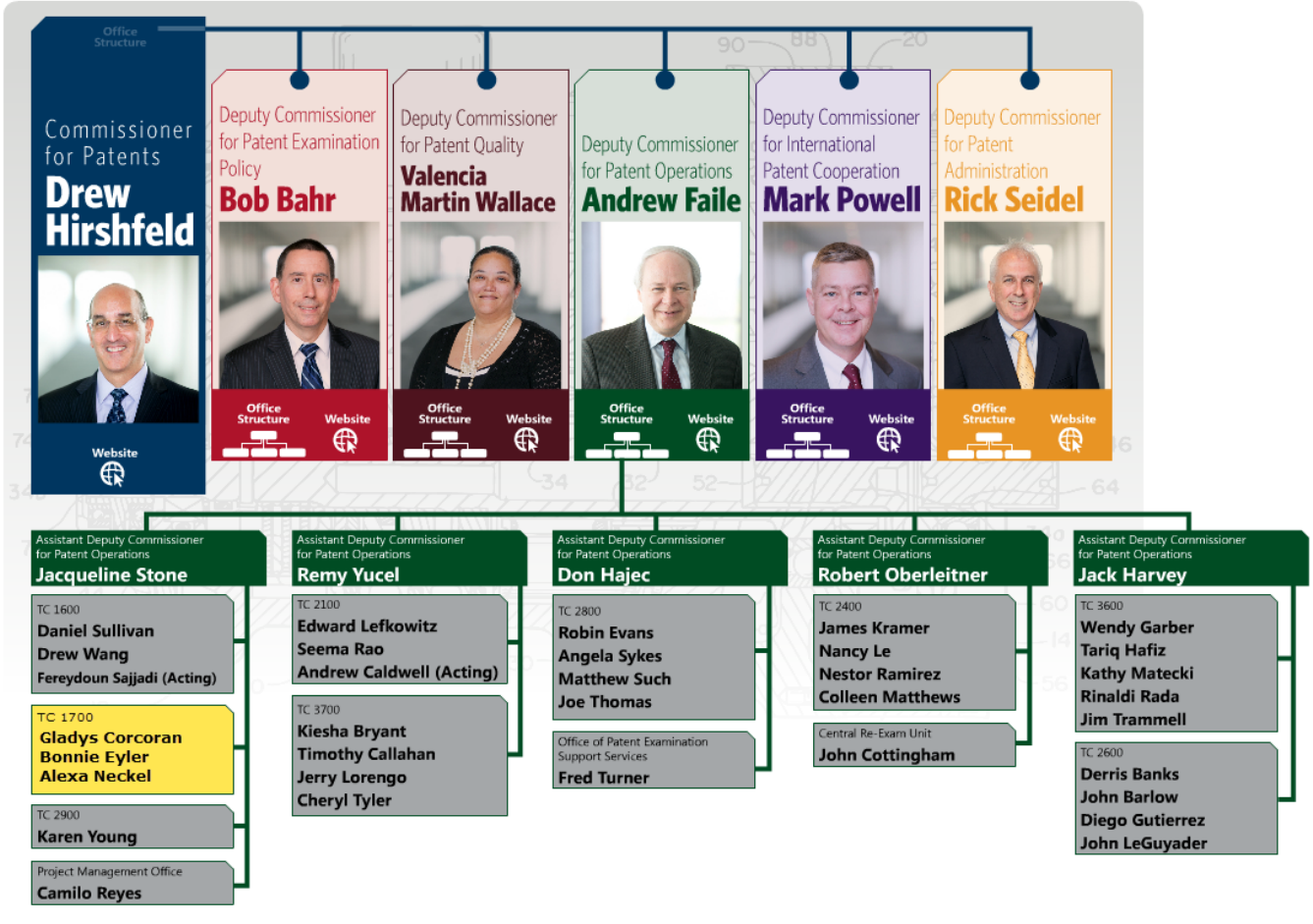
Agenda

- Welcoming Remarks
- Introduction to the Management Staff
- Overview of TC Programs and Contacts
- Breakout Session
- Questions and Answers

Patents Organization



Commissioner for Patents

Drew Hirshfeld

Deputy Commissioner for Patent Operations

Andrew Faile

Assistant Deputy Commissioner for Patent Operations

Jacqueline Stone

TC1600, TC1700, TC2900

TC 1700 Directors

Gladys Corcoran
571-272-1300

Bonnie Eyler
571-272-1200

Alexa Neckel
571-272-2450

TC 1700 Secretaries

Marilyn Banks
571-272-1201

Evelyn Podraza
571-270-5822

TC 1700 Statistics FY2017

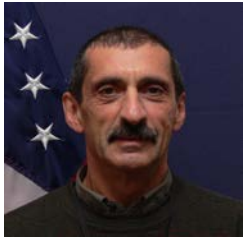
- 68 Managers
- 886 Examiners
  - Average experience 12 ⅓ years
- 47,749 new applications filed
- 24,058 RCEs filed
- 32,883 patents issued

Division 1710

1711
Mike Barr
571-272-1414

1712
Mike Cleveland
571-272-1418

1713
Nadine Norton
571-272-1465



1714
Mike Kornakov
571-272-1303

1715
Tim Meeks
571-272-1423

1716
Parviz Hassanzadeh
571-272-1435

1717
Dah-Wei Yuan
571-272-1295

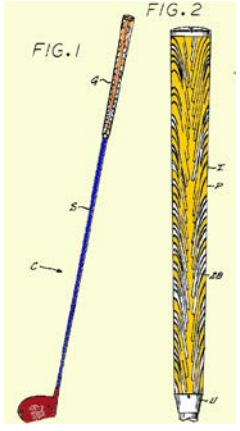
1718
Gordon Baldwin
571-272-5166

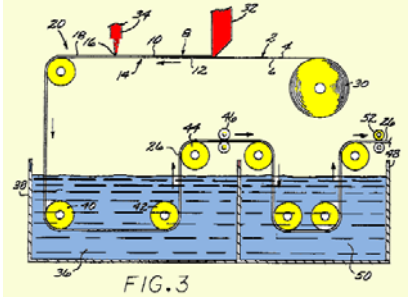
Division 1710

Arts examined in Division 1710:

- Chemical Coating and Etching (Process & Apparatus)
- Single Crystal & Epitaxial Growth and Apparatuses Thereof
- Cleaning & Liquid Contact with Solids
- Washing Machines

Division 1710





(12) **United States Patent**
Huang

(10) **Patent No.: US 8,617,664 B2**
(45) **Date of Patent: *Dec. 31, 2013**

(54) **MULTI-POLYMER GRIP MEMBER**

(76) Inventor: **Ben Huang**, Huntington Beach, CA (US)

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

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/208,297**

(22) Filed: **Aug. 11, 2011**

(65) **Prior Publication Data**

US 2011/0293902 A1 Dec. 1, 2011

Related U.S. Application Data

(63) Continuation of application No. 12/055,289, filed on Mar. 25, 2008, now Pat. No. 8,003,171, which is a continuation of application No. 11/438,808, filed on May 22, 2006, now Pat. No. 7,347,792.

(51) **Int. Cl.**

B05D 3/00	(2006.01)
B05D 3/10	(2006.01)
B05D 1/36	(2006.01)
A63B 53/14	(2006.01)

(52) **U.S. Cl.**
USPC **427/407.1**; 473/300

(58) **Field of Classification Search**
USPC 473/300
See application file for complete search history.

(56) **References Cited**

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(Continued)

Primary Examiner — James Lin
Assistant Examiner — Francisco Tschen
(74) *Attorney, Agent, or Firm* — Knobbe Martens Olson & Bear LLP

(57) **ABSTRACT**

A grip member and a method of making such a grip member including at least a polymerized region with two or more polymers. The first and second polymers cooperate to each form a portion of the top surface of the region. The region may be combined with a substrate to form a sheet. The sheet may be formed into a grip interface having any of a number of shapes including a panel shape. In the case of a panel shaped grip interface, the panel can then be attached to an underlisting sleeve to form the grip. Some versions of such a grip reduce impact shock and provide a feeling of tackiness in the manner of a spirally wrapped polyurethane-felt grip while allowing the use of multiple colors being polymerized together. The grip may be easily installed onto a golf club shaft and may further accommodate the use of polymers including various different characteristics including level of tackiness or durometer.

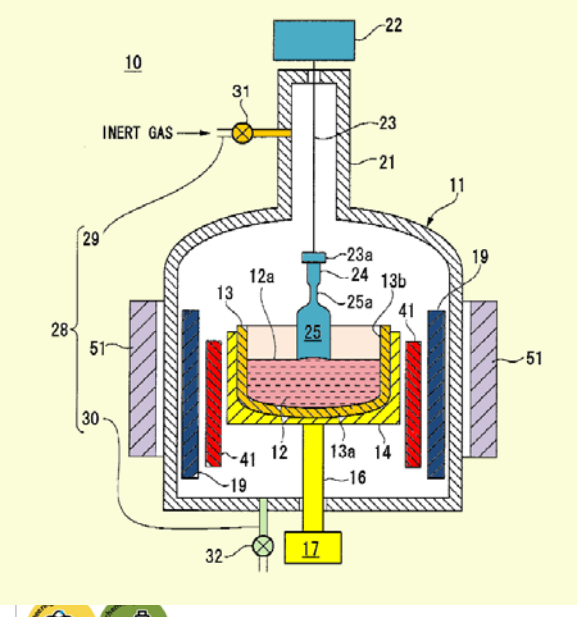
13 Claims, 13 Drawing Sheets

1. **A method of making a single layer of polymer for use with a grip**, the method comprising the steps of: providing a substrate; providing a **first liquid polymer**; applying the first liquid polymer onto the substrate; providing a **second liquid polymer**; applying the second liquid polymer in a pattern onto the first liquid polymer before said first liquid polymer is polymerized; and polymerizing the first and second liquid polymers by **immersing** the first and second polymers in a bath to form a single layer of polymerized polymer having a top surface opposite the substrate, wherein the top surface of the single layer of polymerized polymer includes at least a portion of both the first and second polymers polymerized together side by side.

Division 1710

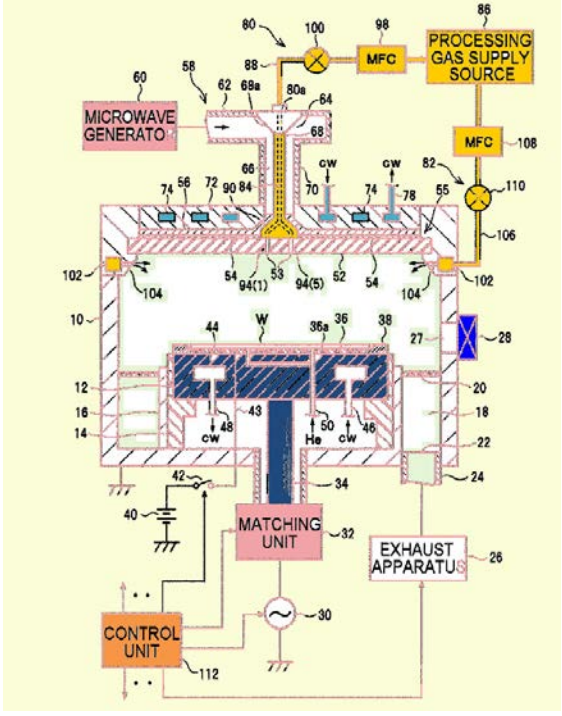
US 8,795.432

Apparatus for Pulling Silicon Single Crystal



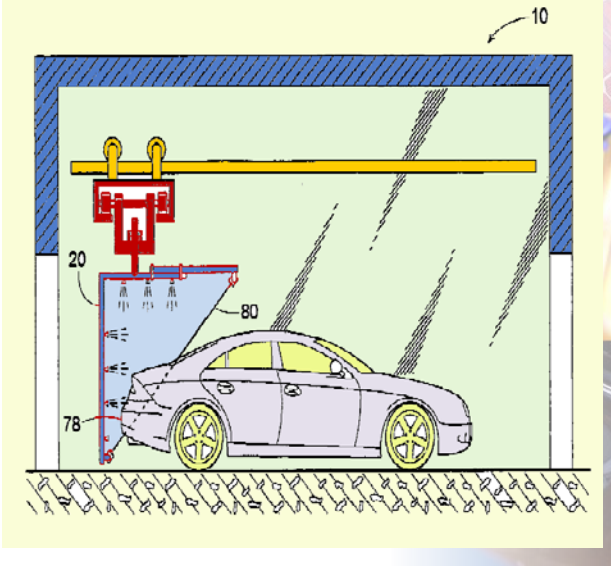
US 9,767,993

Plasma Processing Apparatus



US 7,438,075

Spray Arch Controller For A Carwash



Division 1710

Number of Examiners

105

Number of Supervisors

8

Examples of Technologies Examined

Manufacture of Semiconductors, Microelectronics, Nanoparticle Materials, Single Crystals.

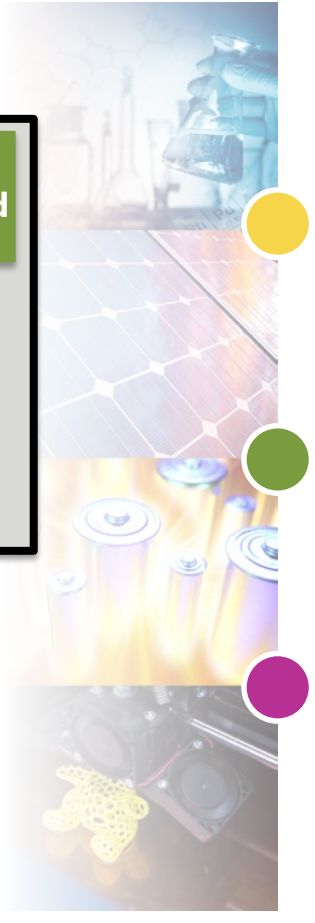
Total Actions per Biweek Completed as a Division

767

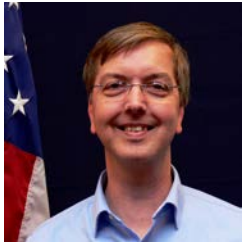
Level of Experience

Average of 11.8 years experience

63% Primary Examiners



Division 1720



1721
Mark Huff
571-272-1385

1722
Cynthia Kelly
571-272-1526

1723
Milton Cano
571-272-1398

1724
Miriam Stagg
571-270-5256

1725
Basia Ridley
571-272-1453

1726 (Acting)
Miriam Stagg
571-270-5256

1727
Barbara Gilliam
571-272-1330

1729
Ula Ruddock
571-272-1481

Division 1720

Arts examined in Division 1720:

- Batteries
- Fuel Cells
- Radiation Imagery
- Liquid Crystal Compositions
- Flammable Gases

Division 1720

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

(10) **Patent No.: US 9,905,878 B2**
(45) **Date of Patent: Feb. 27, 2018**

(54) **FUEL CELL STACK AND FUEL CELL VEHICLE**

(71) Applicant: **HONDA MOTOR CO., LTD**, Minato-ku, Tokyo (JP)

(72) Inventors: **Tadashi Nishiyama**, Wako (JP); **Masaharu Suzuki**, Wako (JP); **Yusuke Naru**, Wako (JP)

(73) Assignee: **HONDA MOTOR CO., LTD.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 166 days.

(21) Appl. No.: **14/843,198**

(22) Filed: **Sep. 2, 2015**

(65) **Prior Publication Data**

US 2016/0064765 A1 Mar. 3, 2016

(30) **Foreign Application Priority Data**

Sep. 2, 2014 (JP) 2014-178236

(51) **Int. Cl.**
B60L 11/18 (2006.01)
H01M 8/2475 (2016.01)

(52) **U.S. Cl.**
CPC ***H01M 8/2475*** (2013.01); ***B60L 11/1883*** (2013.01); ***B60L 11/1898*** (2013.01); ***H01M 2250/20*** (2013.01); ***Y02T 90/32*** (2013.01)

(58) **Field of Classification Search**
CPC H01M 8/04014; H01M 8/2475; B60L 11/1892; B60L 11/1896; B60L 11/1898
See application file for complete search history.

(55) **References Cited**

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(Continued)

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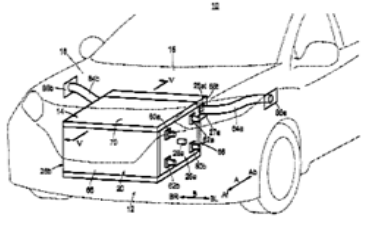
Japanese Office Action dated Dec. 20, 2016 corresponding to U.S. Appl. No. 14/843,198, filed Sep. 2, 2015.

Primary Examiner — Emma K Frick
(74) *Attorney, Agent, or Firm* — Amin, Turocy & Watson LLP

(57) **ABSTRACT**

A fuel cell vehicle includes a fuel cell stack and a housing that has first and second end plates and four side plates connecting the sides of the first and second end plates. Projections provided on the first and second end plates have openings communicating with a space formed between an inner wall of the housing and a fuel cell laminate.

13 Claims, 6 Drawing Sheets



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

(10) **Patent No.: US 7,183,014 B2**
(45) **Date of Patent: Feb. 27, 2007**

(54) **BATTERY PACK**

(75) Inventors: **Hiroshi Sasaki**, Miyagi (JP); **Takayuki Inoi**, Miyagi (JP)

(73) Assignee: **NEC Tokin Corporation**, Miyagi (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 548 days.

(21) Appl. No.: **10/387,521**

(22) Filed: **Mar. 14, 2003**

(65) **Prior Publication Data**

US 2003/0180606 A1 Sep. 25, 2003

(30) **Foreign Application Priority Data**

Mar. 20, 2002 (JP) 2002-079802

(51) **Int. Cl.**
H01M 16/00 (2006.01)
H01M 6/50 (2006.01)

(52) **U.S. Cl.** **429/7**; 429/9; 429/61

(58) **Field of Classification Search** ..... None
See application file for complete search history.

(56) **References Cited**

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EP	2003086156	3/2003
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Canadian Office Action dated May 26, 2006.
Taiwanese Office Action dated Jun. 24, 2004 with English translation of pertinent portions.
3. Kazimierczuk et al. "Application of Super Capacitors for Voltage Regulation in Aircraft Distributed Power Systems" pp. 835-841 (PESC '96 Record, 27th Annual IEEE, vol. 1, 23-27, Jun. 1996).

* cited by examiner

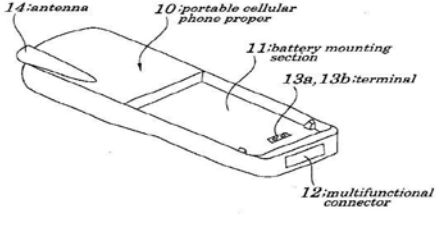
Primary Examiner—Jonathan Crepeau
(74) *Attorney, Agent, or Firm*—Whitham, Curtis Christofferson & Cook, PC

(57) **ABSTRACT**

A battery pack is provided which can be suitably used in a case where charging of a dedicated secondary battery in a portable terminal device is difficult. The battery pack is mounted in a battery mounting section in a portable cellular phone (portable terminal device) proper. In the battery pack, alkaline accumulators are connected in series. Alkaline accumulators generate electromotive forces having a voltage (3V) being lower than that of the dedicated secondary battery. A power source circuit has a boosting-type DC/DC converter which boosts a voltage of the alkaline accumulators being connected in series at a level being same as that of the dedicated secondary battery (for example, 4.5V), and outputs the boosted voltage. An electrical double layer capacitor has a capacity to feed stable power to an internal circuit in which power consumption increases or decreases in a burst manner and is charged by application of an output of the power source circuit and stores the power.

10 Claims, 15 Drawing Sheets

FIG. 1B



Division 1720

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

(10) **Patent No.: US 8,758,961 B1**
(45) **Date of Patent: Jun. 24, 2014**

(54) **MASK SET FOR FABRICATING INTEGRATED CIRCUITS AND METHOD OF FABRICATING INTEGRATED CIRCUITS**

(75) Inventors: **Jordan Plofsky**, San Jose, CA (US); **Chool Pei Lim**, Bayan Lepas (MY); **Danny Biran**, Cupertino, CA (US); **Francis Man-Chit Chow**, Santa Clara, CA (US)

(73) Assignee: **Altera Corporation**, San Jose, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 188 days.

(21) Appl. No.: **13/246,761**

(22) Filed: **Sep. 27, 2011**

(51) **Int. Cl.**
G03F 9/00 (2006.01)

(52) **U.S. Cl.**
USPC **430/5**; 430/394

(58) **Field of Classification Search**
USPC 430/5, 394; 716/53, 55, 54
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2008/0274417 A1* 11/2008 Sturtevant et al. 430/5
2011/0113389 A1* 5/2011 Lin et al. 716/53

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U.S. Appl. No. 12/352,705, Landis, Lawrence David.

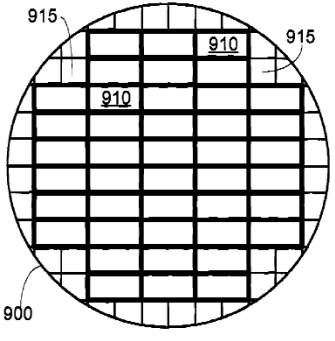
* cited by examiner

Primary Examiner — Stephen Rosasco
(74) *Attorney, Agent, or Firm* — Mauriel Kapouytian Woods LLP; Avarat Kapouytian

(57) **ABSTRACT**

A mask set is described. In one implementation, the mask set includes: a first layer mask including a plurality of first tiles of a first tile size; and a second layer mask including a plurality of second tiles of a second tile size, where the second tile size is different from the first tile size. Also, a method of fabricating a plurality of integrated circuits (ICs) is described. In one implementation, the method includes: using a first layer mask having a first tile size to fabricate a first layer of a first IC of the plurality of ICs and a first layer of a second IC of the plurality of ICs; and using a second layer mask having a second tile size to fabricate a second layer of the first IC, where the second tile size is different from the first tile size.

19 Claims, 10 Drawing Sheets



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

(10) **Patent No.: US 8,927,187 B2**
(45) **Date of Patent: *Jan. 6, 2015**

(54) **CYAN TONER CONTAINING COMPOUND HAVING AZO SKELETON**

(71) Applicant: **Canon Kabushiki Kaisha**, Tokyo (JP)

(72) Inventors: **Yasuaki Murai**, Kawasaki (JP); **Takayuki Toyoda**, Yokohama (JP); **Waka Hasegawa**, Kawasaki (JP); **Yuki Hasegawa**, Yokohama (JP); **Masashi Kawamura**, Yokohama (JP); **Taiki Watanabe**, Akishima (JP); **Masanori Seki**, Yokohama (JP); **Chiaki Nishiura**, Kawasaki (JP); **Ayano Mashida**, Kawasaki (JP); **Masashi Hirose**, Machida (JP)

(73) Assignee: **Canon Kabushiki Kaisha**, Tokyo (JP)

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

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/777,888**

(22) Filed: **Feb. 26, 2013**

(65) **Prior Publication Data**

US 2013/0224646 A1 Aug. 29, 2013

(30) **Foreign Application Priority Data**

Feb. 29, 2012 (JP) 2012-043077

(51) **Int. Cl.**
G03G 9/09 (2006.01)
G03G 9/097 (2006.01)
G03G 9/08 (2006.01)
G03G 9/087 (2006.01)

(52) **U.S. Cl.**
CPC ***G03G 9/0918*** (2013.01); ***G03G 9/09783*** (2013.01); ***G03G 9/09758*** (2013.01); ***G03G 9/0806*** (2013.01); ***G03G 9/08768*** (2013.01)
USPC **430/108.22**; 430/108.21

(58) **Field of Classification Search**
CPC G03G 9/08768; G03G 9/0918; G03G 9/09758; G03G 9/09783
USPC 430/108.21, 108.22
See application file for complete search history.

(56) **References Cited**

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WO WO 2012026378 A1 * 3/2012

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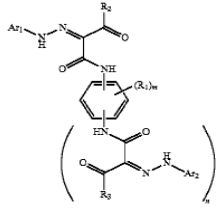
* cited by examiner

Primary Examiner — Christopher Rodee
(74) *Attorney, Agent, or Firm* — Canon U.S.A. Inc., IP Division

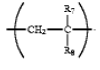
(57) **ABSTRACT**

A cyan toner comprising toner particles, each of which contains a binder resin, a compound in which a polymer portion is bound to an azo skeleton structure, and a phthalocyanine pigment serving as a colorant. The polymer portion of the compound has a monomer unit represented by formula (2) and is bound to a structure represented by formula (1);

Formula (1)



Formula (2)



10 Claims, 4 Drawing Sheets

Division 1720

(12) **United States Patent**
Andrus Jr. et al.

(10) **Patent No.: US 7,083,658 B2**
(45) **Date of Patent: Aug. 1, 2006**

(54) **HOT SOLIDS GASIFIER WITH CO_2 REMOVAL AND HYDROGEN PRODUCTION**

(75) Inventors: **Herbert E. Andrus Jr.**, Granby, CT (US); **Michael S. McCartney**, Bloomfield, CT (US)

(73) Assignee: **ALSTOM Technology Ltd**, Baden (CH)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 490 days.

(21) Appl. No.: **10/449,137**

(22) Filed: **May 29, 2003**

(65) **Prior Publication Data**

US 2004/0237404 A1 Dec. 2, 2004

(51) **Int. Cl.**

C10B 1/00	(2006.01)
C10J 3/00	(2006.01)
F27B 5/00	(2006.01)
B01J 8/00	(2006.01)
B01J 10/00	(2006.01)

(52) **U.S. Cl.** **48/101**; 48/127.9; 422/129; 422/187; 422/188; 422/234; 423/246; 423/247; 252/373

(58) **Field of Classification Search** ..... 48/197 R, 48/210, 203, 92, 77; 422/287; 423/567.1
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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Olsen, John C., Unit Processes and Principles of Chemical Engineering, Jul. 5, 1932, New York D. Van Nostrand Company, Inc., Chapter 1, p. 1-3.*

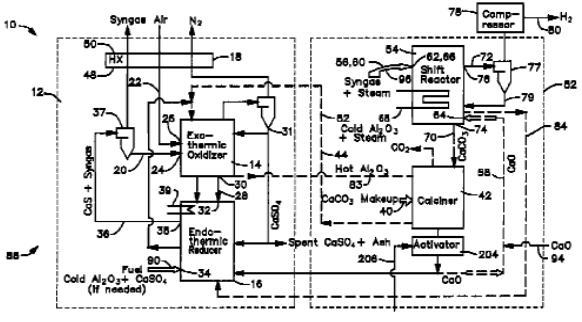
* cited by examiner

Primary Examiner—Walter D. Griffin
Assistant Examiner—Kaity V. Handal
(74) *Attorney, Agent, or Firm*—Timothy J. Olson; Arthur E. Fournier, Jr.

(57) **ABSTRACT**

A gasifier **10** includes a first chemical process loop **12** having an exothermic oxidizer reactor **14** and an endothermic reducer reactor **16**. CaS is oxidized in air in the oxidizer reactor **14** to form hot $CaSO_4$ which is discharged to the reducer reactor **16**. Hot $CaSO_4$ and carbonaceous fuel received in the reducer reactor **16** undergo an endothermic reaction utilizing the heat content of the $CaSO_4$, the carbonaceous fuel stripping the oxygen from the $CaSO_4$ to form CaS and a CO rich syngas. The CaS is discharged to the oxidizer reactor **14** and the syngas is discharged to a second chemical process loop **52**. The second chemical process loop **52** has a water-gas shift reactor **54** and a calciner **42**. The CO of the syngas reacts with gaseous H_2O in the shift reactor **54** to produce H_2 and CO_2. The CO_2 is captured by CaO to form hot $CaCO_3$ in an exothermic reaction. The hot $CaCO_3$ is discharged to the calciner **42**, the heat content of the $CaCO_3$ being used to strip the CO_2 from the CaO in an endothermic reaction in the calciner, with the CaO being discharged from the calciner **42** to the shift reactor **54**.

2 Claims, 4 Drawing Sheets



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

(10) **Patent No.: US 6,986,797 B1**
(45) **Date of Patent: Jan. 17, 2006**

(54) **AUXILIARY REACTOR FOR A HYDROCARBON REFORMING SYSTEM**

(75) Inventors: **Lawrence G. Clawson**, Dover, MA (US); **Matthew H. Dorson**, Arlington, MA (US); **William L. Mitchell**, Belmont, MA (US); **Brian J. Nowicki**, Medford, MA (US); **Jeffrey M. Bentley**, Westford, MA (US); **Robert Davis**, Bucks (GB); **Jennifer W. Rumsey**, Greenwood, IN (US)

(73) Assignee: **Nuvera Fuel Cells Inc.**, Cambridge, MA (US)

(*) 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.: **09/565,288**

(22) Filed: **May 2, 2000**

Related U.S. Application Data

(60) Provisional application No. 60/132,184, filed on May 3, 1999, provisional application No. 60/132,259, filed on May 3, 1999.

(51) **Int. Cl.**
C10J 3/00 (2006.01)

(52) **U.S. Cl.** ..... **48/102 A**; 48/75; 48/63; 48/64; 48/105; 48/107; 48/94; 48/127.9; 48/95; 48/120; 422/187; 422/191; 422/192; 422/194; 422/195; 422/197; 422/201; 422/203; 422/204; 422/211; 422/222; 422/235; 431/7; 431/173; 122/4 D

(58) **Field of Classification Search** ..... 48/61, 48/2 R, 75, 63, 64, 89, 102 R, 105, 107, 48/102 A, 94, 214 A, 127.9, 128, 198.7, 48/211, 119, 198.1, 120, 198.3, 95, 214 R, 48/212, 213, 215; 122/4 D; 431/7, 173; 422/187–198, 200–204, 211, 222, 234, 235
See application file for complete search history.

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(Continued)

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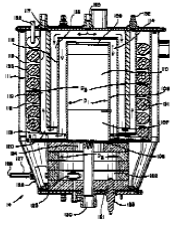
(Continued)

Primary Examiner—Basia Ridley
(74) *Attorney, Agent, or Firm*—Fish & Richardson P.C.

(57) **ABSTRACT**

An auxiliary reactor for use with a reformer reactor having at least one reaction zone, and including a burner for burning fuel and creating a heated auxiliary reactor gas stream, and heat exchanger for transferring heat from auxiliary reactor gas stream and heat transfer medium, preferably two-phase water, to reformer reaction zone. Auxiliary reactor may include first cylindrical wall defining a chamber for burning fuel and creating a heated auxiliary reactor gas stream, the chamber having an inlet end, an outlet end, a second cylindrical wall surrounding first wall and a second annular chamber there between. The reactor being configured so heated auxiliary reactor gas flows out the outlet end and into and through second annular chamber and conduit which is disposed in second annular chamber, the conduit adapted to carry heat transfer medium and being connectable to reformer reaction zone for additional heat exchange.

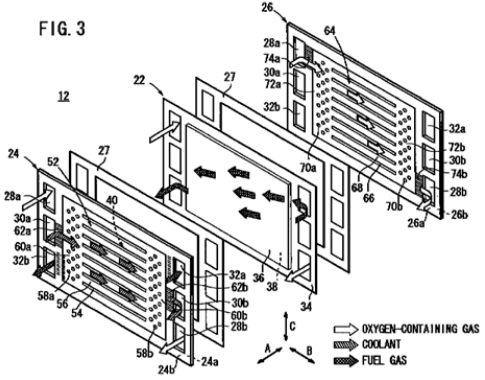
31 Claims, 18 Drawing Sheets



Division 1720

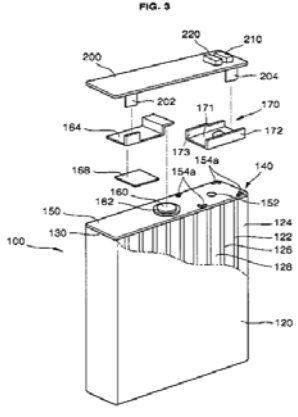
US 8,012,639

Fuel Cell Stack



US 7,968,228

Secondary Battery



US 7,686,856

Method And Apparatus for Producing Synthesis Gas

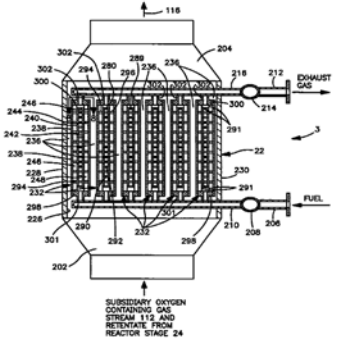


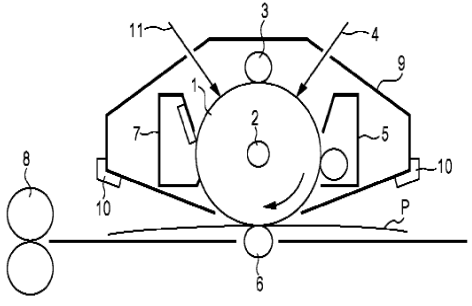
FIG. 4

Division 1720

US 9,470,989

Electrophotographic Process Cartridge

FIG. 1



CLASS 430, RADIATION IMAGERY CHEMISTRY: PROCESS, COMPOSITION, OR PRODUCT

Electrophotography-Chemical compositions and methods for laser printing and photocopying machines.

63 Product wherein the conductive layer is nonorganic or contains nonorganic material.

US 9,664,995

Photolithographic Imaging System

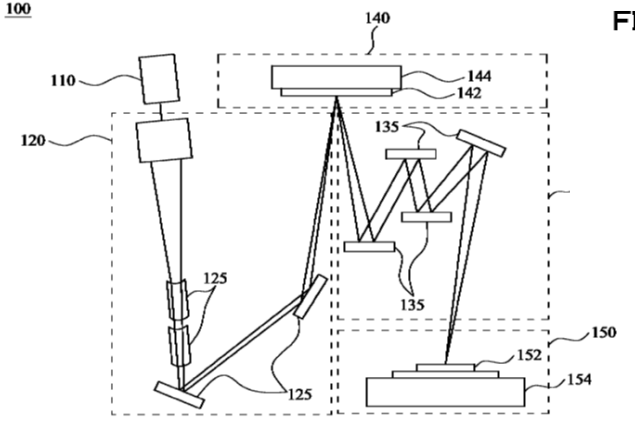


Fig. 1

CLASS 430, RADIATION IMAGERY CHEMISTRY: PROCESS, COMPOSITION, OR PRODUCT

Photolithography-Light sensitive compositions and radiation imaging methods used for making e.g. integrated circuits and television displays.

5 Subject matter wherein the light modifying means is in the form of a radiation mask.

US 8,877,302

Liquid Crystal Compositions

FIG. 5A

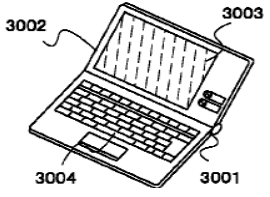
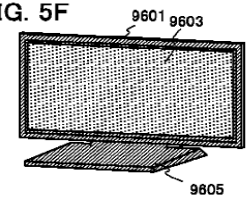


FIG. 5F



CLASS 252, COMPOSITIONS

229.01 Compositions containing a mesormorphic state of matter which is intermediate between a crystalline solid and a normal isotropic liquid; they resemble liquids mechanically (as to viscosity) but crystals optically (light scattering and reflection). Commonly used in the displays for televisions, computer monitors and mobile devices.

Division 1720

Number of Examiners

105

Number of Supervisors

7

Examples of Technologies Examined

Batteries
Fuel Cells
Radiation Imagery
Liquid Crystal Compositions
Flammable Gases

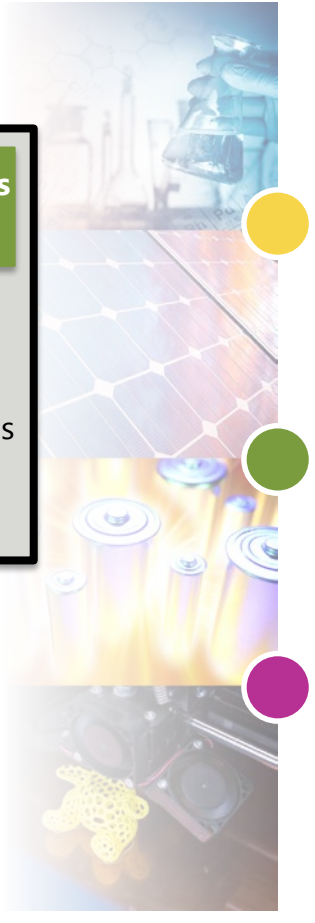
Total Actions per Biweek Completed as a Division

860

Level of Experience

Average of 12.7 years experience

58% Primary Examiners



Division 1730

1731
Kaj Olsen
571-272-1344

1732
Curtis Mayes
571-272-1234

1733 (Acting)
Keith Walker
571-272-3458

1734
Jon Johnson
571-272-1177

1735 (Acting)
Keith Walker
571-272-3458

1736
Stan Silverman
571-272-1358

Division 1730

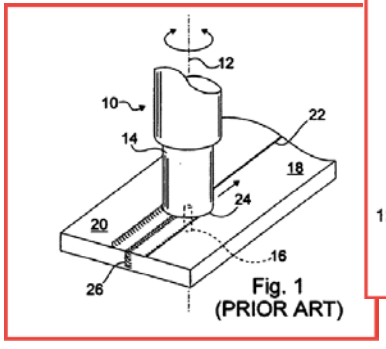
Arts examined in Division 1730:

- Abrasive Tool Making Process, Material, or Composition
- Compositions: Coating, Plastic or Ceramic
- Sugar, Starch and Carbohydrates
- Inorganic Compounds
- Catalysts and Solid Sorbents
- Fertilizers
- Hazardous or Toxic Waste Destruction or Containment
- Superconductors

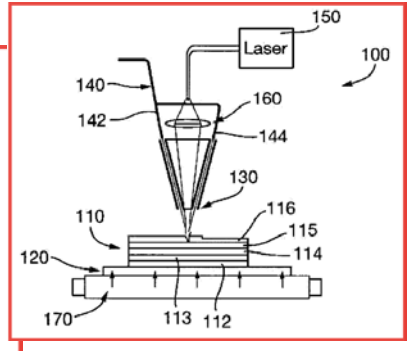
Division 1730

- Dispensing Processes and Apparatus
- Explosive and Thermic Compositions
- Metallurgical Processes and Compositions
- Metal Treatment
- Metallurgical Apparatus
- Powder Metallurgy Processes
- Alloys and Metallic Compositions
- Metal Founding
- Metal Fusion Bonding

Division 1730

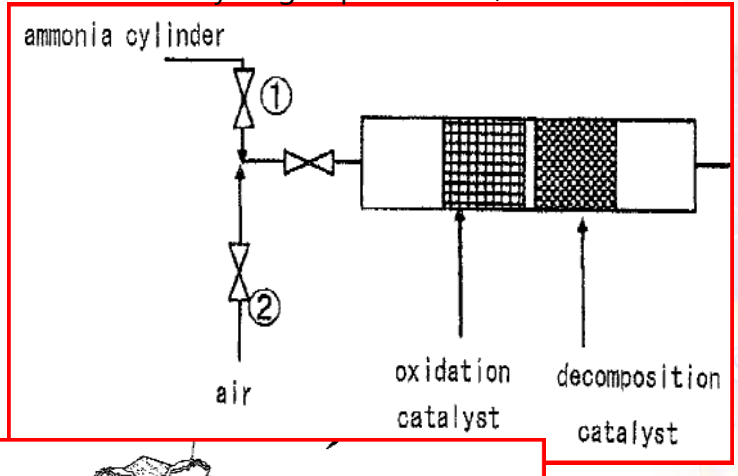


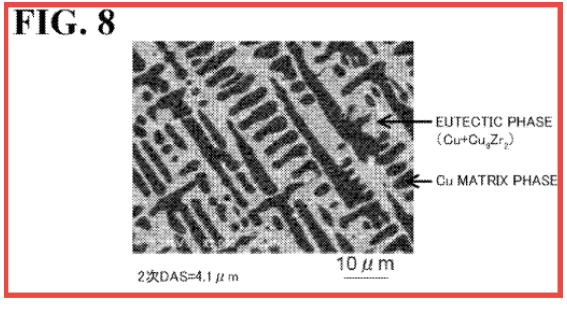
228: Metal Fusion Bonding, B23K



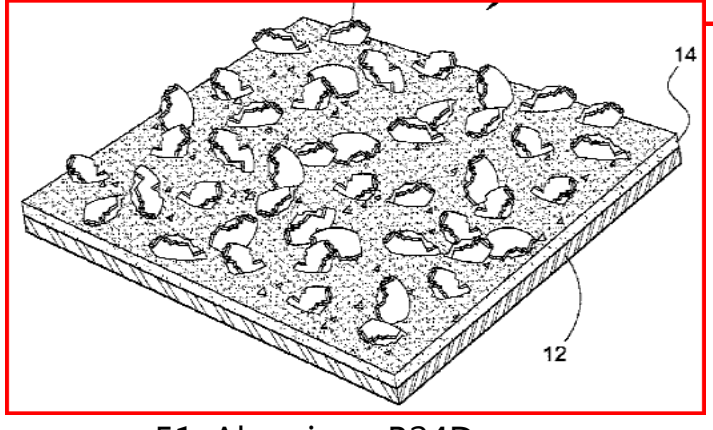
419: Power Metallurgy & 3D Printing, B22F

423: hydrogen production, C01B





420: Alloys & Metallic Compositions, C23C

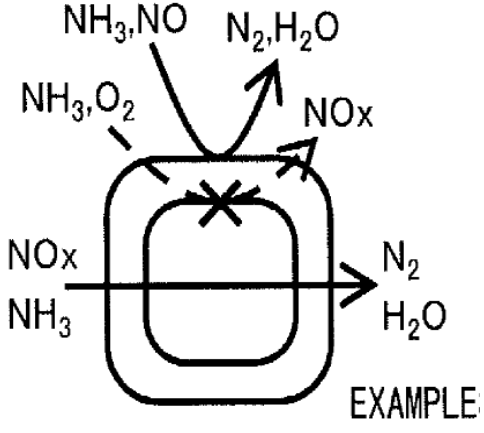


51: Abrasives, B24D

Division 1730

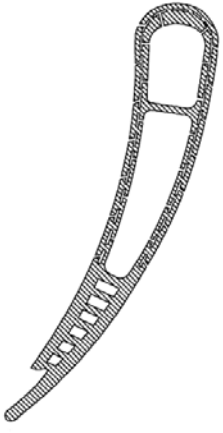
US 9,789,474

Exhaust Gas Purification Catalyst



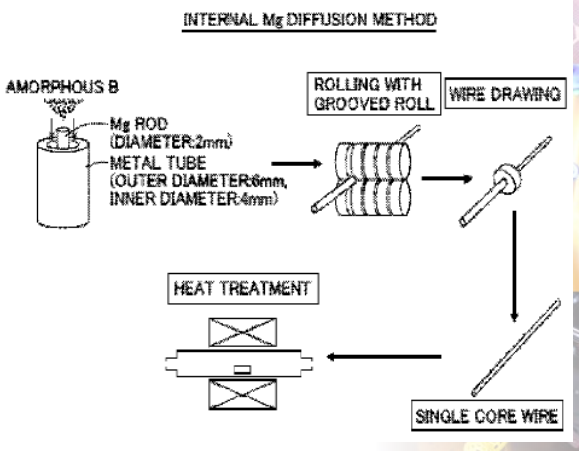
US 6,244,327

Single cast thin wall structures



US 9,741,472

Method for manufacturing MgB2 superconductor



Division 1730

Number of Examiners

79

Number of Supervisors

5

Examples of Technologies Examined

catalysts, cements, asphalts, binders, inks, sugars, diamonds, scrubbing processes, radioactive waste, propellants, carbon nanotubes

Total Actions per Biweek Completed as a Division

690

Level of Experience

Average of 14.6 years experience

68% Primary Examiners

Division 1740

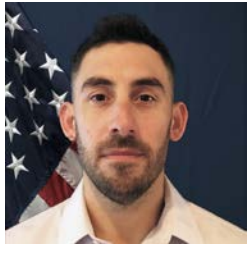
1741 (Acting)
Joe Del Sole
571-272-1130

1742
Christina Johnson
571-272-1176

1743
Joe Del Sole
571-272-1130

1744
Yogendra Gupta
571-272-1316

1745
Philip Tucker
571-272-1095



1746
Mike Orlando
571-270-5038

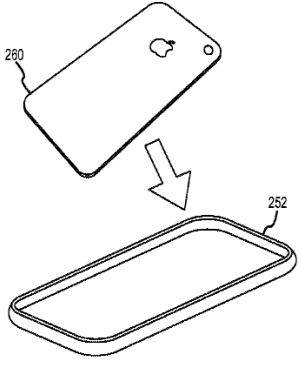
1747
Michael Wilson
571-270-3882

Division 1740

Arts examined in Division 1740:

- Tires and Tire Products
- Tobacco
- Adhesive bonding
- Delamination
- Glass making
- Paper making
- Plastics shaping
  - Injection molding
  - Extrusion molding
  - Blow molding
- Additive manufacturing
  - 3D printing

Division 1740



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

(10) **Patent No.: US 9,011,623 B2**
(45) **Date of Patent: Apr. 21, 2015**

(54) **COMPOSITE ENCLOSURE**

(75) Inventors: **Kevin M. Kenney**, San Jose, CA (US); **Peter N. Russell-Clarke**, San Francisco, CA (US)

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

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 834 days.

(21) Appl. No.: **13/039,490**

(22) Filed: **Mar. 3, 2011**

(65) **Prior Publication Data**

US 2012/0222985 A1 Sep. 6, 2012

(51) **Int. Cl.**

B29C 70/34	(2006.01)
B29C 53/56	(2006.01)
B65H 81/00	(2006.01)
B29C 70/32	(2006.01)
H05K 5/00	(2006.01)
B29C 53/84	(2006.01)
B29L 31/34	(2006.01)

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

CPC ***B29C 70/32*** (2013.01); ***B29C 53/562*** (2013.01); ***B29C 53/564*** (2013.01); *B29C 53/845* (2013.01); ***B29C 70/347*** (2013.01); *B29L 2031/3437* (2013.01); *B29L 2031/3481* (2013.01); ***H05K 5/0008*** (2013.01)

(58) **Field of Classification Search**

USPC 156/169, 173, 182, 184, 185, 187, 188, 156/190, 191, 242, 245, 153, 189, 193, 194, 156/268; 455/347

See application file for complete search history.

(56) **References Cited**

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3,814,016	A	6/1974	Leach et al.

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International Search Report and Written Opinion, PCT/US2012/024332, 12 pages, Jun. 19, 2012.

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Primary Examiner — John Goff
Assistant Examiner — Carson Gross
(74) *Attorney, Agent, or Firm* — Brownstein Hyatt Farber Schreck, LLP

(57) **ABSTRACT**

A composite enclosure for housing electronic devices, and methods related thereto, are provided. In particular, in some embodiments, a method of manufacturing a composite enclosure for housing electronic devices includes winding composite material about a mandrel and curing the composite material to create a composite hoop. A panel is formed in a separate process that includes stacking a plurality of composite layers in a mold and curing the composite layers to create a composite panel. The composite hoop and the composite panel are bonded together to form the composite enclosure.

16 Claims, 14 Drawing Sheets

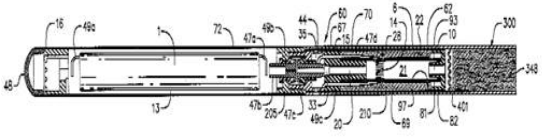
1. A method of manufacturing a composite enclosure for housing electronic devices comprising: winding composite material about a shaping structure; curing the composite material to create a composite hoop; stacking a plurality of composite layers in a mold; curing the plurality of composite layers to create a composite panel; machining an inner wall of the composite hoop to form a recess feature for receiving the composite panel; engaging the composite panel with the recess feature formed into the composite hoop; and bonding the recess feature of the composite hoop with the composite panel to form a 5-sided composite structure for the composite enclosure.

5. The method of claim 10 wherein the operation of machining the inner wall comprising creating a beveled surface to receive the composite panel.

Division 1740

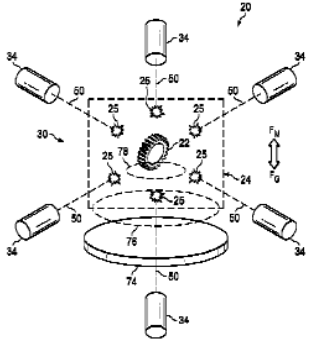
US 9,004,073

Electronic cigarette



US 9,908,288

Free-form spatial 3-D printing using part levitation



US 9,895,936

Dynamic traction cleated tires

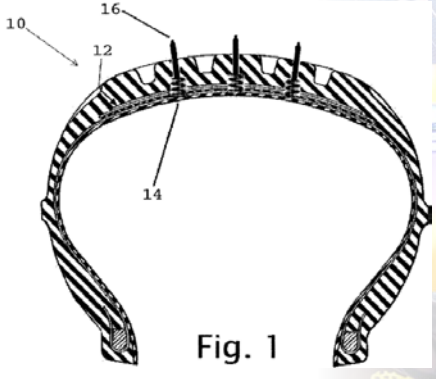


Fig. 1

Division 1740

Number of Examiners

110

Number of Supervisors

6

Examples of Technologies Examined

Tires, Adhesive Bonding, Glass/Paper making, Tobacco, Plastics Shaping & Molding

Total Actions per Biweek Completed as a Division

668

Level of Experience

Average of 11.7 years experience

55% Primary Examiners

Division 1750

1754
James Lin
571-272-8902

1756
Keith Hendricks
571-272-1401

1757
Jeff Barton
571-272-1307

1758
Jennifer Michener
571-272-1424

1759
Luan Van
571-272-8521

Division 1750

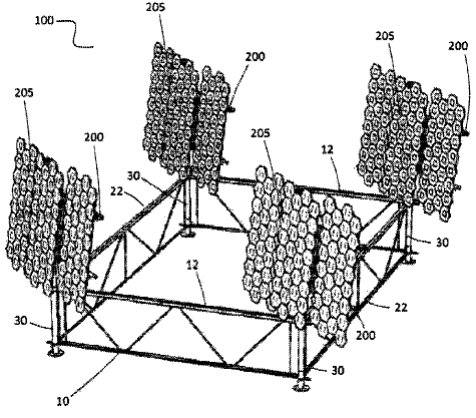
Arts examined in Division 1750:

- Thermoelectric and Photovoltaic Devices
- Electrolysis (e.g., Electroplating, Electrolytic Synthesis, Electropolishing, Corrosion Protection)
- Electrochemical Sensors (e.g., Glucose Strips, Gas Sensors)
- Sputtering

Division 1750

US 8,981,201

Self-Ballasted Apparatus for Solar Tracking



US 6,767,441

Biosensor with Peroxidase Enzyme

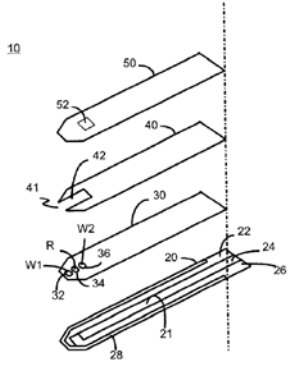


Fig. 2

US 8,425,752

Anodized Aluminum Cookware with Exposed Copper

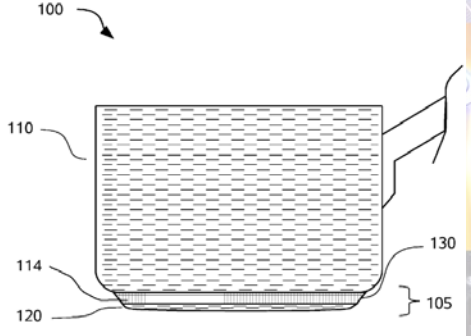


FIG. 1

Division 1750

Number of Examiners

60

Number of Supervisors

5

Examples of Technologies Examined

Solar cell panels, thermoelectric cooling devices, glucose strips, semiconductor coating

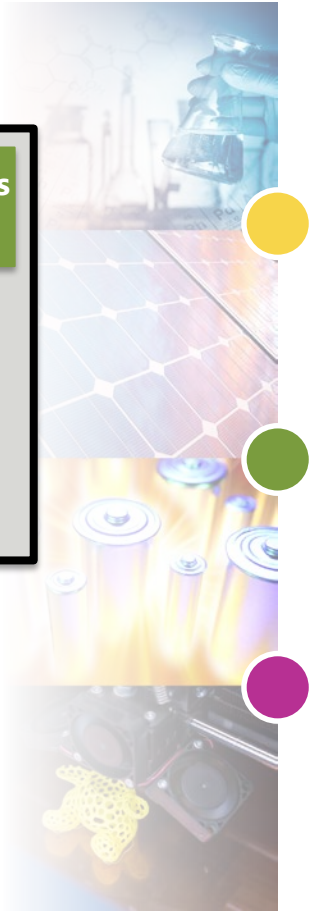
Total Actions per Biweek Completed as a Division

445

Level of Experience

Average of 9.8 years experience

73% Primary Examiners



Division 1760

1761
Harold Pyon
571-272-1498

1762
Gwen Blackwell
571-272-5772

1763
Walter Choi
571-272-1098

1764
Vasu Jagannathan
571-272-1119

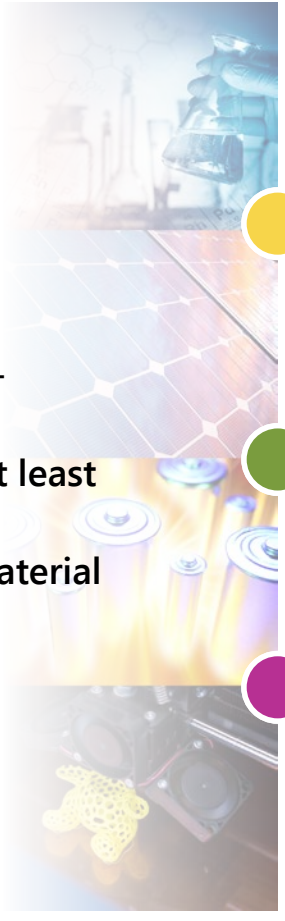
1765
James Seidleck
571-272-1078

1766
Randy Gulakowski
571-272-1302

1767
Mark Eashoo
571-272-1197

1768
Susannah Chung
571-272-6098

Division 1760

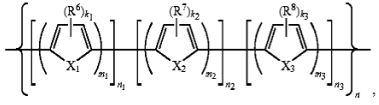


Arts examined in Division 1760:

- Chemiluminescent, perfume and cleaning compositions
- Bleaching and Dyeing-related compositions and methods
- Colloid systems and Wetting agents
- Polymer compositions and methods including those involving polymers and non-reactive materials
- Polymers made from unsaturated ethylenic monomers only and Polymers from at least one monomer devoid of ethylenic unsaturation
- Polyurethane, polyester, polyamide, polyimide, photo-curable polymer, optical material (photochromic, nonlinear optics, color filter)
- UV polymerization, microcapsules
- Polymer blends or composites including block and graft copolymers
- Siloxanes and Epoxy Polymers
- Oil well drilling compositions
- Catalysts including Metallocene, Ziegler-Natta, Metathesis, late-transition metal

Division 1760

(3)



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

(10) **Patent No.: US 9,627,147 B2**
(45) **Date of Patent: Apr. 18, 2017**

(54) **COMPOSITION AND METHOD FOR FORMING ELECTROACTIVE COATING COMPRISING CONJUGATED HETEROAROMATIC POLYMER, CAPACITOR AND ANTISTATIC OBJECT COMPRISING THE ELECTROACTIVE COATING, AND SOLID ELECTROLYTIC CAPACITOR AND METHOD FOR FABRICATING THE SAME**

(71) Applicant: **PolyM technology corporation**, Hsinchu (TW)

(72) Inventors: **Chien-Chung Han**, Hsinchu (TW); **Ting-Chia Ku**, Taichung (TW); **Jo-Wen Chiang**, Taichung (TW)

(73) Assignee: **PolyM technology corporation**, Hsinchu (TW)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 144 days.

(21) Appl. No.: **14/306,251**

(22) Filed: **Jun. 17, 2014**

(65) **Prior Publication Data**

US 2014/0293514 A1 Oct. 2, 2014

Related U.S. Application Data

(63) Continuation-in-part of application No. 13/662,533, filed on Oct. 28, 2012.

(51) **Int. Cl.**

C08G 75/00	(2006.01)
H01G 9/15	(2006.01)
H01G 9/00	(2006.01)
C08G 73/06	(2006.01)
H01B 1/12	(2006.01)
C09D 179/04	(2006.01)
C08G 61/12	(2006.01)

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

CPC ***H01G 9/15*** (2013.01); ***C08G 73/0611*** (2013.01); ***C09D 179/04*** (2013.01); ***H01B 1/127*** (2013.01); ***H01B 1/128*** (2013.01); ***H01G 9/0036*** (2013.01); *C08G 61/126* (2013.01); *C08G 2261/145* (2013.01); *C08G 2261/1412* (2013.01); *C08G 2261/3223* (2013.01); *C08G 2261/94* (2013.01)

(58) **Field of Classification Search**

CPC H01B 1/127; C08G 73/0611; C08G 75/00

See application file for complete search history.

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"Office Action of PCT Counterpart Application", issued on Mar. 25, 2015, p. 1-p. 12.

* cited by examiner

Primary Examiner — Mark Kaucher
(74) *Attorney, Agent, or Firm* — Jianq Chyun IP Office

(57) **ABSTRACT**

A composition for forming an electroactive coating is described, including an acid as a polymerization catalyst, at least one functional component, and at least one compound of formula (1) as a monomer:

(1)

wherein X is selected from S, O, Se, Te, PR^2 and NR^2, Y is hydrogen (H) or a precursor of a good leaving group Y^- whose conjugate acid (HY) has a pK_a of less than 30, Z is hydrogen (H), silyl, or a good leaving group whose conjugate acid (HY) has a pK_a of less than 30, b is 0, 1 or 2, each R^1 is a substituent, and the at least one compound of formula (1) includes at least one compound of formula (1) with Z═H and Y≠H.

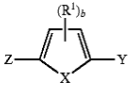
14 Claims, 2 Drawing Sheets

What is claimed is:

1. A composition for forming an electroactive coating, comprising:

at least one compound of formula (1) as a monomer,

(1)



wherein

X is selected from the group consisting of S, O, Se, Te, PR^2 and NR^2, wherein R^2 is selected from the group consisting of hydrogen, and substituted and unsubstituted alkyl, aryl, heteroaryl, alkanoyl, and aryloyl groups;

Y is hydrogen (H), or a precursor of a good leaving group Y^- whose conjugate acid (HY) has a pK_a of less than 30;

Z is hydrogen (H), silyl, or a precursor of a good leaving group Z^- whose conjugate acid (HZ) has a pK_a of less than 30;

b is 0, 1 or 2;

each R^1 is a substituent, wherein when b=2, the two R^1 are the same or different and may joint together to form a ring; and

the at least one compound of formula (1) comprises at least one compound of formula (1) with Z═H and Y≠H;

an acid as a polymerization catalyst selected from the group consisting of a protic acid, a polymeric acid, and a non-transitional Lewis acid; and

at least one functional component, selected from the group consisting of a solvent, a polymerization retardant, a polymer binder, a dopant, a dielectric layer protection agent, a plasticizer, an impact modifier, and a crosslinking agent,

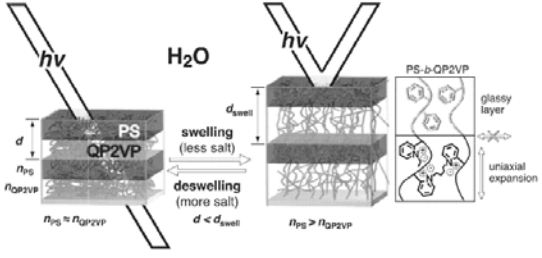
wherein the at least one functional component contains at least a polymerization retardant comprising at least one Lewis base having a stronger basicity than the monomer, and

when the polymerization retardant comprises a carbonate, the carbonate is selected from dimethyl carbonate, ethylene carbonate, and propylene carbonate.

Division 1760

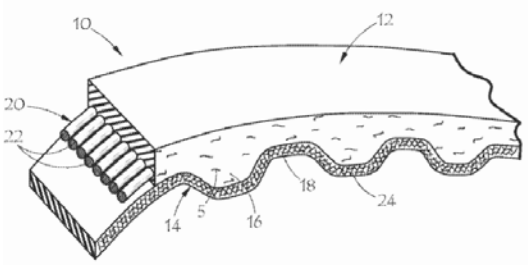
US 9,360,604

Broad Wavelength Range Chemically-Tunable Photonic Materials



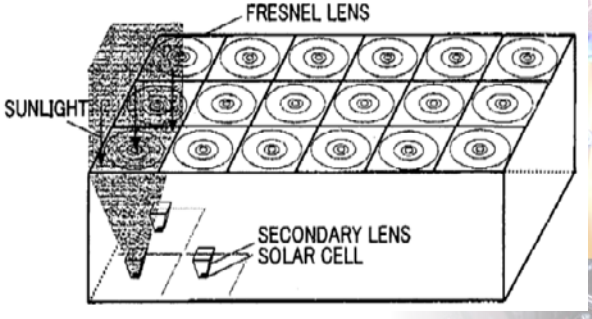
US 9,255,201

Kenaf Reinforced Rubber for Power Transmission Belts



US 9,158,042

Fresnal Lens Sheet for Solar Concentration and Design Method



Division 1760

Number of Examiners

114

Number of Supervisors

8

Examples of Technologies Examined

Polymer compositions, chemiluminescent, perfume, polyurethane, polyester, polyamide, polyolefin, optical material, microcapsules, siloxane and epoxy polymers

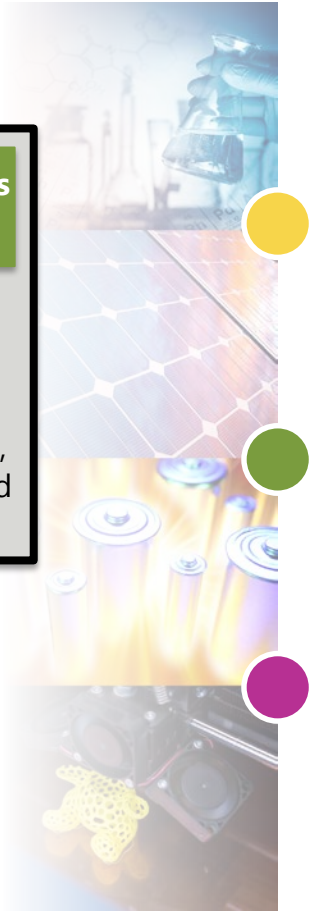
Total Actions per Biweek Completed as a Division

973

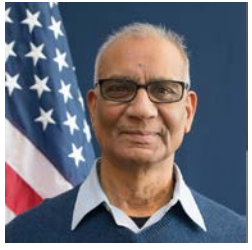
Level of Experience

Average of 14.6 years experience

83% Primary Examiners



Division 1770



1771
Prem Singh
571-272-6381

1772
In Suk Bullock
571-272-5954

1773
Heidi Kelley
571-270-1831

1774
Walter Griffin
571-272-1447

1776
Duane Smith
571-272-1166

1777
Vickie Kim
571-272-0579

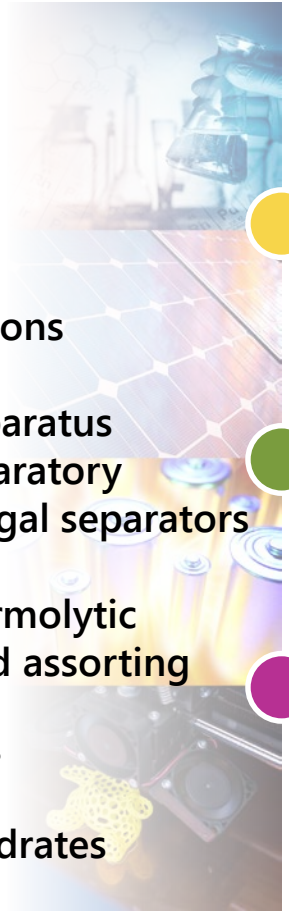
1778
Nam Nguyen
571-272-1342

1779
Bob Ramdhanie
571-270-3240

Division 1770

- Arts examined in Division 1770:

- Chemical apparatus and process disinfecting, deodorizing, preserving, or sterilizing
- Liquid purification or separation
- Chemistry of hydrocarbon compounds
- Gas separation: processes
- Mineral oils: processes and products
- Solid anti-friction devices, materials therefor, lubricant or separant compositions for moving solid surfaces, and miscellaneous mineral oil compositions
- Agitating
- Gas separation
- Fuel and related compositions
- Gas separation: apparatus
- Gas and liquid contact apparatus
- Distillation: processes, separatory
- Imperforate bowl: centrifugal separators
- Distillation: apparatus
- Distillation: processes, thermolytic
- Classifying, separating, and assorting solids
- Concentrating evaporators
- Fluid handling
- Sugar, starch, and carbohydrates



Division 1770

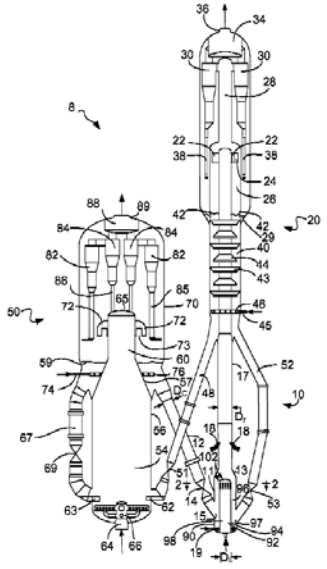


FIG. 1

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

(10) **Patent No.: US 9,005,431 B2**
(45) **Date of Patent: Apr. 14, 2015**

(54) **PROCESS AND APPARATUS FOR DISTRIBUTING HYDROCARBON FEED TO A CATALYST STREAM**

(75) Inventors: **Roger L. Throndson**, Schaumburg, IL (US); **Paolo Palmas**, Des Plaines, IL (US); **Lev Davydov**, Northbrook, IL (US); **Mohammed-Reza Mostofi-Ashtiani**, Naperville, IL (US)

(73) Assignee: **UOP LLC**, Des Plaines, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 400 days.

(21) Appl. No.: **13/534,273**

(22) Filed: **Jun. 27, 2012**

(65) **Prior Publication Data**

US 2014/0001095 A1 Jan. 2, 2014

(51) **Int. Cl.**
C10G 11/18 (2006.01)
B01J 8/18 (2006.01)
B01J 8/38 (2006.01)

(52) **U.S. Cl.**
CPC ***C10G 11/18*** (2013.01); ***B01J 8/1827*** (2013.01); ***B01J 8/388*** (2013.01); ***B01J 2208/00902*** (2013.01)

(58) **Field of Classification Search**
CPC C10G 11/18; C10G 2400/02; C10G 2400/20; B01J 8/0025; B01J 8/1827; B01J 8/34; B01J 8/388; B01J 2208/0084; B01J 2208/00752; C12P 7/6463; C12P 7/64; C12P 7/6409; C12P 7/649; C12P 33/00; C12P 7/6472; C12P 5/02; C12P 7/6436; C12P 19/14; C12P 7/04; C12P 7/20; C12P 7/6418
USPC 208/163, 113, 153, 158, 146, 164
See application file for complete search history.

(56) **References Cited**

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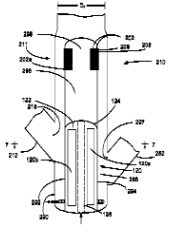
(Continued)

Primary Examiner — Randy Boyer
Assistant Examiner — Juan Valencia

(57) **ABSTRACT**

A process and apparatus described is for distributing hydrocarbon feed to catalyst in a riser. Hydrocarbon feed is delivered to a plenum in the riser. Nozzles from the plenum inject feed into the riser to contact the catalyst. Streams of regenerated catalyst and carbonized catalyst may be passed to the riser and mixed around an insert in a lower section of a riser. The plenum may be located in the riser.

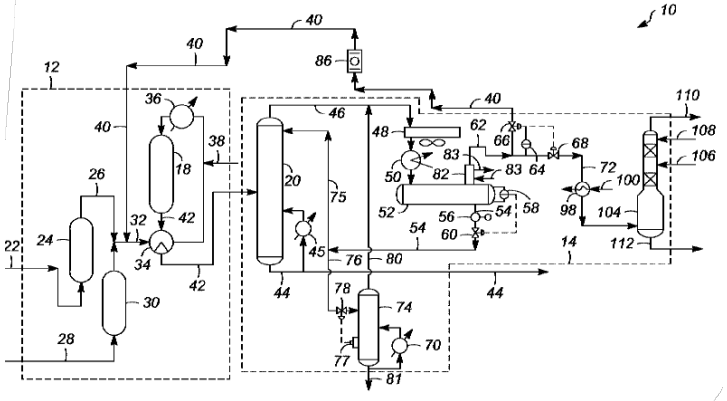
16 Claims, 5 Drawing Sheets



1. A fluid catalytic process comprising:
feeding a vaporous hydrocarbon feed stream to a plenum in a riser;
feeding a first stream of catalyst and a second stream of catalyst to said riser to contact said hydrocarbon feed stream;
passing said first stream of catalyst into a chamber in said insert to mix with said second stream of catalyst and passing said second stream of catalyst into said chamber to mix said first stream of catalyst;
injecting said hydrocarbon feed stream from said plenum away from a radial center of said riser into said riser; and
passing said hydrocarbon feed stream and said stream of catalyst up said riser.

2. The process of claim 1 further comprising:
passing said first stream of catalyst around an insert comprising said plenum to mix with said second stream of catalyst;
passing said second stream of catalyst around said insert to mix with said first stream of catalyst; and
passing said first stream of catalyst and said second stream of catalyst up said riser.

Division 1770



What is claimed is:

1. A method for isomerization of paraffins, the method comprising the steps of:

separating an isomerization effluent into a product stream that comprises branched and un-branched paraffins and a stabilizer vapor stream that comprises HCl, H_2, and C_6-hydrocarbons;

separating the stabilizer vapor stream into a net gas vapor comprising HCl, H_2, and C_6-hydrocarbons and a liquid stream that comprises C_2- and C_3^+ hydrocarbon;

separating the net gas vapor into a C_5-hydrocarbons-rich phase and a HCl and H_2-rich stream in a chiller;

activating an isomerization catalyst using at least a portion of the HCl and H_2-rich stream to form a chloride-promoted isomerization catalyst, wherein at least the portion of the HCl and H_2-rich stream is directly recycled from separation of the net gas vapor to activating the isomerization catalyst; and

contacting a paraffin feed stream with the chloride-promoted isomerization catalyst in the presence of hydrogen for isomerization of the paraffins.

(12) **United States Patent**
Rice

(10) **Patent No.: US 9,040,765 B2**
(45) **Date of Patent: *May 26, 2015**

(54) **METHODS AND APPARATUSES FOR ISOMERIZATION OF PARAFFINS**

(75) Inventor: **Lynn H. Rice**, Denver, CO (US)

(73) Assignee: **UOP LLC**, Des Plaines, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 249 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/434,703**

(22) Filed: **Mar. 29, 2012**

(65) **Prior Publication Data**

US 2013/0261366 A1 Oct. 3, 2013

(51) **Int. Cl.**
C07C 5/13 (2006.01)
C10G 45/60 (2006.01)
C10G 45/58 (2006.01)

(52) **U.S. Cl.**
CPC ***C10G 45/60*** (2013.01); ***C10G 45/58*** (2013.01); *C10G 2300/1081* (2013.01); *C10G 2300/70* (2013.01); *C10G 2300/703* (2013.01)

(58) **Field of Classification Search**
USPC 208/133, 134, 135, 136, 137, 138, 139, 208/140, 141; 585/734, 741, 742, 747, 748, 585/800, 801, 802, 812, 803, 813, 814, 815
See application file for complete search history.

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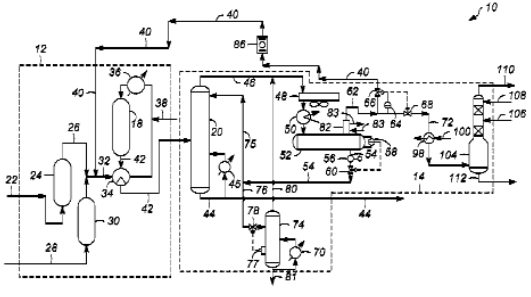
(Continued)

Primary Examiner — In Suk Bullock
Assistant Examiner — Sharon Pregler

(57) **ABSTRACT**

Embodiments of methods and apparatuses for isomerization of paraffins are provided. In one example, a method comprises the steps of separating an isomerization effluent into a product stream that comprises branched paraffins and a stabilizer vapor stream that comprises HCl, H_2, and C_6-hydrocarbons. C_6-hydrocarbons are removed from the stabilizer overhead vapor stream to form a HCl and H_2-rich stream. An isomerization catalyst is activated using at least a portion of the HCl and H_2-rich stream to form a chloride-promoted isomerization catalyst. A paraffin feed stream is contacted with the chloride-promoted isomerization catalyst in the presence of hydrogen for isomerization of the paraffins.

19 Claims, 1 Drawing Sheet



Division 1770

US 8,783,663

Humidifying Apparatus

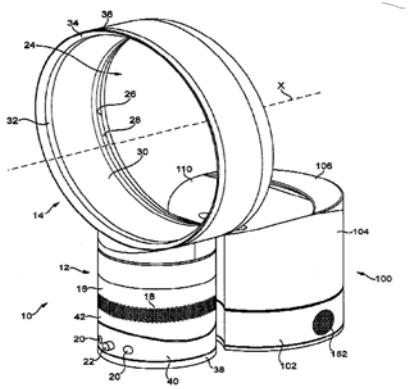
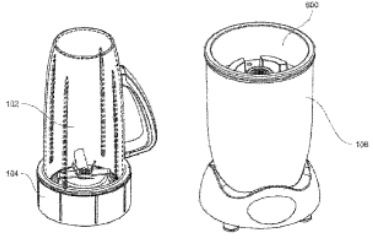


FIG. 1

US 9,775,467

Blender



US 9,849,407

Carafe filter with air lock prevention feature

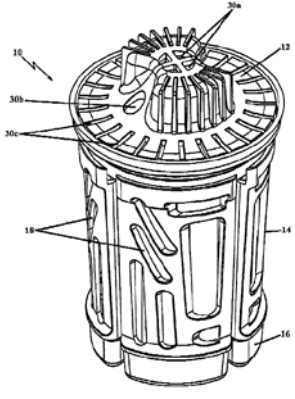


FIG. 3

Division 1770

US 9,009,914

Vacuum Cleaner

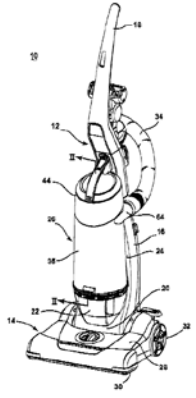


FIG. 1

US 8,936,655

Integrated process system for single cell oil production and a pulp and/or paper industry process

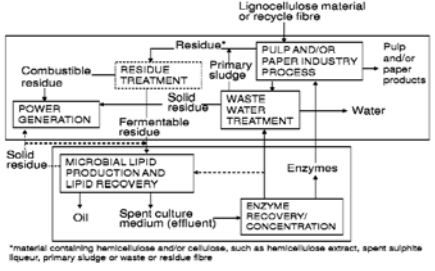


Fig. 1

US 8,580,112

Dialysis Systems and Methods

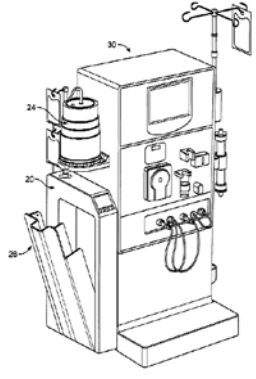


FIG. 2

Division 1770

Number of Examiners

104

Number of Supervisors

8

Examples of Technologies Examined

Filtration devices and membrane products, hemodialysis equipment, vacuum cleaners, distillation, catalytic cracking systems and related processes

Total Actions per Biweek Completed as a Division

788

Level of Experience

Average of 11.5 years experience

59% Primary Examiners

Division 1780

1781
Aaron Austin
571-272-8935

1782 (Acting)
Mark Ruthkosky
571-272-1291

1783
Veronica Ewald
571-272-8519

1784
Humera Sheikh
571-272-0604

1785
Mark Ruthkosky
571-272-1291

1786
Jennifer Chriss
571-272-7783

1787
Callie Shosho
571-272-1123

1788
Alicia Chevalier
571-272-1490

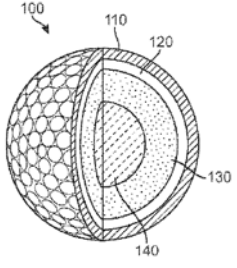
1789
Marla McConnell
571-270-7692

Division 1780

Arts examined in Division 1780:

- Stock Material or Miscellaneous Articles
- Fabric (Woven, Knitted, or Nonwoven Textile or Cloth, Etc.)
- Record Receiver Having Plural Interactive Leaves or A Colorless Color Former, Method of Use, or Developer Therefor

Division 1780



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

(10) **Patent No.: US 8,906,508 B2**
(45) **Date of Patent: Dec. 9, 2014**

(54) **METHOD OF TOUGHENING THERMOPLASTIC POLYURETHANE AND ARTICLES COMPRISING TOUGHENED THERMOPLASTIC POLYURETHANE**

(75) Inventors: **Yasushi Ichikawa**, Tualatin, OR (US); **Thomas J. Kennedy, III**, Wilbraham, MA (US)

(73) Assignee: **NIKE, Inc.**, Beaverton, OR (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 94 days.

(21) Appl. No.: **13/483,791**

(22) Filed: **May 30, 2012**

(65) **Prior Publication Data**

US 2013/0323512 A1 Dec. 5, 2013

(51) **Int. Cl.**
B32B 27/40 (2006.01)
B05D 3/02 (2006.01)
B05D 7/02 (2006.01)

(52) **U.S. Cl.**
USPC **428/423.3**; 427/379

(58) **Field of Classification Search**
USPC 428/423.3; 427/379
See application file for complete search history.

(56) **References Cited**

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Primary Examiner — Thao T. Tran
(74) *Attorney, Agent, or Firm* — Honigman Miller Schwartz and Cohn, LLP; Anna M. Budde; Johnathan P. O'Brien

(57) **ABSTRACT**

A method of toughening thermoplastic polyurethane (TPU). The TPU is dipped into a urethane solution having a penetrating agent, then heated and dried for a period sufficient to toughen the surface. Also, articles such as golf balls having a toughened thermoplastic polyurethane surface. The toughened thermoplastic polyurethane surface is more scuff-resistant and has a greater strain-rate shear resistance than the TPU.

5 Claims, 7 Drawing Sheets

4. A golf ball having a toughened TPU surface prepared by the method of claim 1.

5. A golf ball according to claim 4, wherein the isocyanate comprises a member selected from the group consisting of polymeric diphenylmethane diisocyanates, HDI homopolymers, and combinations thereof.

Division 1780

US 7,560,399

Multi-layer composite fabric garment

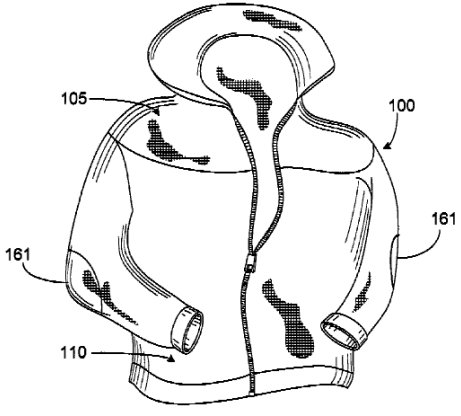


FIG. 1

US 8,877,316

Cloth-like personal care articles

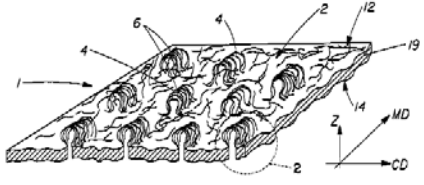
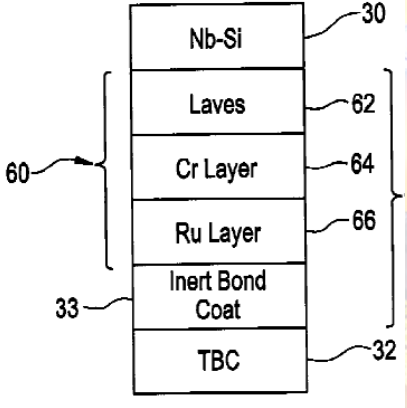


Fig. 1

US 7,189,459

Turbine blade for extreme temperature conditions

FIG. 7



Division 1780

Number of Examiners

127

Number of Supervisors

8

Examples of Technologies Examined

Aerospace composites, roofing materials, recording media, Christmas trees, functional garments

Total Actions per Biweek Completed as a Division

884

Level of Experience

Average of 11.7 years experience

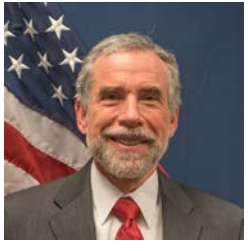
67% Primary Examiners

Division 1790

1791
Larry Tarazano
571-272-1515

1792
Erik Kashnikow
571-270-3475

1793
Emily Le
571-272-0903



1797
Lyle Alexander
571-272-1254

1798
Jill Warden
571-272-1267

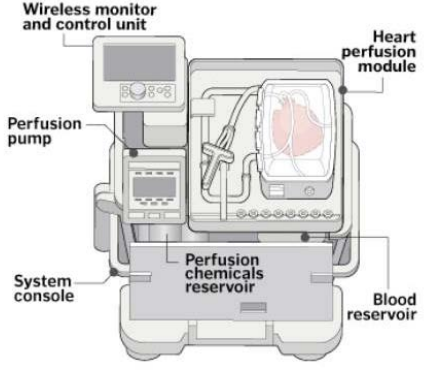
1799
Mike Marcheschi
571-272-1374

Division 1790

Arts examined in Division 1790:

- Processes involving a chemical reaction for determining qualitatively or quantitatively the presence of a chemical element, compound or complex and process for analysis.
- Analytical apparatus for performing an analysis which involves either a chemical reaction or a physical reaction and for making tests and measurements.
- Maintaining a protective environment or counteracting destructive environment by disinfection, deodorizing, preserving, or sterilizing.
- Apparatus which include (1) using a microorganism or enzyme, (2) fixing or stabilizing nonliving microorganisms, cells, or tissues; (3) organ or tissue maintenance and (4) fermentation.

Division 1790



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

(10) **Patent No.: US 7,572,622 B2**
(45) **Date of Patent: Aug. 11, 2009**

(54) **HEART PRESERVATION CHAMBER**

(75) Inventors: **Waleed H. Hassanein**, North Andover, MA (US); **Richard L. Bringham**, North Andover, MA (US); **Ronald L. Taylor, Jr.**, Everett, MA (US)

(73) Assignee: **TransMedic, Inc.**, Andover, MA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 566 days.

(21) Appl. No.: **10/640,867**

(22) Filed: **Aug. 14, 2003**

(65) **Prior Publication Data**

US 2004/0171138 A1 Sep. 2, 2004

Related U.S. Application Data

(60) Provisional application No. 60/403,556, filed on Aug. 14, 2002.

(51) **Int. Cl.**
A01N 1/02 (2006.01)

(52) **U.S. Cl.** **435/284.1**; 435/1.2

(58) **Field of Classification Search** 435/284.1, 435/1.2; 15/257.06; 220/570; 396/631, 396/641, 643
See application file for complete search history.

(56) **References Cited**

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Primary Examiner—William H Beisner
(74) *Attorney, Agent, or Firm*—Hamilton, Brook, Smith & Reynolds, P.C.

(57) **ABSTRACT**

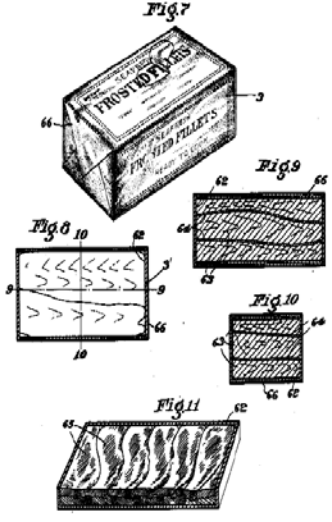
A heart preservation chamber is disclosed which comprises a housing, an inclined trough support surface, and inlet and outlet fluid connections for the major heart blood vessels.

37 Claims, 3 Drawing Sheets

Division 1790

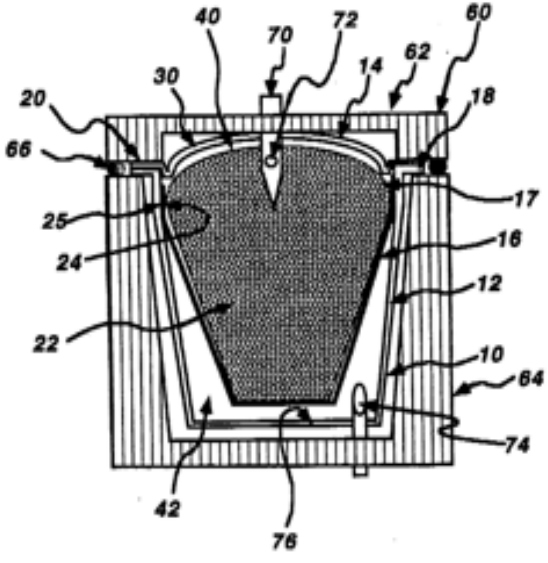
US 1,773,079

Method of Preparing Food Products



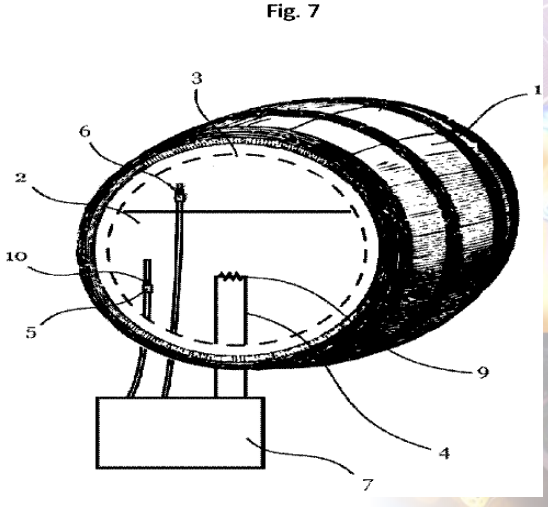
US 5,325,765

Beverage Filter Cartridge



US 9,637,713

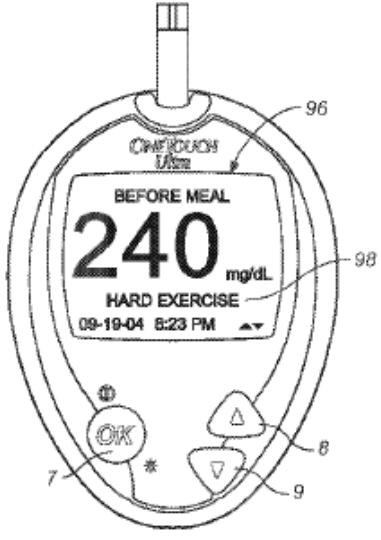
Method for Rapid Maturation of Distilled Spirits Using Light and Heat Processes



Division 1790

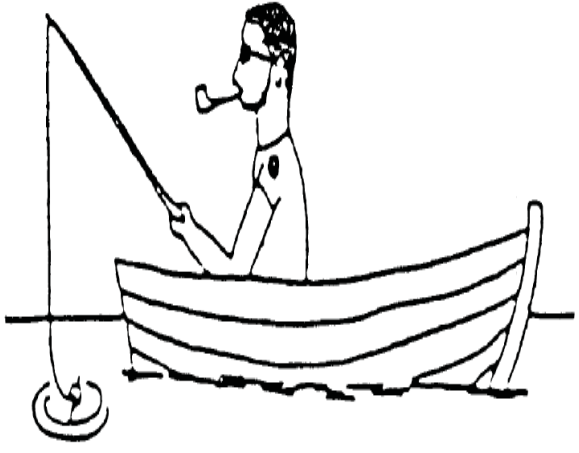
US 8,348,843

Method of Inputting Data into an Analyte Testing Device



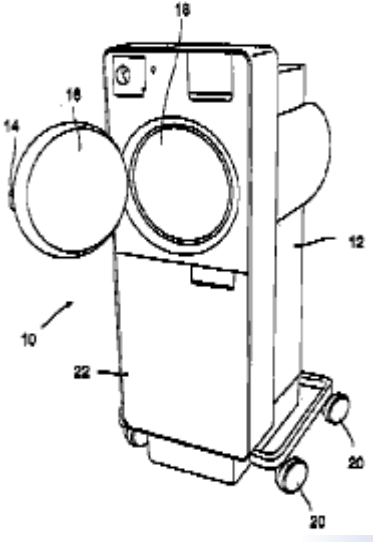
US 6,132,681

Disposable Dosimeter for Sun Radiation



US 8,425,837

Device and Method for Gas Sterilization



Division 1790

Number of Examiners

83

Number of Supervisors

6

Examples of Technologies Examined

Alcoholic Ice Cream
CPAP Sterilizer
Glucose Meter
Impossible™ Burger
Gene Gun

Total Actions per Biweek Completed as a Division

619

Level of Experience

Average of 12.1 years experience

65% Primary Examiners

Quality Assurance Specialists

Bill Krynski
571-272-1024

Rick Crispino
571-272-1226

Chris Fiorilla
571-272-1187

Tom Dunn
571-272-1171

Christine Tierney
571-272-1055

Kat Wyrozebski
571-272-1127
SPE, Work Assignment

Special Programs

TC1700 Points of Contact

QPIDS

The Quick Path Information Disclosure Statement (QPIDS) pilot program is part of the USPTO's on-going efforts towards compact prosecution and pendency reduction.

Christine Tierney
571-272-1055

Subject Matter Eligibility

The USPTO issues guidance explaining how our patent examiners should evaluate claims for subject matter eligibility under 35 U.S.C. 101.

Larry Tarazano
571-272-1515

Jill Warden
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Christine Tierney
571-272-1055

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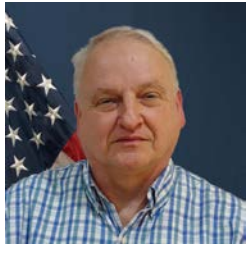

Bill Krynski
571-272-1024

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Mike Marcheschi
571-272-1374

Interview Practice Specialist

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Randy Gulakowski
571-272-1302

Nadine Norton
571-272-1465

Miriam Stagg
571-270-5256

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Bill Krynski
571-272-1024

Tom Dunn
571-272-1171

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Bill Krynski
571-272-1024

Christine Tierney
571-272-1055

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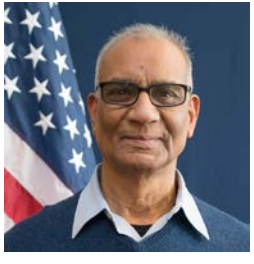

Prem Singh

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- Strengthens our patent system and fosters collaboration.
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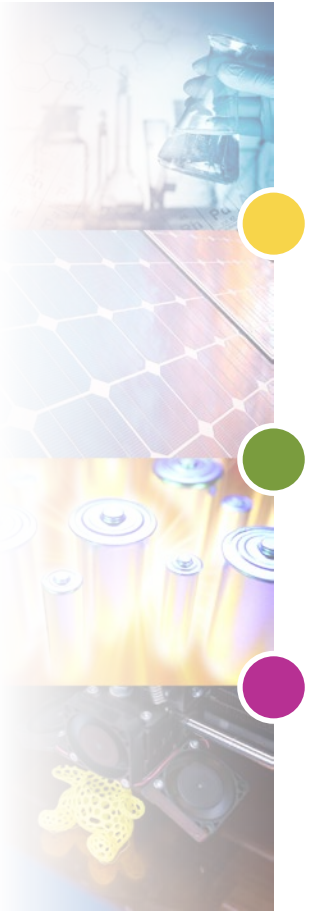

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- Webcast from the speaker's location.
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Dah-Wei Yuan
571-272-1295

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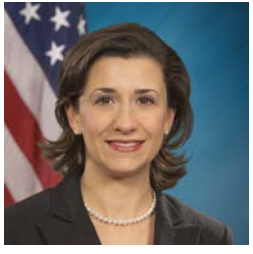
Breakout Session

Q&A



Gladys Corcoran
571-272-1300

Bonnie Eyler
571-272-1200

Alexa Neckel
571-272-2450

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TC1700Events@uspto.gov

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DEPARTMENT OF COMMERCE