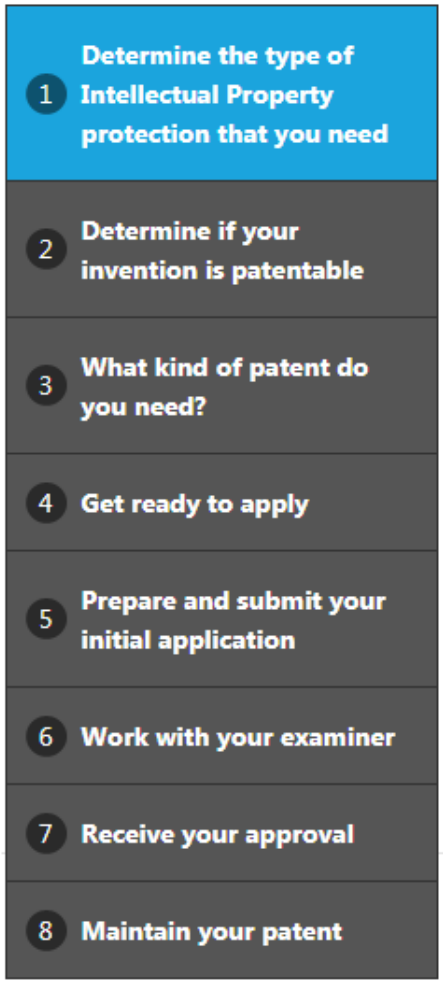
Agenda

- U.S. Patent Procurement
- Patent Searching
- U.S. Trademark Procurement
- Trademark Searching
- Overlapping Universes of Intellectual property
- Case Studies (time permitting)

U.S. Patent Procurement

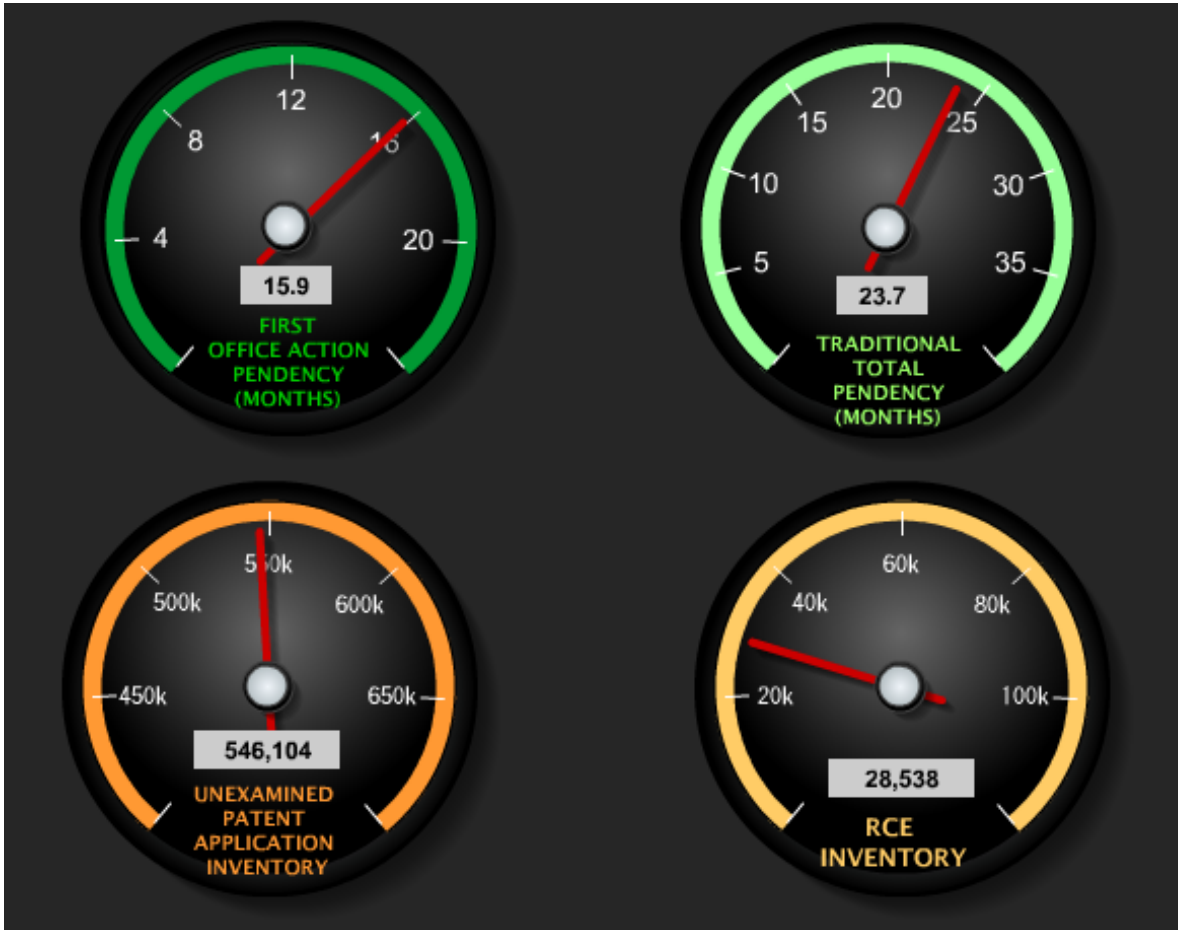
- USPTO's Patent Process Overview
- www.uspto.gov/patents-getting-started/patent-process-overview



Overview of U.S. Patent Procurement Process

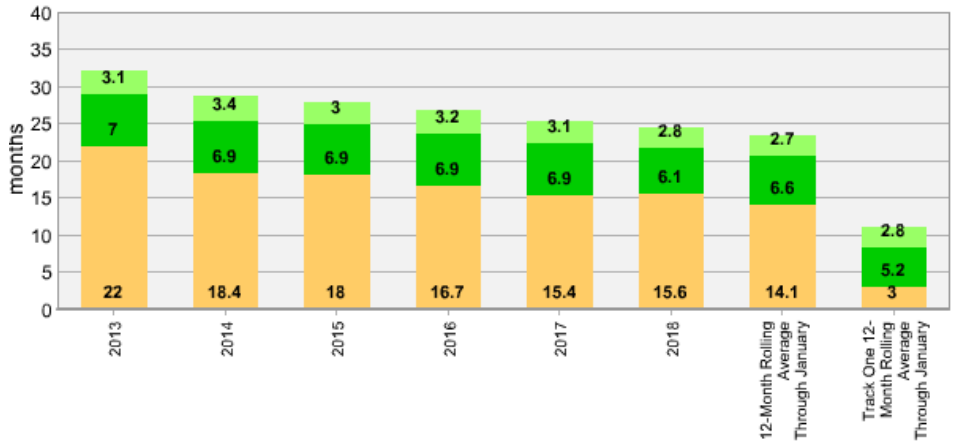
- Prepare application
  - Description
  - Drawings
  - Claims
- Application is Examined
  - Prior Art Search
  - (Usually) Issues Office Action
- File Response
  - Amendments, AND/OR
  - Arguments
- (Possibly) Final Office Action
- (Possibly) Amendment, Request Continued Examination, or Appeal

U.S. Patent Procurement – how long will it take?

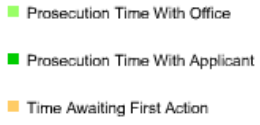


www.uspto.gov/dashboards/patents/main.dashxml

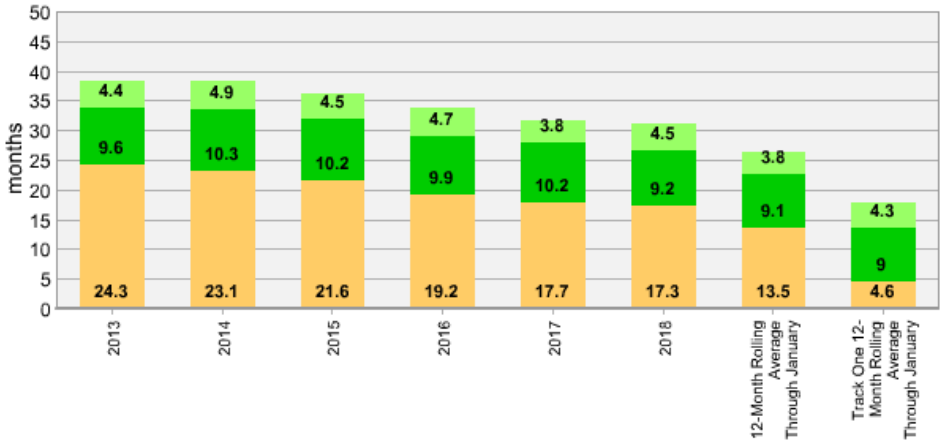
Office Time and Applicant Time - Traditional Total Pendency



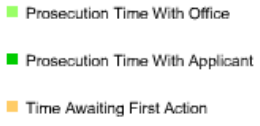
Office and applicant time - traditional total pendency represents a detailed look at the traditional total pendency measure, and the Track One Prioritized Examination Process. The data is cumulative for the year and breaks out time into three categories: prosecution time with the office, time awaiting first action, and prosecution time with the applicant.



Office Time and Applicant Time - Traditional Total Pendency Including Requests for Continued Examination (RCEs)

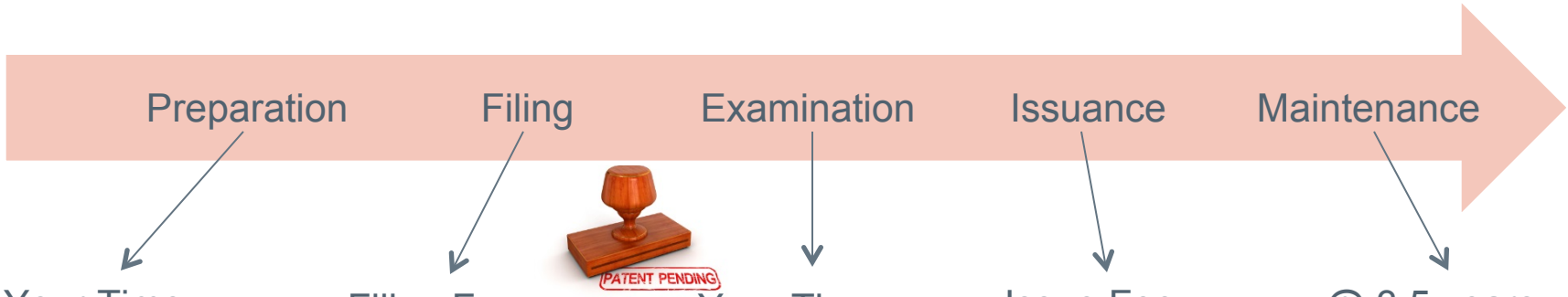


Office and applicant time - traditional total pendency including RCEs represents a detailed look at the traditional total pendency including RCEs measure, and the Track One Prioritized Examination Process. The data is cumulative for the year and breaks out time into three categories: prosecution time with the office, time awaiting first action, and prosecution time with the applicant.



U.S. Patent Procurement – How much will it cost?

U.S. Patent Procurement – a financial timeline

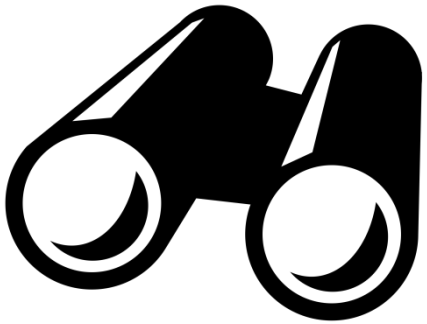


Preparation	Filing	Examination	Issuance	Maintenance
Your Time + Attorney Time Search Fees? Drawing Fees?	Filing Fee - $75/$150/$300 Search Fee - $165/$330/$660 Examination Fee – $190/$380/$760 **Total** – $430/$860/$1720	Your Time + Attorney Time First RCE - $325/$650/$1,300 Second RCE - $475/$950/$1,900	Issue Fee - $250/$500/$1,000	@ 3.5 years - $400/$800/$1,600 @ 7.5 years - $900/$1,800/$3,600 @ 11.5 years - $1,850/$3,700/$7,400

- *Fees for a U.S. non-provisional patent application without extras fees for claims or pages*
- *Micro Entity/Small Entity/Large Entity*

Patent Searching

- Types of Searches
  - Patentability
  - Validity
  - Infringement
  - Clearance
  - State of the Art
- Tools and Techniques
  - USPTO's Seven Step Search Strategy
  - USPTO Search Example



Types of Prior Art Searches – Patentability Search

- To determine if an invention is patentable / claim scope
- Look for prior art disclosing the invention or something similar
- Any “public domain” knowledge

Collecting Information About Inventions

- Invention Disclosure Form (IDF)
  - Title of the invention
  - Name and contact information for each inventor
  - Field of the invention
  - Current state of the art, including any problems with current solutions
  - Objections and goals of the invention
  - Detailed explanation of the invention, including:
    - Advantages over the current state of the art
    - Alternative embodiments
  - Include drawings, flowcharts, logic diagrams, and electrical schematics
  - Any prior disclosure of the invention
- Interview the Inventor(s)

Types of Prior Art Searches – Validity Search

- To determine the validity of an issued patent
- Look for prior art documents that would invalidate one or more claims in the issued patent

Types of Prior Art Searches – Validity Search (example)

What is claimed is:

1. An apparatus, comprising:

a vehicle ("ego-vehicle") configured to be autonomously navigated in a peloton along a roadway, wherein the peloton comprises the ego-vehicle and at least one additional vehicle, wherein the ego-vehicle comprises:

a vehicle navigation system which is configured to:

based on a comparison of driving ranges of each of the ego-vehicle and the at least one additional vehicle, determine a particular configuration of the peloton, which comprises a particular peloton position in which the ego-vehicle is navigated relative to the at least one additional vehicle, which reduces a difference of the relative driving ranges of the ego-vehicle and the at least one additional vehicle; and

generate a set of control commands which cause the vehicle to be navigated in the peloton at the particular peloton position, according to the particular configuration of the peloton.

Related U.S. Application Data

(60) Provisional application No. 62/232,853, filed on Sep. 25, 2015.

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

(10) **Patent No.: US 10,108,202 B1**
(45) **Date of Patent: Oct. 23, 2018**

(54) **PELOTON**

(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(72) Inventors: **Randol W. Aikin**, Sunnyvale, CA (US); **Malcolm J. Northcott**, Felton, 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 0 days.

(21) Appl. No.: **15/275,160**

(22) Filed: **Sep. 23, 2016**

Related U.S. Application Data

(60) Provisional application No. 62/232,853, filed on Sep. 25, 2015.

(51) **Int. Cl.**

G01S 13/00	(2006.01)
G01S 13/93	(2006.01)
G05D 1/00	(2006.01)
G05D 1/02	(2006.01)
B60L 11/18	(2006.01)

(52) **U.S. Cl.**
CPC ***G05D 1/0293*** (2013.01); ***B60L 11/1801*** (2013.01); ***B60L 11/1816*** (2013.01); ***G05D 1/0295*** (2013.01)

(58) **Field of Classification Search**
CPC G05D 1/00; G05D 1/0293; G05D 1/0295; B60L 11/00; B60L 11/1801; B60L 11/1816; G01C 21/00; G01C 21/26; G01C 21/34; G08G 1/22
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,032,097	A *	2/2000	Iihoshi	G08G 1/22 180/168
6,813,561	B2 *	11/2004	MacNeille	G01C 21/26 342/357.34
8,676,466	B2 *	3/2014	Mudalige	G08G 1/22 370/252
8,774,981	B2 *	7/2014	Paz-Meidan	B25J 5/00 700/245
9,396,661	B2 *	7/2016	Okamoto	G08G 1/22
9,799,224	B2 *	10/2017	Okamoto	G08G 1/22
2004/0193372	A1 *	9/2004	MacNeille	G01C 21/26 701/468
2014/0210646	A1 *	7/2014	Subramanya	B61L 29/28 340/928

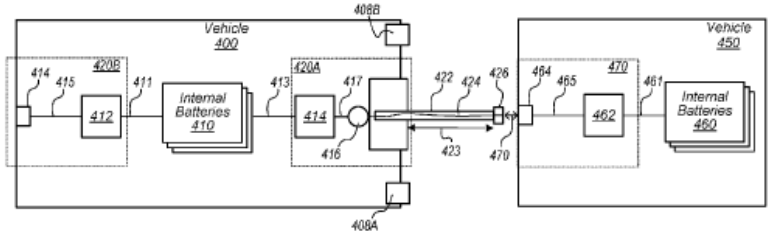
* cited by examiner

Primary Examiner — Yonel Beaulieu
(74) *Attorney, Agent, or Firm* — Robert C. Kowert; Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C.

(57) **ABSTRACT**

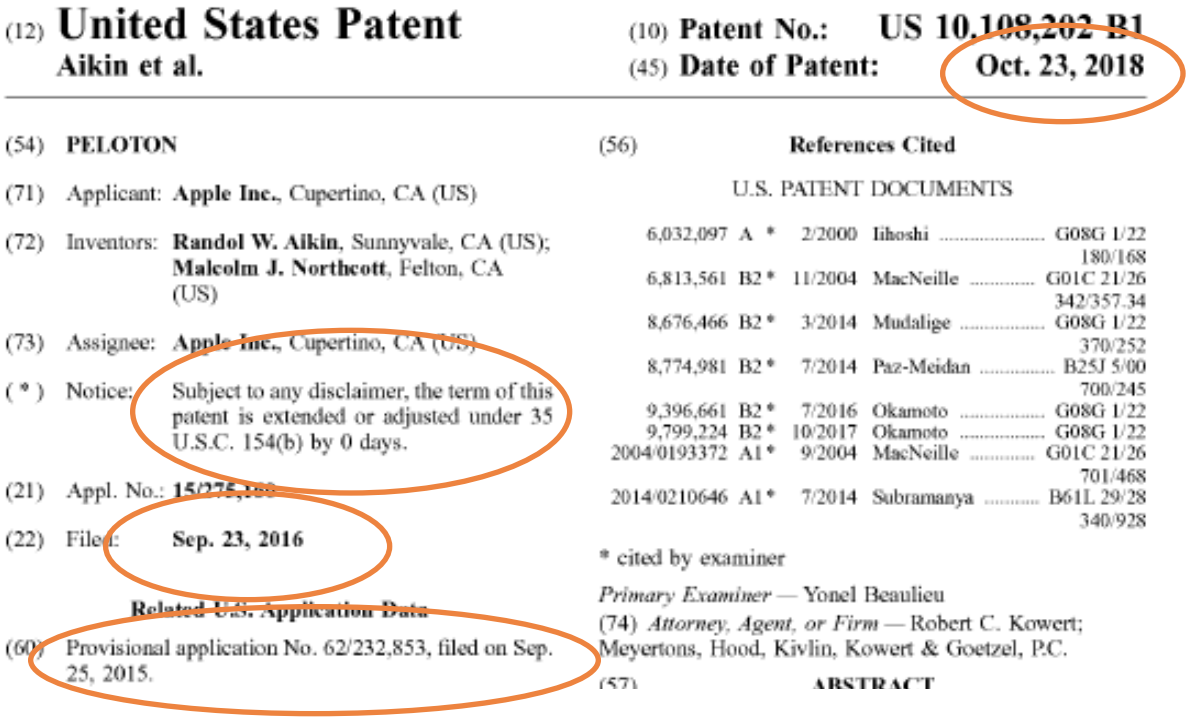
A vehicle configured to be autonomously navigated in a peloton along a roadway, wherein the peloton comprises at least the vehicle at least one additional vehicle, is configured to determine a position of the vehicle in the peloton which reduces differences in relative driving ranges among the vehicles included in the peloton. The vehicles can dynamically adjust peloton positions while navigating to reduce driving range differences among the vehicles. The vehicle can include a power management system which enables the vehicle to be electrically coupled to a battery included in another vehicle in the peloton, so that driving range differences between the vehicles can be reduced via load sharing via the electrical connection. The vehicle can include a power connector arm which extends a power connector to couple with an interface of another vehicle.

20 Claims, 5 Drawing Sheets



Types of Prior Art Searches – Infringement Search

- To determine whether a patent claim would be infringed
- Compare a proposed product or service to non-expired U.S. patents



(12) **United States Patent**
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(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(72) Inventors: **Randol W. Aikin**, Sunnyvale, CA (US); **Malcolm J. Northcott**, Felton, 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 0 days.

(21) Appl. No.: **15/275,[illegible]**

(22) Filed: **Sep. 23, 2016**

Related U.S. Application Data

(60) Provisional application No. 62/232,853, filed on Sep. 25, 2015.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,032,097	A *	2/2000	Iihoshi	G08G 1/22 180/168
6,813,561	B2 *	11/2004	MacNeille	G01C 21/26 342/357.34
8,676,466	B2 *	3/2014	Mudalige	G08G 1/22 370/252
8,774,981	B2 *	7/2014	Paz-Meidan	B25J 5/00 700/245
9,396,661	B2 *	7/2016	Okamoto	G08G 1/22
9,799,224	B2 *	10/2017	Okamoto	G08G 1/22
2004/0193372	A1 *	9/2004	MacNeille	G01C 21/26 701/468
2014/0210646	A1 *	7/2014	Subramanya	B61L 29/28 340/928

* cited by examiner

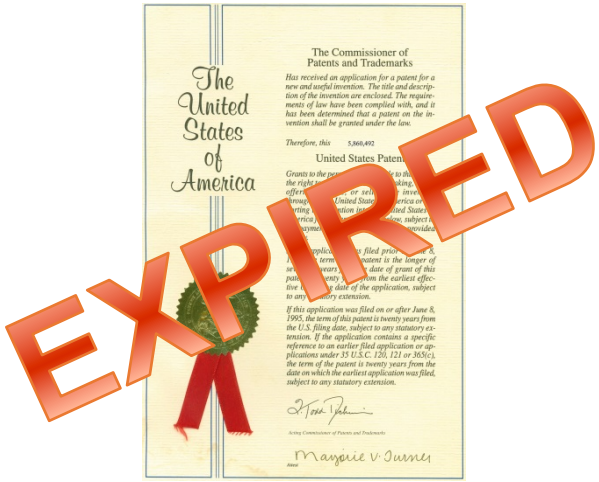
Primary Examiner — Yonel Beaulieu
(74) *Attorney, Agent, or Firm* — Robert C. Kowert; Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C.

(57) **ABSTRACT**

September 23, 2016
+
20 years
+
0 days
=
September 23, 2036

Types of Prior Art Searches – Clearance Search

- To determine if an action is a “safe” practice of the prior art (“safe” = reduced risk of patent infringement liability)
- Try to find that the invention has been “dedicated to the public”



- Scope
  - Expired or Lapsed Patents
  - Abandoned Published Patent Applications

Types of Prior Art Searches – State of the Art Search

- To determine the “lay of the land” in a technical space
- Look at the broad, general inventive concept without specific implementation details

USPTO's 7-Step Search Strategy

1. Brainstorm Terms
2. Find Cooperative Patent Classification (CPC)
3. Verify CPC
4. Retrieve Issued U.S. Patents with CPC, Review and Narrow Results
5. Review Each Relevant Patent in Depth including References Cited by the Examiner and the Applicant
6. Retrieve U.S. Patent Applications with CPC, Review and Narrow Results
7. Broaden Your Search

www.uspto.gov/learning-and-resources/support-centers/patent-and-trademark-resource-centers-ptrc/resources/seven

USPTO Search Example – Step 1

- Invention: Umbrella with a new rib design to eliminate collapsing or inverting due to winds

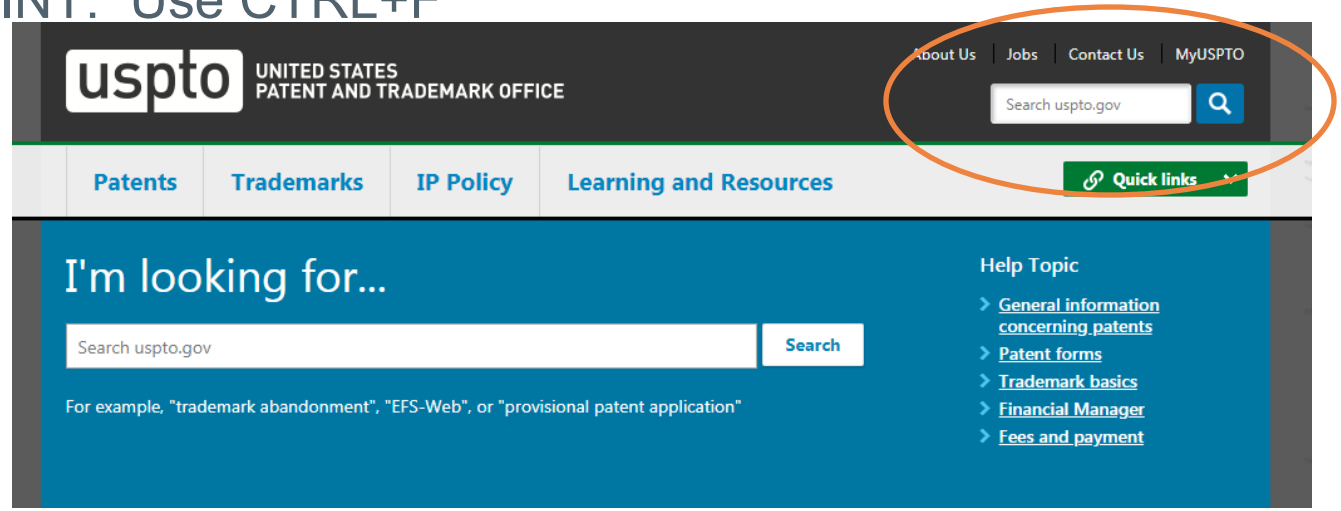
Step 1: Brainstorm Terms

- Umbrella
- Rib
- Parasol
- Sunshade
- Wind-resistant

USPTO Search Example – Step 2

Step 2: Find CPC

- www.uspto.gov
- Search for “CPC scheme umbrella”
- Scan results for the best match: “A45B 25/22 Devices for increasing the resistance of umbrellas to wind”
- HINT: Adjust indentation level
- HINT: Use CTRL+F



USPTO Search Example – Step 3

Step 3: Verify Relevancy of CPC

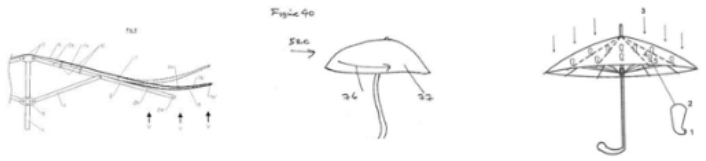
D		A45B 25/20	. . Windows in covers
D		A45B 25/22	. Devices for increasing the resistance of umbrellas to wind
D	-	A45B 25/24	. Protective coverings for umbrellas when closed
D		A45B 25/26	. . Ventilated coverings
D		A45B 25/28	. Drip receptacles for umbrellas; Attaching devices therefor
D		A45B 25/30	. Name-plates; Badges; Labelling or marking devices; Means for attaching same (attached to the umbrella stick A45B 9/06)
D	-	**A45B 27/00**	**Ladies' or like fans**
D		A45B 27/02	. with mechanical hand-drive

A45B 25/22

Devices for increasing the resistance of umbrellas to wind

Definition statement

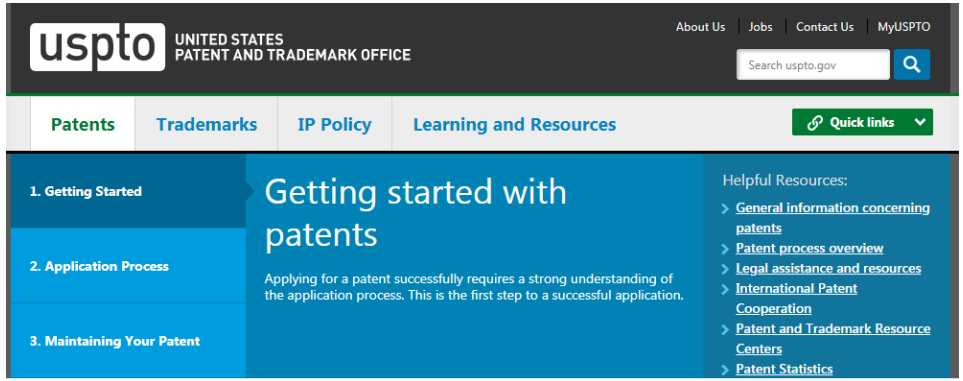
This place covers:

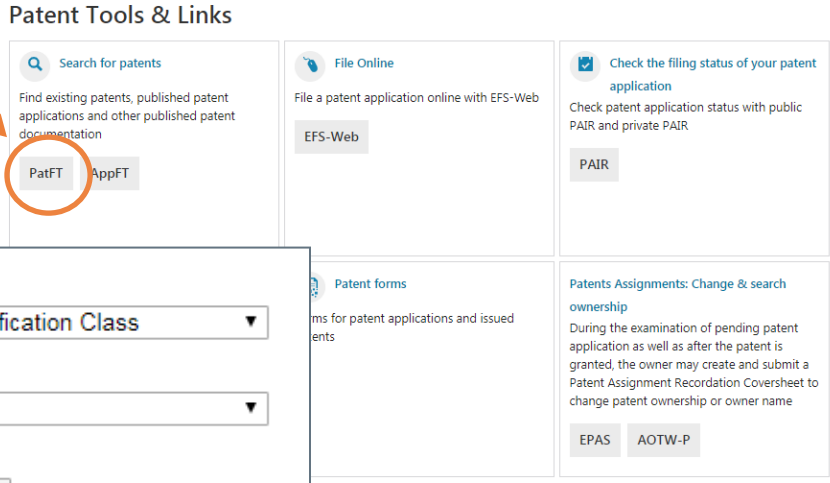


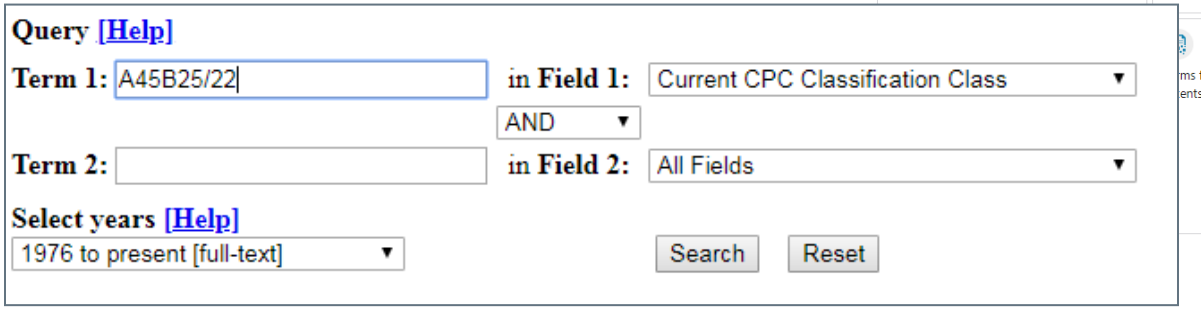
USPTO Search Example – Step 4

Step 4: Retrieve Issued U.S. Patents with CPC

- www.uspto.gov/patent
- Use PatFT tool
- Search String: CPC/A45B25/22
  - ❖ HINT: No spaces



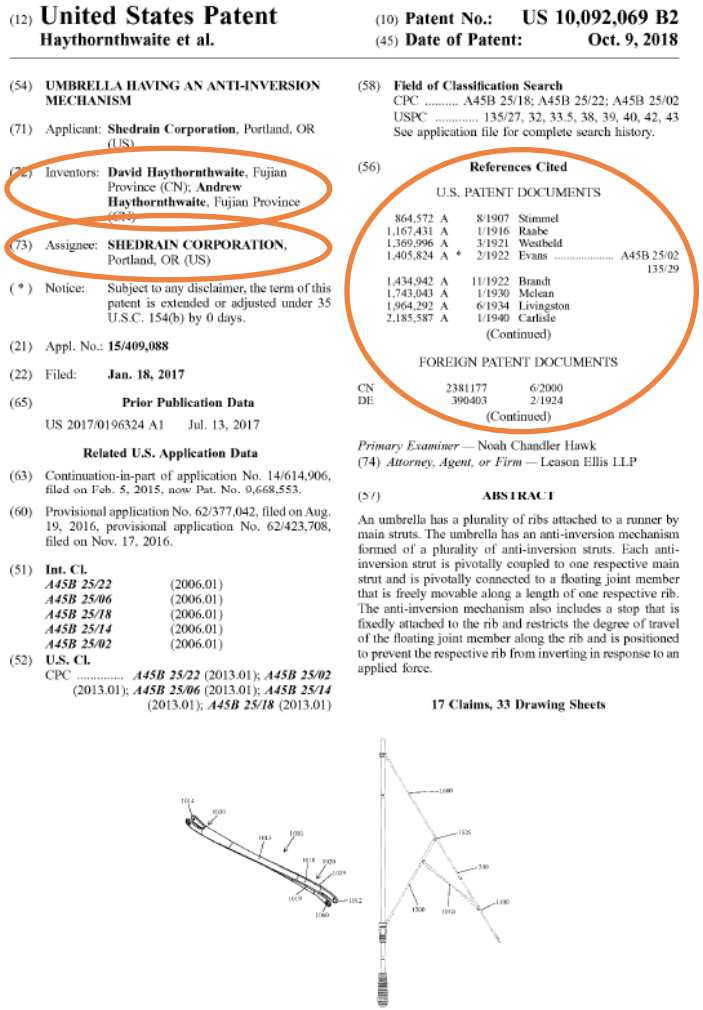




USPTO Search Example – Step 4 (continued)

Step 4 (cont.): Review and Narrow Results of >100 patents, including U.S. Patent No. 10,092,069

- HINT: Click "Images" Button
- HINT: Click "Full Pages" Button



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

(10) **Patent No.: US 10,092,069 B2**
(45) **Date of Patent: Oct. 9, 2018**

(54) **UMBRELLA HAVING AN ANTI-INVERSION MECHANISM**

(71) Applicant: **Shedrain Corporation**, Portland, OR (US)

(72) Inventors: **David Haythornthwaite**, Fujian Province (CN); **Andrew Haythornthwaite**, Fujian Province (CN)

(73) Assignee: **SHEDRAIN CORPORATION**, Portland, OR (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.: **15/409,088**

(22) Filed: **Jan. 18, 2017**

(65) **Prior Publication Data**

US 2017/0196324 A1 Jul. 13, 2017

Related U.S. Application Data

(63) Continuation-in-part of application No. 14/614,906, filed on Feb. 5, 2015, now Pat. No. 9,668,553.

(60) Provisional application No. 62/377,042, filed on Aug. 19, 2016, provisional application No. 62/423,708, filed on Nov. 17, 2016.

(51) **Int. Cl.**

A45B 25/22	(2006.01)
A45B 25/06	(2006.01)
A45B 25/18	(2006.01)
A45B 25/14	(2006.01)
A45B 25/02	(2006.01)

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

CPC ***A45B 25/22*** (2013.01); ***A45B 25/02*** (2013.01); ***A45B 25/06*** (2013.01); ***A45B 25/14*** (2013.01); ***A45B 25/18*** (2013.01)

(58) **Field of Classification Search**

CPC A45B 25/18; A45B 25/22; A45B 25/02
USPC 135/27, 32, 33.5, 38, 39, 40, 42, 43
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

864,572	A	8/1907	Stimmel	
1,167,431	A	1/1916	Raabe	
1,369,996	A	3/1921	Westbeld	
1,405,824	A *	2/1922	Evans	A45B 25/02 135/29
1,434,942	A	11/1922	Brandt	
1,743,043	A	1/1930	Mclean	
1,964,292	A	6/1934	Livingston	
2,185,587	A	1/1940	Carlisle	

(Continued)

FOREIGN PATENT DOCUMENTS

CN	2381177	6/2000
DE	390403	2/1924

(Continued)

Primary Examiner — Noah Chandler Hawk
(74) *Attorney, Agent, or Firm* — Leason Ellis LLP

(57) **ABSTRACT**

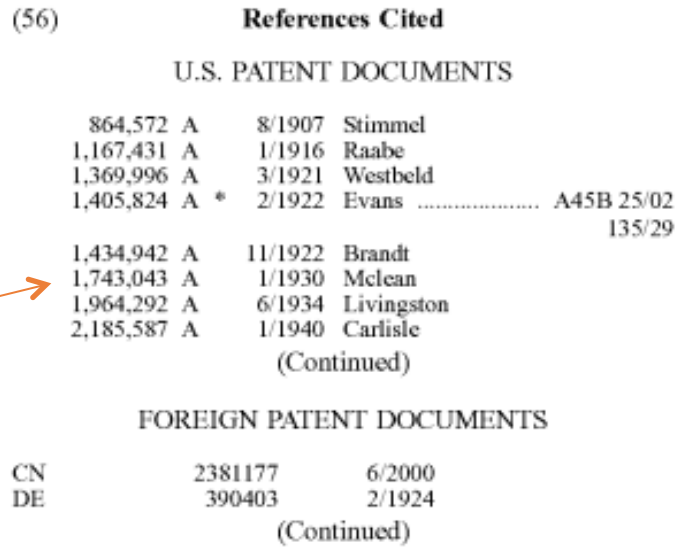
An umbrella has a plurality of ribs attached to a runner by main struts. The umbrella has an anti-inversion mechanism formed of a plurality of anti-inversion struts. Each anti-inversion strut is pivotally coupled to one respective main strut and is pivotally connected to a floating joint member that is freely movable along a length of one respective rib. The anti-inversion mechanism also includes a stop that is fixedly attached to the rib and restricts the degree of travel of the floating joint member along the rib and is positioned to prevent the respective rib from inverting in response to an applied force.

17 Claims, 33 Drawing Sheets

USPTO Search Example – Steps 5 & 6

Step 5: Review Each Relevant Patent in Depth including References Cited during Examination

- HINT: List of the references cited by the Examiner and the Applicant starts on the front page of the patent



(56) **References Cited**

U.S. PATENT DOCUMENTS

864,572	A		8/1907	Stimmel	
1,167,431	A		1/1916	Raabe	
1,369,996	A		3/1921	Westbeld	
1,405,824	A	*	2/1922	Evans	A45B 25/02 135/29
1,434,942	A		11/1922	Brandt	
1,743,043	A		1/1930	Mclean	
1,964,292	A		6/1934	Livingston	
2,185,587	A		1/1940	Carlisle	

(Continued)

FOREIGN PATENT DOCUMENTS

CN	2381177	6/2000
DE	390403	2/1924

(Continued)

Step 6: Retrieve U.S. Patent Applications with CPC, Review and Narrow Results

- Use AppFT tool
- Example: CPC/A45B25/22

USPTO Search – Step 7

Step 7: Broaden Your Search

- Consider inventor(s) and assignees of relevant patents

Searching US Patent Collection...

Results of Search in US Patent Collection db for:
AN/shedrain: 16 patents.
*Hits **1** through **16** out of **16***

Jump To

Refine Search an/shedrain

	PAT. NO.	Title
1	10,092,069	Umbrella having an anti-inversion mechanism
2	9,756,912	Wind resistant umbrella
3	D789,074	Button for a handle
4	9,668,554	Umbrella having an anti-inversion mechanism
5	9,668,553	Umbrella having an anti-inversion mechanism
6	9,609,926	Umbrella having improved shaft and rib assembly
7	D773,799	Button for a handle
8	9,301,582	Umbrella having improved shaft and rib assembly
9	D699,543	Handle
10	D691,446	Handle
11	D689,280	Umbrella having reflective material
12	D652,203	Umbrella having reflective material
13	7,996,961	Pliable handle
14	7,634,839	Pliable handle
15	7,234,205	Pliable handle
16	6,968,599	Pliable handle

Searching US Patent Collection...

Results of Search in US Patent Collection db for:
IN/Haythornthwaite: 33 patents.
*Hits **1** through **33** out of **33***

Jump To

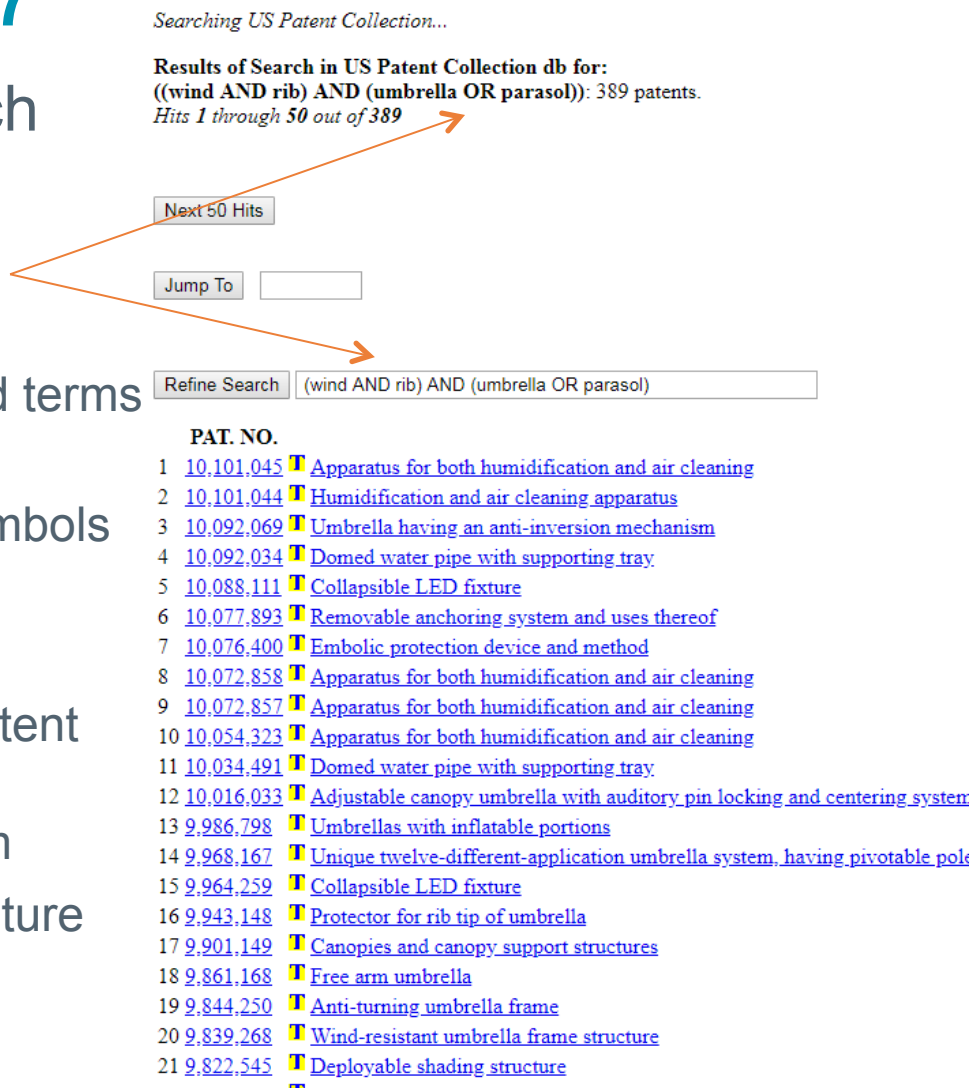
Refine Search in/Haythornthwaite

	PAT. NO.	Title
1	10,092,069	Umbrella having an anti-inversion mechanism
2	9,838,749	System and methods for providing content to vehicles
3	9,756,912	Wind resistant umbrella
4	D789,074	Button for a handle
5	9,668,554	Umbrella having an anti-inversion mechanism
6	9,668,553	Umbrella having an anti-inversion mechanism
7	9,609,926	Umbrella having improved shaft and rib assembly
8	D773,799	Button for a handle
9	9,301,582	Umbrella having improved shaft and rib assembly
10	8,858,038	Lighting apparatus with peak/flat adjustment
11	D713,637	Pocket umbrella and container
12	D699,543	Handle
13	D691,446	Handle
14	8,453,660	Foldable pocket umbrella
15	D481,531	Umbrella handle
16	D466,764	Eating utensil
17	6,453,063	Automatic focused ion beam imaging system and method
18	6,288,393	Automated method of circuit analysis
19	5,647,982	Vacuum filter element
20	D343,351	Container
21	D309,071	Condiment dispenser
22	4,721,222	Combination beverage can carrier device and drinking accessory
23	4,702,004	Glass razor blade and handle
24	4,616,828	Tennis ball
25	4,613,138	Tennis racquet with flexible membrane frame
26	4,597,576	Sports racquet utilizing non-circular strings
27	D283,343	Heater
28	D281,810	Heater

USPTO Search – Step 7

Step 7: Broaden Your Search

- Keyword Searching
  - HINT: Use OR between synonyms
  - HINT: Place phrases and terms of art in quotation marks
  - HINT: Use truncation symbols ($)
- Other sources:
  - Search the Espacenet patent database @ http://worldwide.espacenet.com
  - Search Non-Patent Literature Disclosures



Trademarks

K&L GATES

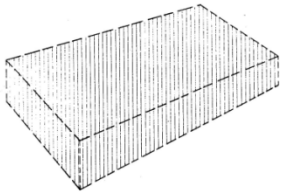
JUST DO IT.®

Int. Cl.: 17

Prior U.S. Cl.: 12

United States Patent and Trademark Office Reg. No. 1, Registered M

TRADEMARK
PRINCIPAL REGISTER



OWENS-CORNING FIBERGLAS CORPORATION (DELAWARE CORPORATION)
FIBERGLAS TOWER
TOLEDO, OH 43659

FOR: FIBROUS GLASS RESIDENTIAL INSULATION, IN CLASS 17 (U.S. CL. 12).
FIRST USE 0-0-1956; IN COMMERCE 0-0-1956.

THE DRAWING IS LINED TO I THE COLOR PINK.
SEC. 2(F).

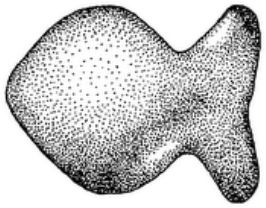
SER. NO. 247,707, FILED 1-25-1980.

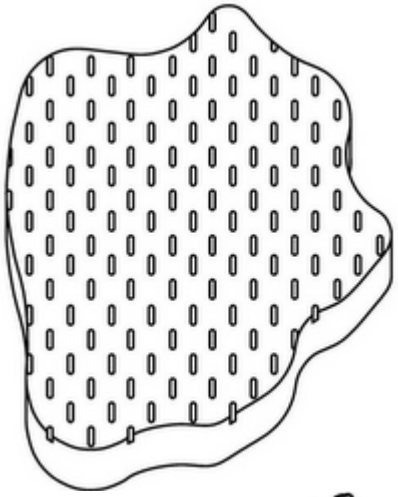
ROBERT PEVERADA, EXAMINING ATTORNEY

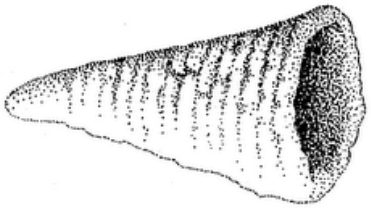
NBC chimes

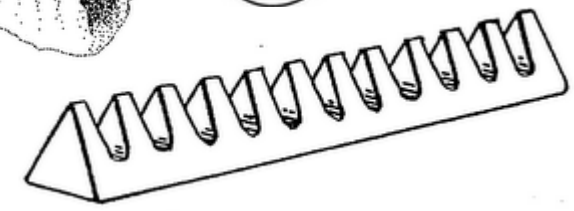
United States of America
United States Patent and Trademark Office

NON-VISUAL PLAY-DOH SCENT MARK









Reg. No. 5,467,089
Registered May 15, 2018
Int. Cl.: 28
Trademark
Principal Register

Hasbro, Inc. (RHODE ISLAND CORPORATION)
1027 Newport Avenue
Pawtucket, RHODE ISLAND 02862

CLASS 28: Toy modeling compounds

FIRST USE 9-12-1955; IN COMMERCE 9-12-1955

The mark is a scent of a sweet, slightly musky, vanilla fragrance, with slight overtones of cherry, combined with the smell of a salted, wheat-based dough

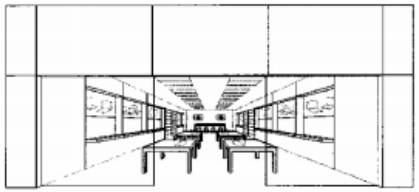
SEC.2(F)

SER. NO. 87-335,817, FILED 02-14-2017

Trade Dress

United States of America

United States Patent and Trademark Office



Reg. No. 4,277,914

Registered Jan. 22, 2013

Int. Cl.: 35

SERVICE MARK

PRINCIPAL REGISTER

APPLE INC. (CALIFORNIA CORPORATION)
1 INFINITE LOOP
MS 36-4TM
CUPERTINO, CA 95014

FOR: RETAIL STORE SERVICES FEATURING COMPUTERS, COMPUTER SOFTWARE, COMPUTER PERIPHERALS, MOBILE PHONES, CONSUMER ELECTRONICS AND RELATED ACCESSORIES, AND DEMONSTRATION OF PRODUCTS RELATING THERETO, IN CLASS 35 (U.S. CLS. 100, 101 AND 102).

FIRST USE 9-0-2006; IN COMMERCE 9-0-2006.

THE MARK CONSISTS OF THE DESIGN AND LAYOUT OF A RETAIL STORE. THE STORE FEATURES A CLEAR GLASS STOREFRONT SURROUNDED BY A PANELED FACADE CONSISTING OF LARGE, RECTANGULAR HORIZONTAL PANELS OVER THE TOP OF THE GLASS FRONT, AND TWO NARROWER PANELS STACKED ON EITHER SIDE OF THE STOREFRONT. WITHIN THE STORE, RECTANGULAR RECESSED LIGHTING UNITS TRAVERSE THE LENGTH OF THE STORE'S CEILING. THERE ARE CANTILEVERED SHELVES BELOW RECESSED DISPLAY SPACES ALONG THE SIDE WALLS, AND RECTANGULAR TABLES ARRANGED IN A LINE IN THE MIDDLE OF THE STORE PARALLEL TO THE WALLS AND EXTENDING FROM THE STOREFRONT TO THE BACK OF THE STORE. THERE IS MULTI-TIERED SHELVING ALONG THE SIDE WALLS, AND A OBLONG TABLE WITH STOOLS LOCATED AT THE BACK OF THE STORE, SET BELOW VIDEO SCREENS FLUSH MOUNTED ON THE BACK WALL. THE WALLS, FLOORS, LIGHTING, AND OTHER FIXTURES APPEAR IN DOTTED LINES AND ARE NOT CLAIMED AS INDIVIDUAL FEATURES OF THE MARK; HOWEVER, THE PLACEMENT OF THE VARIOUS ITEMS ARE CONSIDERED TO BE PART OF THE OVERALL MARK.

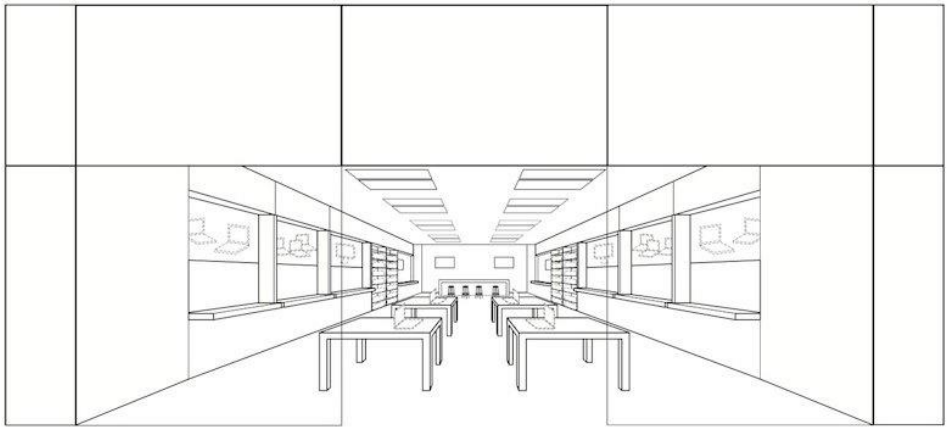
SEC. 2(F).

SER. NO. 85-036,990, FILED 5-12-2010.

MICHAEL W. BAIRD, EXAMINING ATTORNEY

David J. Kappos

Director of the United States Patent and Trademark Office



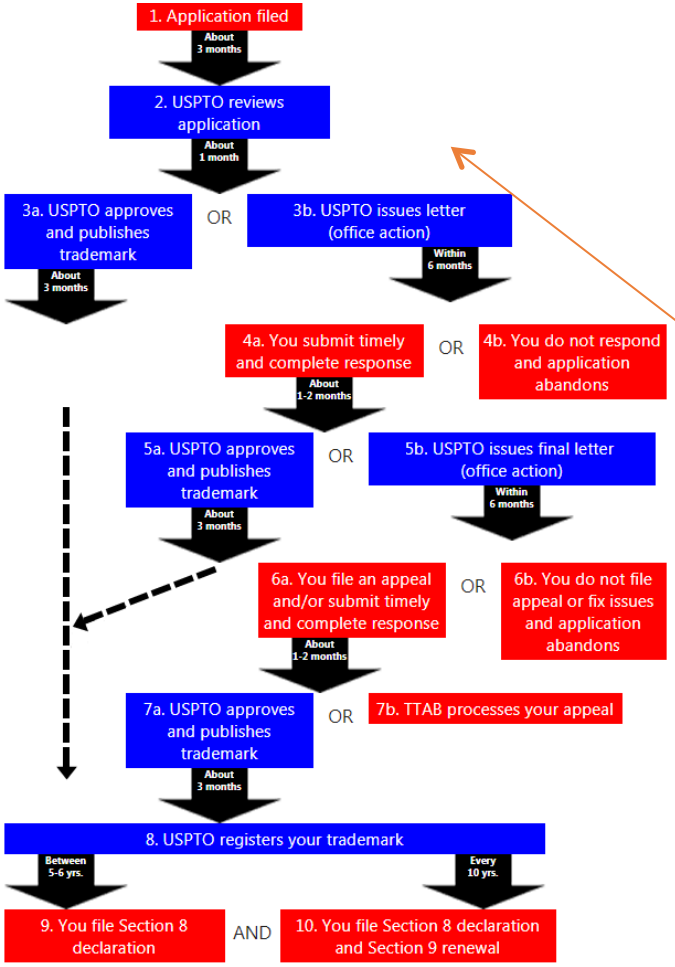
Trademark Procurement

- USPTO's Trademark Process
- www.uspto.gov/trademarks-getting-s trademark-process

1. Is a trademark application right for you?
2. Get ready to apply
3. Prepare and submit your application
4. Work with the assigned USPTO examining attorney
5. Receive approval/denial of your application
6. Maintain your registration

TM → ®

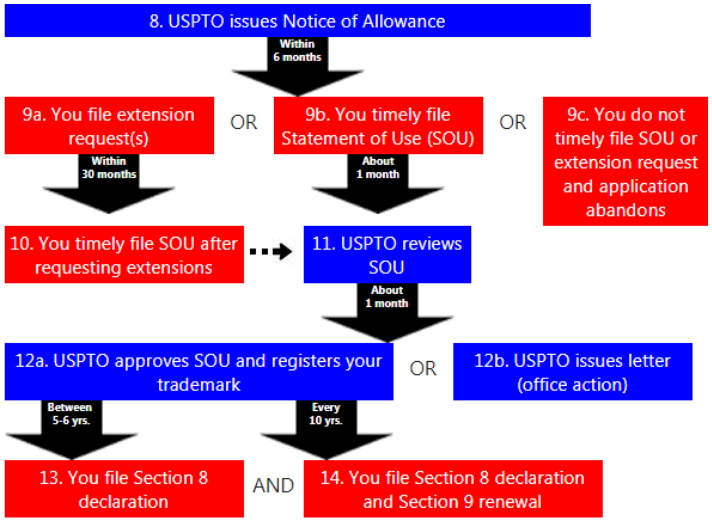
Trademark Procurement - flowcharts



1(a) Basis Use-in-Commerce

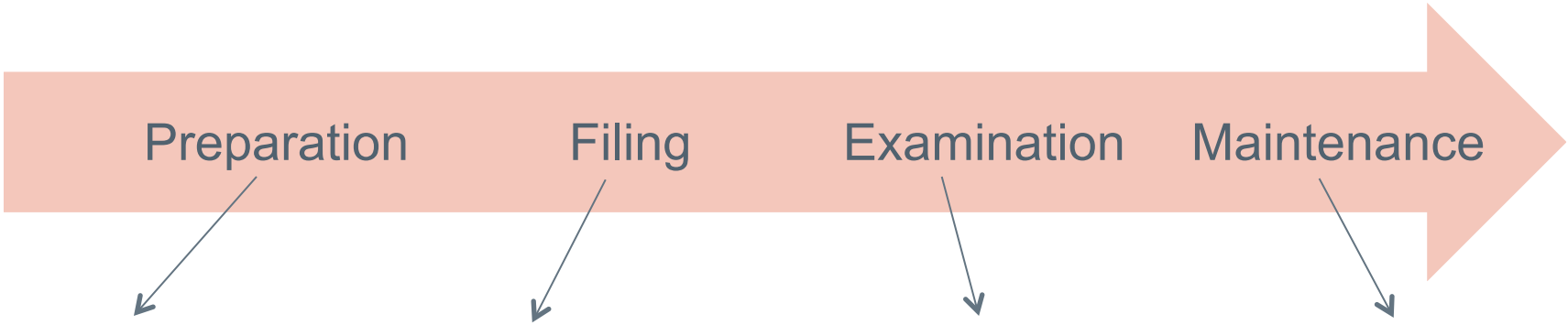
1(b) Basis Intent-to-Use

Follow 1(a) timeline, then…



www.uspto.gov/trademark/trademark-timelines/trademark-application-and-post-registration-process-timelines

Trademark Procurement – a financial timeline



Preparation

Your Time

+

Attorney Time

Search Fees?

Filing

Filing Fee - $400/ class (or $275/ class if electronic filing)

Examination

Your Time

+

Attorney Time

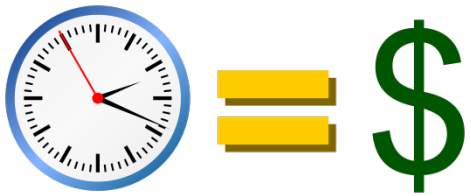
Statement of Use - $100/class

Extension of Time - $125/class

Maintenance

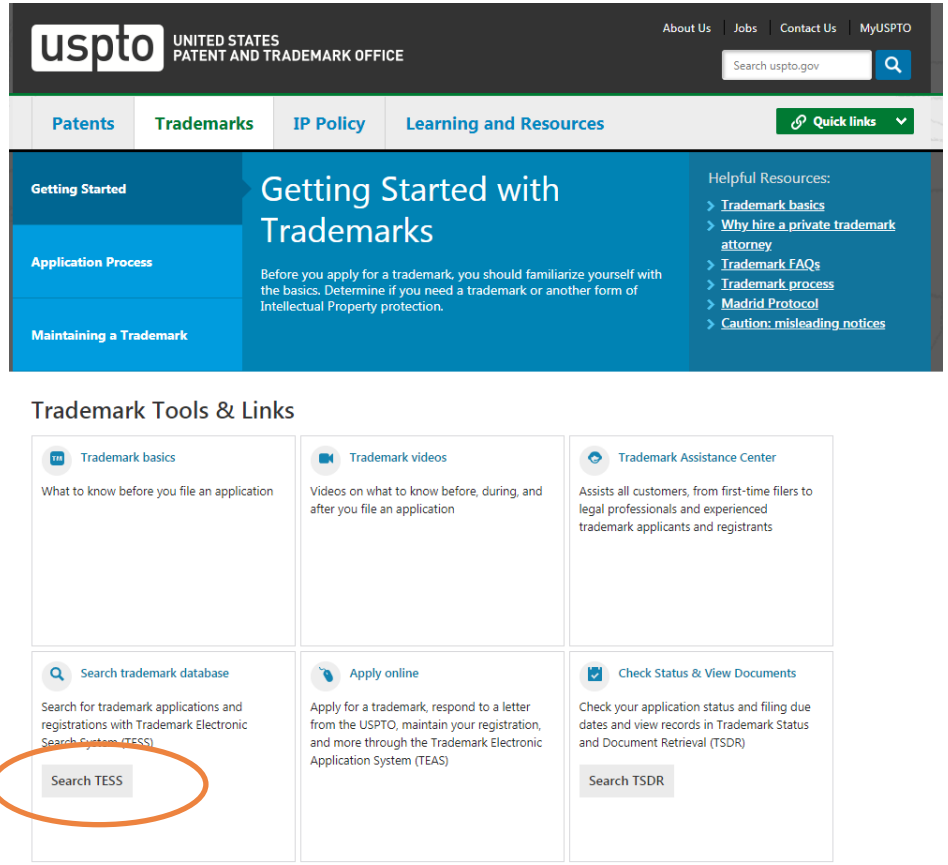
§8 Affidavit between 5th & 6th years - $125/class

§§8 and 9 Affidavit every ten years - $425/ class

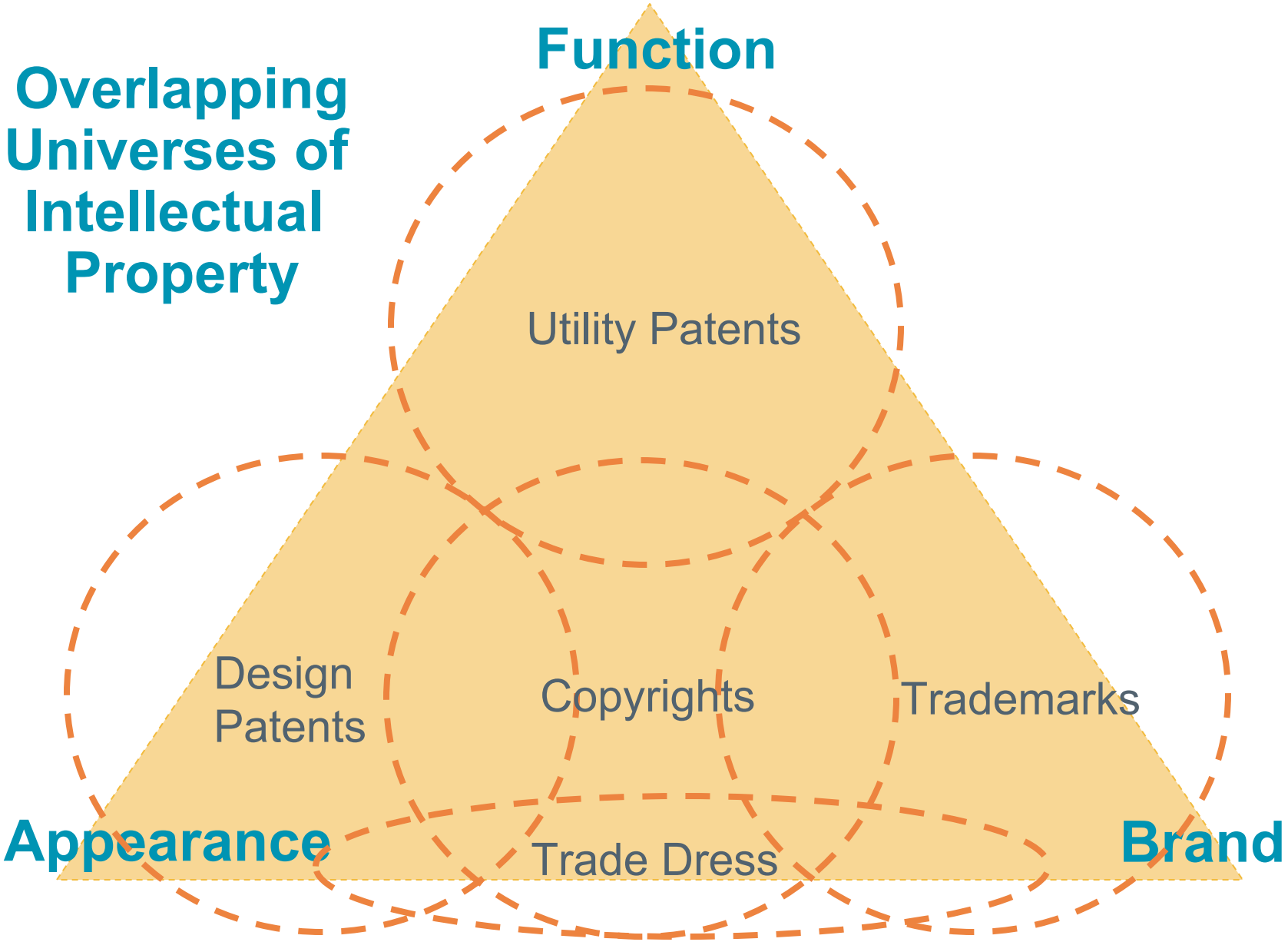


Trademark Searching

- www.uspto.gov/trademark
- Exact mark
- Part(s) of the mark
  - ❖ HINT: Try sounds-like searching
  - Combine part(s) of the mark with an International Classification (IC) (Find @ www.wipo.int/classifications/nice/en/)
  - Combine part(s) of the mark with goods or services
- Other sources: common law use (search online)

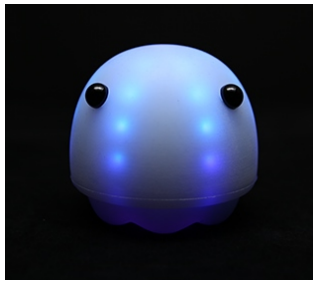


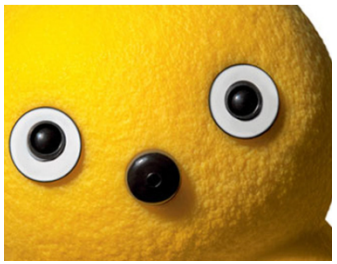
Overlapping Universes of Intellectual Property



Case Study #1 – Beatbots LLC

- Founded by a CMU grad student
- Website: http://beatbots.net/
- Products and Services
  - Robots
  - Software
  - Apparel
- Intellectual Property
  - Utility Patents (search at www.uspto.gov)
  - Design Patents (search at www.uspto.gov)
  - Trademarks (search at www.uspto.gov)
  - Copyrights (search at www.copyright.gov)





Beatbots's Brand

- Trademarks
  - Registered U.S. trademark BEATBOTS in International Classes 9 (electrical and scientific aparatus), 25 (apparel), and 28 (games and playthings)
  - Foreign trademarks
  - Unregistered marks

Beatbots's Blennie

- A wobbling robot that exhibits vestibulo-ocular reflex
- http://beatbots.net/blennie
- Intellectual Property
  - Utility Patent: U.S. Patent No. 9,358,475, which claims priority to a provisional patent application
  - Design Patent: U.S. Design Patent No. D714,881
  - Trademarks?
  - Copyright?
  - Trade Dress?

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

(10) **Patent No.: US 9,358,475 B2**
(45) **Date of Patent: Jun. 7, 2016**

(54) **ROBOT**

(71) Applicant: **Beatbots, LLC**, San Francisco, CA (US)

(72) Inventors: **Marek P. Michalowski**, San Francisco, CA (US); **Gregory R. Katz**, San Francisco, CA (US); **Thiago G. Hersan**, Pittsburgh, PA (US); **Alea C. Teeters**, Daly City, CA (US)

(73) Assignee: **BEATBOTS, LLC**, San Francisco, 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.

(21) Appl. No.: **14/568,821**

(22) Filed: **Dec. 12, 2014**

(65) **Prior Publication Data**

US 2015/0165336 A1 Jun. 18, 2015

Related U.S. Application Data

(60) Provisional application No. 61/915,249, filed on Dec. 12, 2013.

(51) **Int. Cl.**

A63H 13/18	(2006.01)
A63H 29/22	(2006.01)
A63H 13/00	(2006.01)
A63H 3/40	(2006.01)
A63H 15/06	(2006.01)

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

CPC ***A63H 29/22*** (2013.01); ***A63H 3/40*** (2013.01); ***A63H 13/00*** (2013.01); ***A63H 15/06*** (2013.01); *Y10S 901/46* (2013.01); *Y10S 901/48* (2013.01)

(58) **Field of Classification Search**

USPC 446/273–275, 279, 280, 286–288, 446/324–326, 330, 351, 353, 379, 431, 457

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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3,798,835	A *	3/1974	McKeehan	A63H 33/005 446/442
4,005,545	A *	2/1977	Ptaszek	A63H 3/40 446/341
4,501,569	A *	2/1985	Clark, Jr.	A63H 33/005 180/21
5,720,644	A *	2/1998	Ku	A63H 11/00 446/175
6,347,261	B1	2/2002	Sakaue et al.	
6,373,265	B1	4/2002	Morimoto et al.	
6,569,025	B1 *	5/2003	Tyler	A63B 37/0001 446/454
7,258,591	B2 *	8/2007	Xu	A63H 33/26 446/273
8,099,189	B2 *	1/2012	Kaznov	A63H 11/00 318/568.12
8,764,656	B2	7/2014	Shin et al.	
D714,881	S	10/2014	Michalowski et al.	
D714,883	S	10/2014	Michalowski et al.	

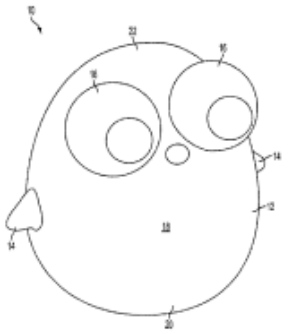
(Continued)

Primary Examiner — Nini Legesse
(74) *Attorney, Agent, or Firm* — K&L Gates LLP

(57) **ABSTRACT**

A robot is disclosed. The robot can comprise a body comprising a curved base and a multi-directional center of mass shifter assembly positioned within the body. The multi-directional center of mass shifter assembly can comprise a weight, a first actuator drivingly coupled to the weight, and a second actuator drivingly coupled to the first actuator. Actuation of the first actuator can be configured to rotate the weight relative to a first axis, and actuation of the second actuator can be configured to rotate the weight relative to a second axis, which is transverse to the first axis. The robot can comprise an inertial measurement unit, a controller, and/or an eye movable relative to the body. The position of the eye can be adjusted by an eye actuation assembly.

14 Claims, 12 Drawing Sheets



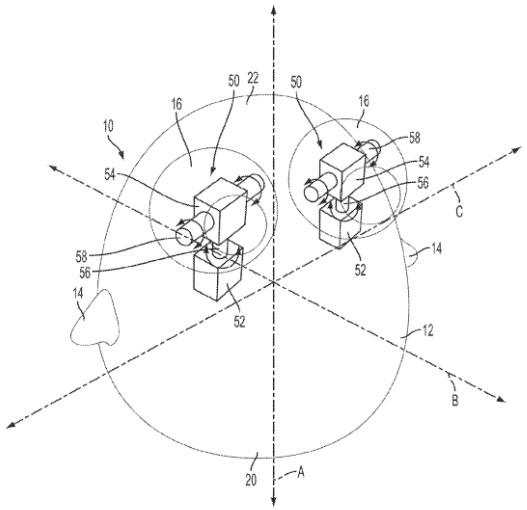


FIG. 5

11. A robot, comprising:

a body comprising an inertial measurement unit, wherein the inertial measurement unit is configured to detect a direction of movement of the body;

an eye movable relative to the body, wherein the eye comprises an actuation assembly comprising:

a first actuator comprising a first output drive;

a second actuator coupled to the first output drive, wherein the second actuator comprises a second output drive, and wherein the second output drive is transverse to the first output drive; and

a controller in communication with the inertial measurement unit and the actuation assembly, wherein the controller is configured to control the actuation assembly to move the eye in the opposite direction of the direction of movement of the body detected by the inertial measurement unit.

(12) **United States Design Patent**
Michalowski et al.

(10) **Patent No.: US D714,881 S**
(45) **Date of Patent: ** Oct. 7, 2014**

(54) **TOY**

(71) Applicant: **BeatBots LLC**, San Francisco, CA (US)

(72) Inventors: **Marek Piotr Michalowski**, San Francisco, CA (US); **Gregory R. Katz**, Deerfield, IL (US)

(73) Assignee: **Beatbots LLC**, San Francisco, CA (US)

(**) Term: **14 Years**

(21) Appl. No.: **29/473,682**

(22) Filed: **Nov. 25, 2013**

(51) **LOC (10) Cl.** **21-01**

(52) **U.S. Cl.**
USPC **D21/576**; D21/606; D21/623

(58) **Field of Classification Search**
USPC D6/598; D11/158; D21/576–585, 597, D21/604–608, 622–623, 630, 658–659; 446/72–73, 97–98, 268, 369; D30/160
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D201,691	S	*	7/1965	Epstein	D11/158
D210,736	S	*	4/1968	Tomko	D21/623
D271,404	S	*	11/1983	Chan	D21/578
D315,760	S	*	3/1991	Thomson et al.	D21/630
D377,379	S	*	1/1997	Efverlund	D21/576
D403,368	S	*	12/1998	Brown	D21/576
D419,209	S	*	1/2000	Hampton et al.	D21/658
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D559,338	S	*	1/2008	Kittelson et al.	D21/604
D596,244	S	*	7/2009	Levy et al.	D21/622
D598,507	S	*	8/2009	Manzanares	D21/623
D620,992	S	*	8/2010	Haug	D21/630
D663,790	S	*	7/2012	Williams	D21/606

* cited by examiner

Primary Examiner — Sandra Morris
(74) *Attorney, Agent, or Firm* — K&L Gates LLP

(57) **CLAIM**

The ornamental design for a toy, as shown and described.

DESCRIPTION

FIG. **1** is a front-left perspective view of a toy.
FIG. **2** is a front elevation view thereof.
FIG. **3** is a rear elevation view thereof.
FIG. **4** is a left elevation view thereof.
FIG. **5** is a right elevation view thereof.
FIG. **6** is a top plan view thereof.
FIG. **7** is a bottom plan view thereof.
FIG. **8** is a front-left perspective view of a second embodiment of the toy;
FIG. **9** is a front elevation view thereof.
FIG. **10** is a front elevation view thereof in an alternate position.
FIG. **11** is a front elevation view thereof in a second alternate position.
FIG. **12** is a front elevation view thereof in a third alternate position.
FIG. **13** is a rear elevation view thereof.
FIG. **14** is a left elevation view thereof.
FIG. **15** is a right elevation view thereof.
FIG. **16** is a top plan view thereof.
FIG. **17** is a bottom plan view thereof.
FIG. **18** is a front-left perspective view of a third embodiment of the toy;
FIG. **19** is a front elevation view thereof.
FIG. **20** is a rear elevation view thereof.
FIG. **21** is a left elevation view thereof.
FIG. **22** is a right elevation view thereof.
FIG. **23** is a top plan view thereof; and,
FIG. **24** is a bottom plan view thereof.
In all figures, broken lines illustrate environmental structures and form no part of the claimed design.

1 Claim, 24 Drawing Sheets

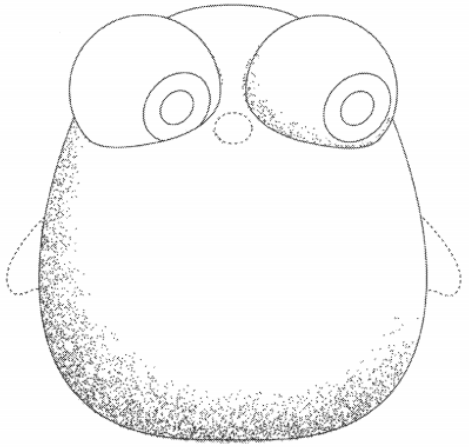

FIG. 11

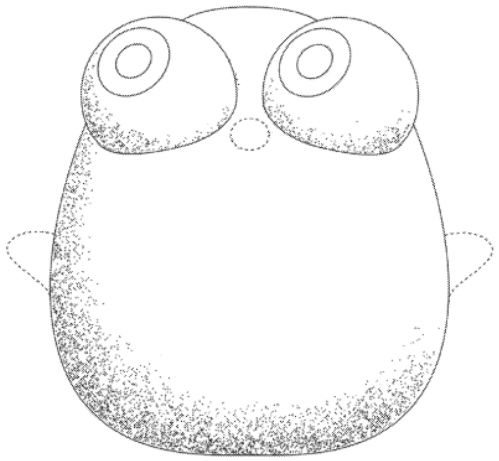

FIG. 12

Beatbots's Ploomi

- A glowing, touch-sensitive, interactive robotic character
- http://beatbots.net/ploomi
- Intellectual Property
  - Utility Patent: U.S. Patent No. 9,421,688, which claims priority to a provisional patent application
  - Design Patent: U.S. Design Patent No. D714,883
  - Trademarks?
  - Copyright?
  - Trade Dress?

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

(10) **Patent No.: US 9,421,688 B2**
(45) **Date of Patent: Aug. 23, 2016**

(54) **ROBOT**

(71) Applicant: **Beatbots, LLC**, San Francisco, CA (US)

(72) Inventors: **Marek P. Michalowski**, San Francisco, CA (US); **Gregory R. Katz**, San Francisco, CA (US); **Thiago G. Hersan**, Pittsburgh, PA (US)

(73) Assignee: **Beatbots, LLC**, San Francisco, 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.

(21) Appl. No.: **14/568,846**

(22) Filed: **Dec. 12, 2014**

(65) **Prior Publication Data**

US 2015/0165625 A1 Jun. 18, 2015

Related U.S. Application Data

(60) Provisional application No. 61/915,253, filed on Dec. 12, 2013.

(51) **Int. Cl.**
B25J 9/16 (2006.01)
G06N 3/00 (2006.01)

(52) **U.S. Cl.**
CPC ***B25J 9/1694*** (2013.01); *G05B 2219/40253* (2013.01); *G05B 2219/40414* (2013.01); *G05B 2219/40625* (2013.01); *G06N 3/008* (2013.01); *Y10S 901/47* (2013.01); *Y10S 901/50* (2013.01)

(58) **Field of Classification Search**
CPC B25J 9/1694; G06F 3/01
See application file for complete search history.

(56) **References Cited**

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D714,881 S 10/2014 Michalowski et al.
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2014/0371954 A1 * 12/2014 Lee G08C 17/02 701/2
2015/0100157 A1 * 4/2015 Houssin G10L 15/1815 700/246
2015/0165336 A1 6/2015 Michalowski et al.
2015/0277617 A1 * 10/2015 Gwin G06F 3/044 345/174

FOREIGN PATENT DOCUMENTS

WO WO 2013/072712 A1 5/2013

OTHER PUBLICATIONS

Breazeal, Cynthia L., "Designing Sociable Robots," MIT Press, 2004.

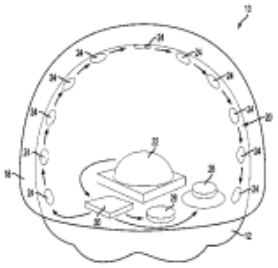
* cited by examiner

Primary Examiner — Nicholas Kiswanto
(74) *Attorney, Agent, or Firm* — K&L Gates LLP

(57) **ABSTRACT**

A robot is disclosed. The robot can comprise a body and an emotion-expressing system. The emotion-expressing system can comprise a touch sensor embedded within the body, a feedback generator, and a controller in communication with the touch sensor and the feedback generator. The controller can be configured to determine the emotional state of the robot based on feedback from the touch sensor, and the feedback generator can be configured to generate feedback indicative of the emotional state.

20 Claims, 6 Drawing Sheets



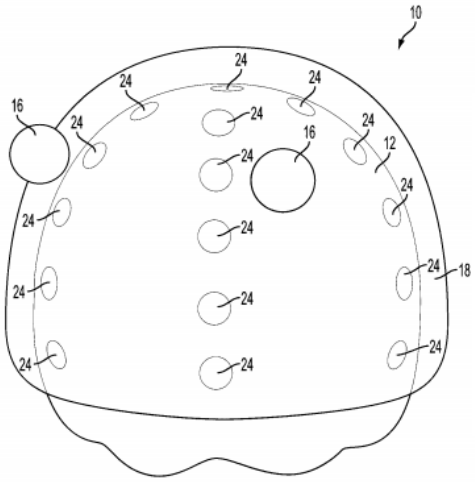


FIG. 1

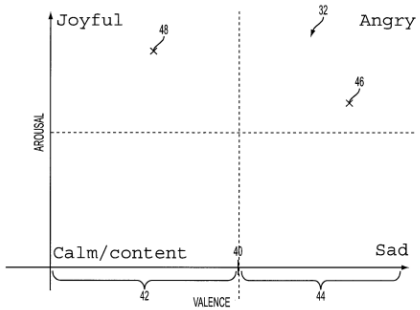


FIG. 6

1. An emotionally-expressive robot configured to respond to touches by an interactant, wherein the emotionally-expressive robot comprises:

a body comprising a deformable portion and a non-planar outer surface; and

an emotion-expressing system, comprising:

an internal touch sensor embedded within the body, wherein the deformable portion of the body is positioned intermediate the internal touch sensor and at least a portion of the non-planar outer surface, and wherein the internal touch sensor is configured to detect externally-applied forces at a plurality of non-planar locations on the non-planar outer surface through the deformable portion;

a feedback generator; and

a controller in communication with the internal touch sensor and the feedback generator, wherein the controller is configured to determine an emotional state of the robot based on feedback from the internal touch sensor, and wherein the feedback generator is configured to generate feedback indicative of the emotional state.

(12) **United States Design Patent**
Michalowski et al.

(10) **Patent No.: US D714,883 S**
(45) **Date of Patent: ** Oct. 7, 2014**

(54) **TOY**

(71) Applicant: **BeatBots LLC**, San Francisco, CA (US)

(72) Inventors: **Marek Piotr Michalowski**, San Francisco, CA (US); **Gregory R. Katz**, Deerfield, IL (US); **Thiago Galvao Hersan**, Oakland, CA (US)

(73) Assignee: **Beatbots LLC**, San Francisco, CA (US)

(**) Term: **14 Years**

(21) Appl. No.: **29/473,694**

(22) Filed: **Nov. 25, 2013**

(51) **LOC (10) Cl.** **21-01**

(52) **U.S. Cl.**
USPC **D21/597**; D21/576

(58) **Field of Classification Search**
USPC D6/598; D11/158; D21/576–585, 597, D21/622–623, 630, 658–659; 446/72–73, 446/97–98, 268, 369; D30/160
See application file for complete search history.

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D449,083 S * 10/2001 Choh et al. D21/597
D546,906 S * 7/2007 Aliaga D21/630
D598,507 S * 8/2009 Manzanares D21/623

* cited by examiner

Primary Examiner — Sandra Morris
(74) *Attorney, Agent, or Firm* — K&L Gates LLP

(57) **CLAIM**

The ornamental design for a toy, as shown and described.

DESCRIPTION

FIG. **1** is a front-right perspective view of a toy.
FIG. **2** is a rear-right perspective view thereof.
FIG. **3** is a front elevation view thereof.
FIG. **4** is a rear elevation view thereof.
FIG. **5** is a left elevation view thereof.
FIG. **6** is a right elevation view thereof.
FIG. **7** is a top plan view thereof.
FIG. **8** is a bottom plan view thereof.
FIG. **9** is a front-left perspective view of a second embodiment of the toy.
FIG. **10** is a front elevation view thereof.
FIG. **11** is a rear elevation view thereof.
FIG. **12** is a left elevation view thereof.
FIG. **13** is a right elevation view thereof.
FIG. **14** is a top plan view thereof; and,
FIG. **15** is a bottom plan view thereof.
In all figures, broken lines illustrate environmental structures and form no part of the claimed design.

1 Claim, 15 Drawing Sheets

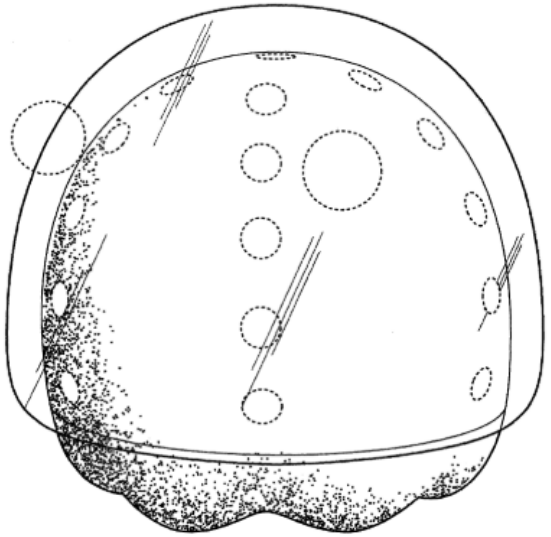
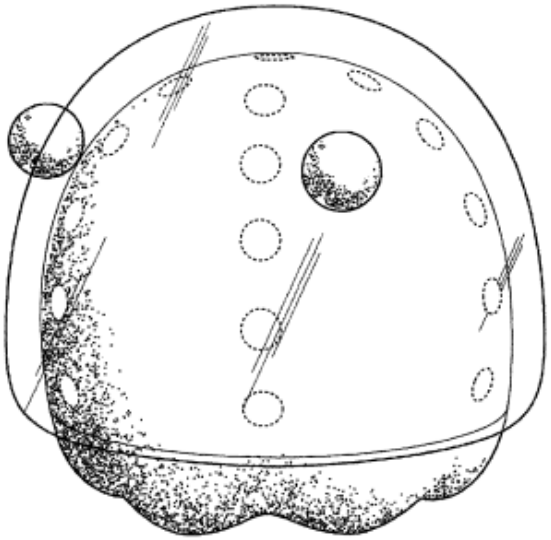


FIG. 1



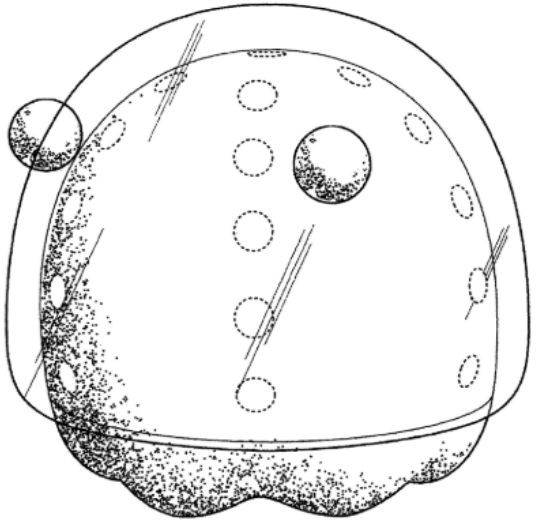


FIG. 9

Beatbots's metrognōm

- A metronome and a metro-gnome
- http://beatbots.net/metrognom
- Intellectual Property
  - Design Patent: U.S. Design Patent No. D714,888
  - Trademarks?
  - Copyright Registration Nos. VAu001149651 (color drawing), VAu001149660 (line drawing), VAu001149726 (sculpture)
  - Trade Dress?

(12) **United States Design Patent**
Kasznica et al.

(10) **Patent No.: US D714,888 S**
(45) **Date of Patent: ** Oct. 7, 2014**

(54) **TOY**

(71) Applicant: **BeatBots LLC**, San Francisco, CA (US)

(72) Inventors: **Justine Kasznica**, Pittsburgh, PA (US); **Marek Piotr Michalowski**, San Francisco, CA (US); **Gregory R. Katz**, Deerfield, IL (US)

(73) Assignee: **Beatbots LLC**, San Francisco, CA (US)

(**) Term: **14 Years**

(21) Appl. No.: **29/473,688**

(22) Filed: **Nov. 25, 2013**

(51) **LOC (10) Cl.** **21-01**

(52) **U.S. Cl.**
CPC ***A63H 3/00*** (2013.01)
USPC **D21/630**

(58) **Field of Classification Search**
CPC A63H 3/00
USPC D21/621, 623–625, 628, 630–640, D21/643–649, 659; 446/268, 360, 361, 376, 446/379, 382–384
See application file for complete search history.

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D546,906 S * 7/2007 Aliaga D21/590

* cited by examiner

Primary Examiner — Zenia Bennett
(74) *Attorney, Agent, or Firm* — K&L Gates LLP

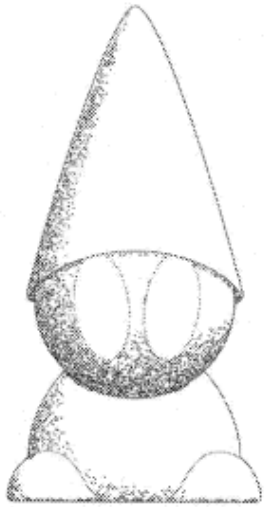
(57) **CLAIM**

The ornamental design for a toy, as shown and described.

DESCRIPTION

FIG. **1** is a front-left perspective view of a toy.
FIG. **2** is a front elevation view thereof.
FIG. **3** is a front elevation view thereof in an alternate position.
FIG. **4** is a front elevation view thereof in a second alternate position.
FIG. **5** is a rear elevation view thereof.
FIG. **6** is a left elevation view thereof.
FIG. **7** is a right elevation view thereof.
FIG. **8** is a top plan view thereof; and,
FIG. **9** is a bottom plan view thereof.
In all figures, broken lines illustrate environmental structures and form no part of the claimed design.

1 Claim, 9 Drawing Sheets



Case Study #2: Uber Technologies Inc.

- Provider of a mobile application that allows users to request transportation services and automatically sends the closest available Uber driver to the user
- Founded in 2009
- Currently available in over 60 countries
- www.uber.com

Uber's Intellectual Property

- Issued U.S. Utility Patents
- Issued U.S. Design Patents
- Issued foreign patents (Canada and Europe)
- Pending U.S. and foreign patent applications
- Registered U.S. Trademarks, including:
  - UBER
  - UBEREATS
  - UBERRUSH
  - UBERX
  - EVERYONE'S PRIVATE DRIVER
  - UBERCAB

(12) **United States Patent**
Zych

(10) **Patent No.: US 10,156,849 B1**
(45) **Date of Patent: Dec. 18, 2018**

(54) **HUMAN SUPERVISION OF AN AUTOMATED DRIVING SYSTEM**

(71) Applicant: **Uber Technologies, Inc.**, San Francisco, CA (US)

(72) Inventor: **Noah Zych**, Pittsburgh, PA (US)

(73) Assignee: **Uber Technologies, Inc.**, San Francisco, 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.

(21) Appl. No.: **15/638,739**

(22) Filed: **Jun. 30, 2017**

(51) **Int. Cl.**
G05D 1/00 (2006.01)
G05D 1/02 (2006.01)
G06Q 10/06 (2012.01)

(52) **U.S. Cl.**
CPC ***G05D 1/0214*** (2013.01); ***G06Q 10/06315*** (2013.01)

(58) **Field of Classification Search**
CPC G05D 1/0214; G06Q 10/06315
See application file for complete search history.

(56) **References Cited**

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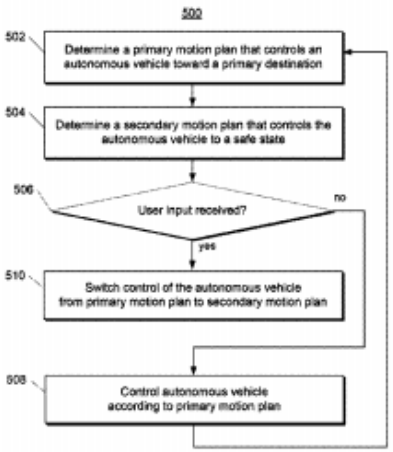
Primary Examiner — Adam D Tissot
(74) *Attorney, Agent, or Firm* — Dority & Manning, PA

(57) **ABSTRACT**

The present disclosure provides systems and methods that enable human supervision of a highly capable automated driving system. In particular, the systems and methods of the present disclosure enable a human (e.g., a passenger, driver/operator, or remote supervisor of an autonomous vehicle) to easily and quickly transition control of the autonomous vehicle from a primary motion plan that controls the vehicle towards a primary destination to a secondary motion plan that controls the vehicle to a safe state. As such, the systems and methods of the present disclosure enable advanced human supervision of autonomous vehicle behavior in which a human can cause an autonomous vehicle to operate in a risk-reduced manner or otherwise maneuver to a safe state, without requiring the human to actually assume manual control of the vehicle.

18 Claims, 4 Drawing Sheets



Independent Claim 1 in U.S. Patent No. 10,156,849

What is claimed is:

1. A computing system, comprising:

one or more processors; and

one or more non-transitory computer-readable media that collectively store instructions that, when executed by the one or more processors, cause the computing system to perform operations, the operations comprising:

prior to receiving a user input:

determining a primary motion plan that controls an autonomous vehicle towards a first destination;

determining a secondary motion plan that controls the autonomous vehicle to a second destination that is different than the first destination; and

controlling the autonomous vehicle according to the primary motion plan;

receiving the user input; and

in response to receipt of the user input, switching a control of the autonomous vehicle from the primary motion plan to the secondary motion plan that was determined prior to receipt of the user input;

wherein the computing system comprises multiple redundant motion planning systems, the multiple redundant motion planning systems comprising:

a primary motion planning system that determines the primary motion plan; and

a secondary motion planning system that determines the secondary motion plan; and

wherein the primary motion planning system and the secondary motion planning system share sensor data but separately determine the primary motion plan and the secondary motion plan.

(12) **United States Design Patent** (10) **Patent No.: US D837,229 S**
Hilhorst et al. (45) **Date of Patent: ** Jan. 1, 2019**

(54) **COMPUTING DEVICE DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE FOR PROVIDING GEOGRAPHIC-BASED SERVICE INFORMATION**

(71) Applicant: **Uber Technologies, Inc.**, San Francisco, CA (US)

(72) Inventors: **Didier Patrick Hilhorst**, San Francisco, CA (US); **Bryant Jow**, San Francisco, CA (US); **Peter Ng**, San Francisco, CA (US)

(73) Assignee: **Uber Technologies, Inc.**, San Francisco, CA (US)

(**) Term: **15 Years**

(21) Appl. No.: **29/578,954**

(22) Filed: **Sep. 26, 2016**

(51) **LOC (11) Cl.** **14-04**

(52) **U.S. Cl.**
USPC **D14/485**

(58) **Field of Classification Search**
USPC D14/485–495
CPC G01C 21/3664; G06F 3/0482; G06F 3/04817
See application file for complete search history.

(56) **References Cited**

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D812,636	S	*	3/2018	Lim	D14/486
D815,656	S	*	4/2018	Price	D14/486
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Primary Examiner — Richelle G Shelton
(74) *Attorney, Agent, or Firm* — Mahamedi IP Law LLP

(57) **CLAIM**

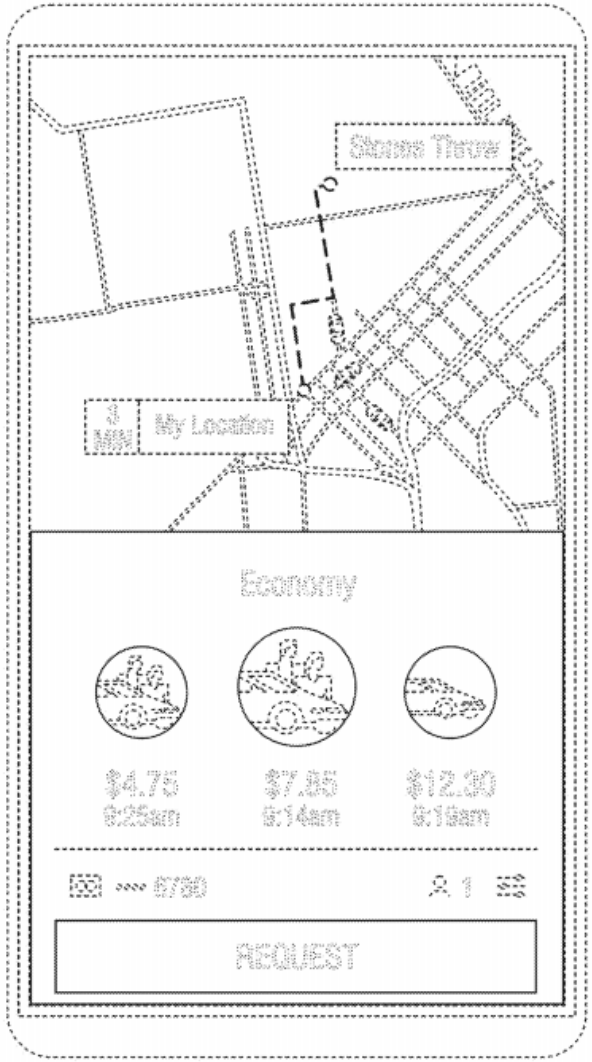
The ornamental design of a computing device display screen with graphical user interface for providing geographic-based service information, as shown and described.

DESCRIPTION

The FIGURE illustrates a computing device display screen with graphical user interface for providing geographic-based service information.

The broken lines, which depict the computing device and a portion(s) or element(s) of a graphical user interface, are provided for the purpose of illustrating environment and/or context, and form no part of the claimed design.

1 Claim, 1 Drawing Sheet



THANK YOU!

- **Laurén S. Murray**
  (412) 355-7471
  lauren.murray@klgates.com