



Using Inventions in the Public Domain: A Guide for Inventors and Entrepreneurs

Online
8 July
2020

Nathalie Montillot

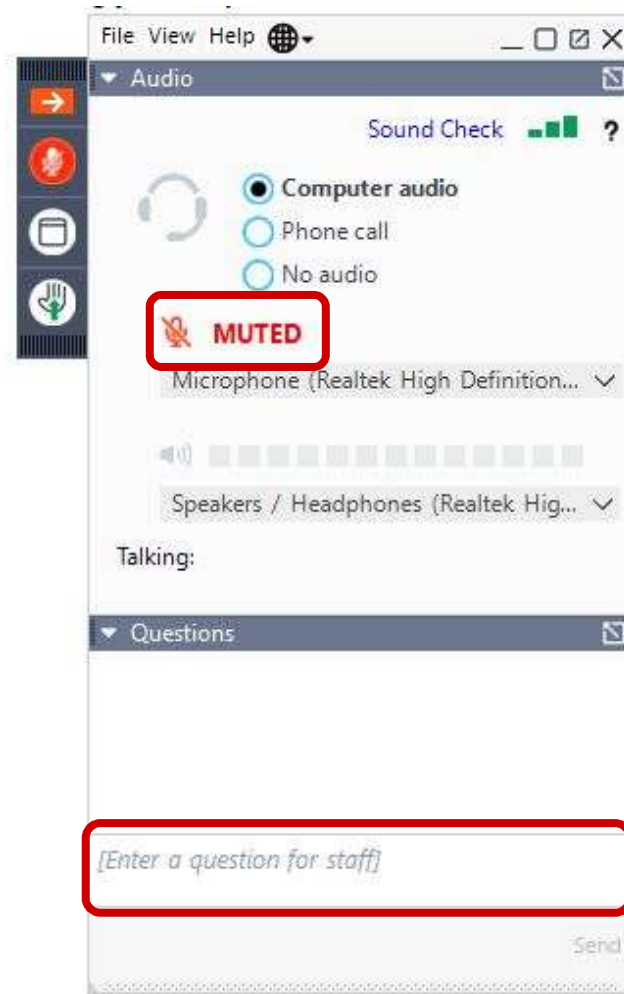
Program Officer, Technology and Innovation Support Division

Presenter

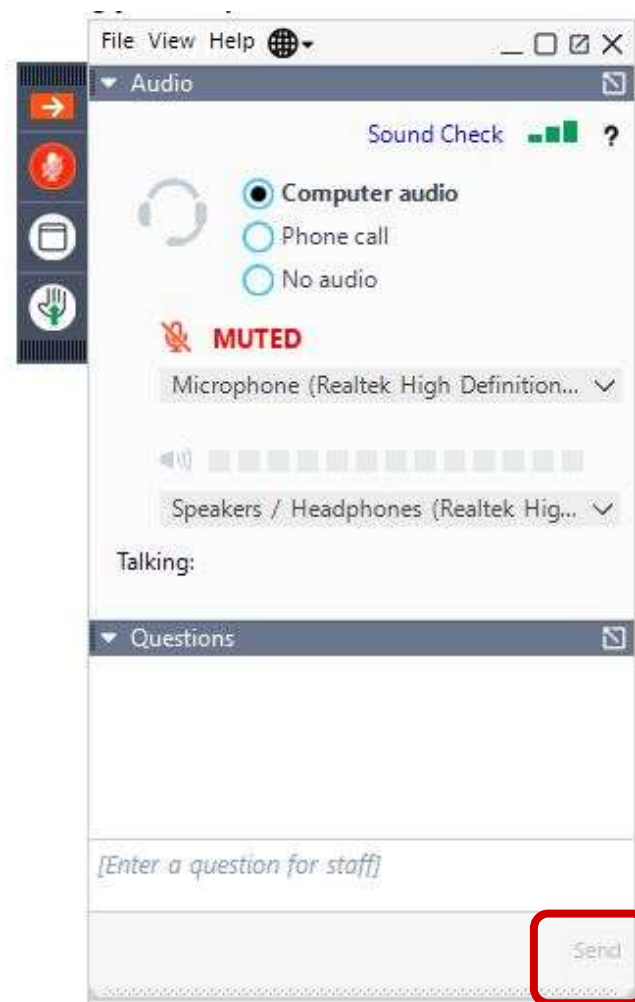


- James Conley, Clinical Professor, Kellogg School of Management, Northwestern University, USA

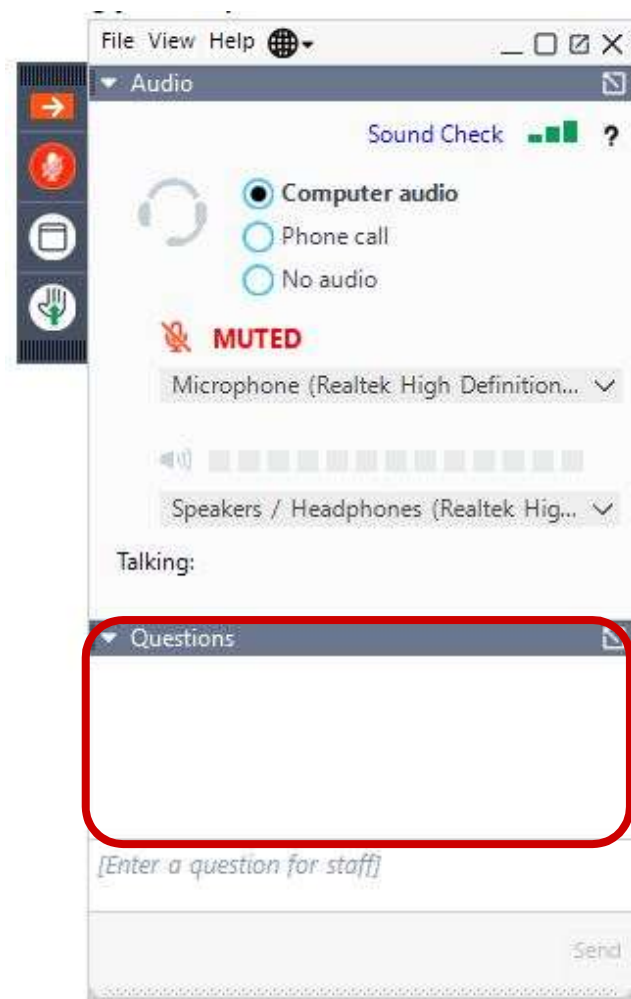
Webinar: Asking questions



Webinar: Asking questions



Webinar: Asking questions



Advancing Knowledge through Collaboration

Kellogg School of Management
Center for Research in Technology & Innovation

ABOUT CRTI | SERVICES | OPPORTUNITIES | CRTI NETWORKS | RESOURCES

CRTI > About CRTI > CRTI Team

CRTI Team

CRTI Alumni

Events and Conferences

James Gerard Conley

Innovation Leadership
CRTI leadership, faculty and staff stimulate innovation activities by creatively combining and managing diverse inputs toward common purpose. Whether by conducting independent research, enabling others to do the same, networking the brightest minds worldwide or partnering with corporations to develop sustainable innovation capabilities, they exemplify innovation through collaboration.

Creating methods and systems for leveraging intangible assets

COLLABORATORS

Corporate

- Microsoft
- MOTOROLA
- Medtronic
- Rockwell Collins

Governmental

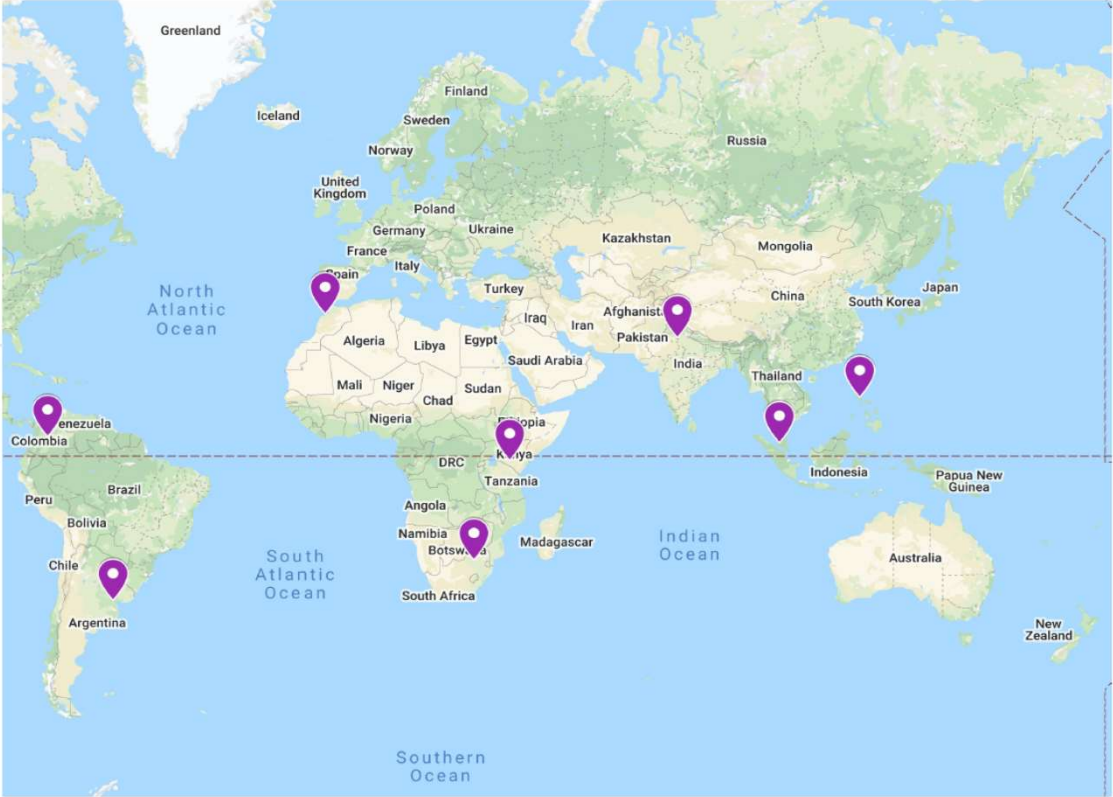
- WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION
- Åbo Akademi
- WHU Otto von Guericke School of Management

Pilot Cities to test and socialize the Guides

WIPO Missions (2018-2019)

WIPO Mission Cities

- 📍 New Delhi
- 📍 Casablanca
- 📍 Nairobi
- 📍 Pretoria
- 📍 Buenos Aires
- 📍 Bogota
- 📍 Kuala Lumpur
- 📍 Manila



All Rights Reserved.

Created in My Maps (Google)

Exemplary Missions in Asia, Africa and Latin America



New Delhi, Dec 2018



Nairobi, Mar 2019



Bogota, May 2019



Buenos Aires, May 2019



Kuala Lumpur, June 2019



Manila, June 2019



Introduction to the Guide on the Use of Inventions in the Public Domain

Purpose of the Guide

The guide's purpose is to...



Help TISC staff who assist entrepreneurs and SMEs in developing regions and LDCs to access and use public domain knowledge and technology



Introduce patent documents and non-patent literature (NPL) as reliable sources of information on inventions



Explore how subject matter disclosed in patent documents impart detailed invention information



Introduce key steps in product development and marketing processes that utilize external and internal resources and capabilities such as patent documents



Present relevant case examples from recent research and practice.

Words from a leader for all seasons.....

UNITED STATES PATENT OFFICE

ABRAHAM LINCOLN, OF SPRINGFIELD, ILLINOIS.

BUOYING VESSELS OVER SHOALS.

Specification forming part of Letters Patent No. 6,469, dated May 22, 1849; application filed March 10, 1849.

To all whom it may concern:

Be it known that I, Abraham Lincoln, of Springfield, in the County of Sangamon, in the State of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessel for the purpose of enabling their draught of water to be readily lessened to enable them to pass over bars, or through shallow water, without discharging their cargoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification. Similar letters indicate like parts in all the figures.

The buoyant chambers A, A, which I employ, are constructed in such a manner that they can be expanded so as to hold a large volume of air when required for use, and can be contracted, into a very small space and safely secured as soon as their services can be dispensed with.

Fig. 1. is a side elevation of a vessel with the buoyant chambers combined therewith, expanded;

Fig. 2. is a transverse section of the same with the buoyant chambers contracted.

Fig. 3. is a longitudinal vertical section through the centre of one of the buoyant chambers, and the box B, for receiving it when contracted, which is secured to the lower guard of the vessel.

The top g, and bottom h, of each buoyant chamber, is composed of plank or metal, of suitable strength and stiffness, and the flexible sides and ends of the chambers, are composed of india rubber cloth, or other suitable water-proof fabric, securely united to the edges and ends of the top and bottom of the chambers.

The sides of the chambers may be stayed and supported centrally by a frame k, as shown in Fig. 3, or as many stays may be combined with them as may be necessary to give them the requisite fullness and strength when expanded.

The buoyant chambers are suspended and operated as follows: A suitable number of

vertical shafts or spars D, D, are combined with each of the chambers, as represented in Figs. 2 and 3, to wit: The shafts work freely in apertures formed in the upper sides of the chambers, and their lower ends are permanently secured to the under sides of the chambers: The vertical shafts or spars (D, D,) pass up through the top of the boxes B, B, on the lower guards of the vessel, and then through its upper guards, or some other suitable support, to keep them in a vertical position.

The vertical shafts (D, D,) are connected to the main shaft C, which passes longitudinally through the centre of the vessel—just below its upper deck—by endless ropes f, f, as represented in Fig. 2: The said ropes, f, f, being wound several times around the main shaft C, then passing outwards over sheaves or rollers attached to the upper deck or guards of the vessel, from which they descend along the inner sides of the vertical shafts or spars D, D, to sheaves or rollers connected to the boxes B, B, and thence rise to the main shaft (C), again.

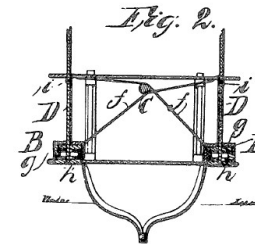
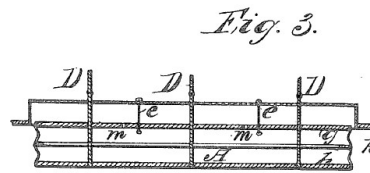
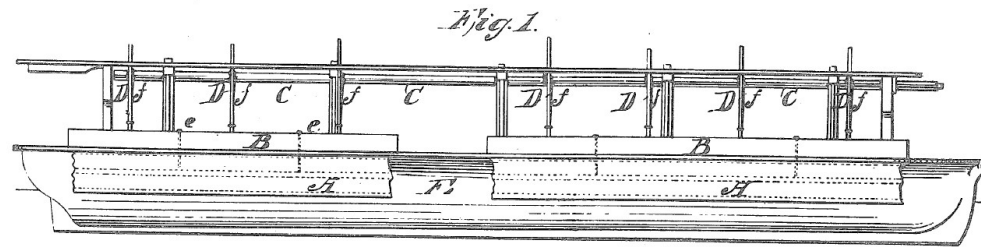
The ropes f, f, are connected to the vertical shafts at i, i, as shown in Figs. 1 and 2. It will therefore be perceived, that by turning the main shaft C, in one direction, the buoyant chambers will be expanded into the position shown in Fig. 1; and by turning the shaft in an opposite direction, the chambers will be contracted into the position shown in Fig. 2.

In Fig. 3, e, e, are check ropes, made fast to the tops of the boxes B, B, and to the upper sides of the buoyant chambers; which ropes catch and retain the upper sides of the chambers when their lower sides are forced down, and cause the chambers to be expanded to their full capacity. By varying the length of the check ropes, the depth of immersion of the buoyant chambers can be governed. A suitable number of openings m, m, are formed in the upper sides of the buoyant chambers, for the admission and emission of air when the chambers are expanded and contracted.

The ropes f, f, that connect the main shaft C, with the shafts or spars D, D, (rising from

“The Patent system added the fuel of interest to the fire of genius”

Abraham Lincoln



No. 6,469

ABRAHAM LINCOLN
MANNER OF BUOYING VESSELS

Patented May 22, 1849

DC Inventors & Innovators *USING* information in the Public Domain



William Gwata, Zimbabwe



Fatima Zahra, Morocco



Drs. Tabaoda and Siacor, Philippines



Anthony Mutua and team, Kenya

This guide support TISC and eTISC services...



Access to patent and non-patent databases



Increase awareness on IP and contribute to economic growth in the country



Provide quality services on patent search and analysis



Support to inventors in patent filing and IP commercialization



Training on access to and use of patent information

The Guide in a Nutshell

The Guide addresses the questions like...

Who

TISC staff in developing and least developed countries (LDCs) who can assist clients with inventive ideas

When

The guide can be used when a client comes with a new idea for a product/service and wants to commercialize it. Guide on identifying inventions in the public domain is the prerequisite guide for this.

Where

To be used in TISCs, institutions, firms and companies

How

To be used to explore public domain knowledge for improvement of invention of new products/services

Scope of the Guide



Public domain and patents



Public domain knowledge as inventions disclosed in patent documents



Using public domain knowledge in the product development process



Limitations of the Guide

Explanations in the Guide are...



NOT a formal introduction to the product development process



NOT to be used as a legal guide in any way



NOT a comprehensive guide on public domain

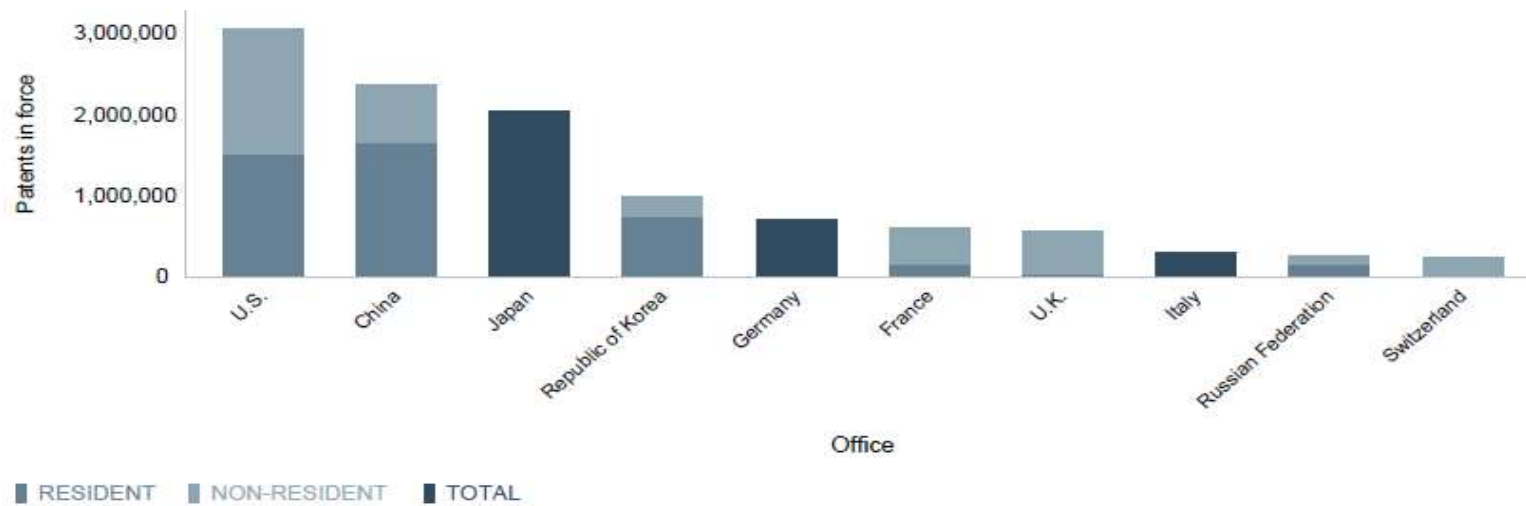


Aware of the lack of access to resources discussed in the Guide in many regions in the world



Module I: Defining the Public Domain and its Relationship with Patents

Top 10 Patent Offices with Active Patents in 2018



Based on the data provided in World Intellectual Property Indicators 2019. WIPO.

Public Domain in Developing Countries and LDCs

Developed countries are leading applicants of patents.

Patents need economic reason to be filed in developing and LDCs. In practice few patents from developed countries are filed in LDCs. Hence most inventions from developed countries are part of public domain in LDCs.

Freedom to Operate (FTO search) is important regardless.

Patent knowledge in most cases could be part of public domain in developing and Least Developed Countries (LDCs).



Module II

Finding Opportunities to Leverage Inventions and Public Domain Knowledge

Useful Elements in a PCT Patent Document

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : B43K 29/00, 24/08	(11) International Publication Number: WO 99/56970
(7) International Application Number: PCT/US99/1008	(12) International Publication Date: 11 November 1999 (11.11.99)
(2) International Filing Date: 6 May 1999 (06.05.99)	(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TL, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
(30) Priority Data: 09/074,244 7 May 1998 (07.05.98) US	(71) Applicant: TTOOLS, LLC [US/US]; 686 Angell Street, Providence, RI 02906 (US).
(72) Inventor: HAZZARD, Thomas, B.; 686 Angell Street, Providence, RI 02906 (US).	(74) Agents: HOLMES, Stephen, J. et al.; Barlow, Joseph & Holmes, 5th floor, 101 Dyer Street, Providence, RI 02903 (US).
(54) Title: WRITING IMPLEMENT INCLUDING AN INPUT STYLUS	(57) Abstract A writing implement (10) includes an integrally formed stylus tip (12) for inputting information into electronic device. An ink cartridge style pen (10) with a push-button spring actuator (38) is modified to include an integrally formed stylus tip (12) molded into the writing end of the pen. When the ink cartridge (30) is retracted, the stylus tip (12) is available for use. However, when the ink cartridge (30) is extended, it extends beyond the stylus tip (12) for engagement with paper writing media. The pen (10) allows the operator to quickly and easily switch between writing with an ink tip cartridge (30) to input information with the stylus tip (12) without significant manipulation of the pen.

Patent Classification

International Application no. & Filing Date

Priority Date: May 7, 1998

Names & Addresses of: Applicant, Inventor, Agents (patent attorney)

Title of Invention

Patent no. and Date of Issue

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TL, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Example of Patent Information in Use



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

(10) **Patent No.:** US 9,715,257 B2
(45) **Date of Patent:** Jul. 25, 2017

(54) **ACTIVE SCREEN PROTECTION FOR ELECTRONIC DEVICE**

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

(72) Inventors: **Tyson B. Manullang**, Sunnyvale, CA (US); **Stephen B. Lynch**, Portola Valley, CA (US); **Emory A. Sanford**, 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 560 days.

(21) Appl. No.: **14/256,002**

(22) Filed: **Apr. 18, 2014**

(65) **Prior Publication Data**
US 2015/0301565 A1 Oct. 22, 2015

(51) **Int. Cl.**
G06F 1/18 (2006.01)
G06F 1/16 (2006.01)
H04M 1/18 (2006.01)
H04M 1/02 (2006.01)

(52) **U.S. Cl.**
CPC *G06F 1/182* (2013.01); *G06F 1/1637* (2013.01); *H04M 1/185* (2013.01); *H04M 1/0266* (2013.01); *H04M 2250/12* (2013.01)

(58) **Field of Classification Search**
CPC *G06F 1/1637*; *G06F 1/182*; *H04M 1/0266*; *H04M 1/185*; *H04M 2250/12*; *H04M 1/02*; *H04M 1/0202*; *H04M 1/18*; *H04M 2250/00*; *H04B 1/3888*
USPC 340/3.1, 5.1
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS

2,171,808 A	9/1939	Von Schlippe
2,989,869 A	6/1961	Hargy
3,696,296 A	9/1971	Chassagne
3,777,973 A	11/1973	Burt
3,919,575 A	11/1975	Weber et al.
4,278,726 A	7/1981	Wieme
4,288,651 A	9/1981	Göschel
4,314,735 A	2/1982	Fullenkamp et al.
4,370,894 A	2/1983	Stresson

(Continued)

FOREIGN PATENT DOCUMENTS

CN	1458804	11/2003
CN	2710238	7/2005

(Continued)

Primary Examiner — Brian Wilson
(74) *Attorney, Agent, or Firm* — Kendall W. Abbasi; David K. Cole

(57) **ABSTRACT**
An electronic device includes one or more screens, multiple screen protectors moveable between a retracted position and extended position where they extend above the screen to create a gap, and one or more sensors. When the sensor detects a drop event, the screen protectors move from the retracted to extended position, functioning as a shock absorber and preventing the screen from contacting with a surface that the electronic device contacts. In some implementations, the screen protectors may be multiple tabs that may be moved between the retracted and extended positions by one or more motors and/or other actuators coupled to one or more pins. Such tabs may be formed of various flexible and/or rigid materials such as plastic, plastic film, polyethylene terephthalate or other polymers, metal, thin film metal, combinations thereof, and/or other such materials.

20 Claims, 8 Drawing Sheets

FIG. 1

FIG. 2

FIG. 3A

FIG. 3B

FIG. 4A

FIG. 4B

And...Frenzel Filed his Utility Model in Germany



(19) Deutsches Patent- und Markenamt

(10) **DE 20 2018 101 276 U1** 2018.05.09

(12) **Gebrauchsmusterschrift**

(21) Aktenzeichen: **20 2018 101 276.2** (51) Int Cl.: **H05K 5/03 (2006.01)**
 (22) Anmeldetag: **07.03.2018**
 (47) Eintragungstag: **03.04.2018**
 (45) Bekanntmachungstag im Patentblatt: **09.05.2018**

(73) Name und Wohnsitz des Inhabers: **frenzel + mayer solutions GbR**
 (vertretungsberechtigter Gesellschafter: Philip Frenzel, 73430 Aalen, DE), 73430 Aalen, DE

(74) Name und Wohnsitz des Vertreters: **RAUNECKER PATENT, 89073 Ulm, DE**

Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen.

(54) Bezeichnung: **Umhausung für ein elektronisches Gerät**

DE 20 2018 101 276 U1 2018.05.09

ZITATE ENTHALTEN IN DER BESCHREIBUNG

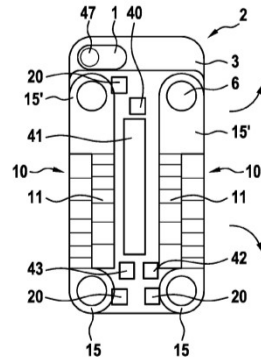
Diese Liste der vom Anmelder aufgeführten Dokumente wurde automatisiert erzeugt und ist ausschließlich zur besseren Information des Lesers aufgenommen. Die Liste ist nicht Bestandteil der deutschen Patent- bzw. Gebrauchsmusteranmeldung. Das DPMA übernimmt keinerlei Haftung für etwaige Fehler oder Auslassungen.

Zitierte Patentliteratur

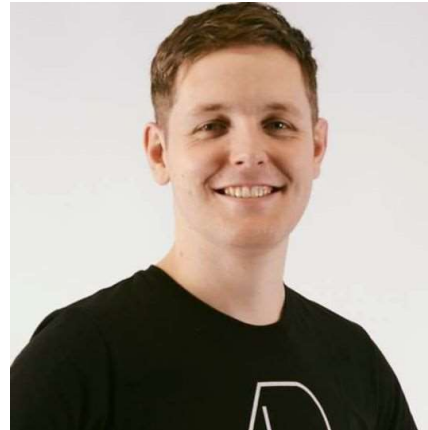
- US 9715257 B2 [0003]
- US 7059182 B1 [0004]

Cited Patent Literature

- US 9715257 B2 [0003]
- US 7059182 B1 [0004]



(57) **Hauptanspruch:** Umhausung (2) für ein elektronisches Gerät (1), umfassend,
 - mindestens eine Dämpfungseinheit (10), die zwischen einer eingefahrenen und einer ausgefahrenen Position bewegt werden kann, wobei die Dämpfungseinheit (10) eine Feder (13) und einen Dämpfer (12) umfasst
 - mindestens einen Sensor, der dazu ausgebildet ist, einen Fallovorgang des elektronischen Gerätes zu detektieren, eine Auslöseinheit (20), die dazu eingerichtet ist, bei einer Detektion eines Fallovorganges einen Positionswechsel der mindestens einen Dämpfungseinheit (10) von der eingefahrenen in die ausgefahrene Position auszulösen, dadurch gekennzeichnet, dass die Feder (13) und der Dämpfer (12) dazu eingerichtet sind, bei der Bewegung von der eingefahrenen Position in die ausgefahrene Position ihre Form zu ändern.



Photos: Philip Frenzel Facebook

*So you are all set to begin...
what's next?*

*New Product Development
Process*

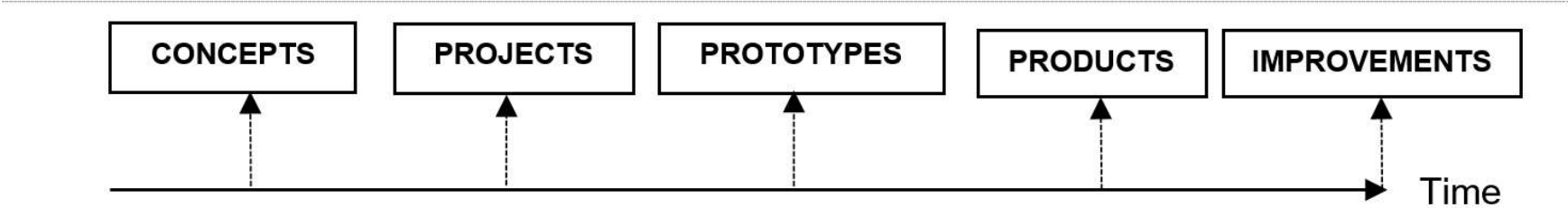




Module III

Integrating Public Domain Knowledge into Product Development Processes

New Product Development Process



Tools Discussed in the Guide



Balanced Scorecard

The 5 Ps of Marketing

Porter's Value Chain Analysis

TRIZ Methodology

Business Model Canvas 

Product Manager in NPD

SWOT Analysis

Technology Risk Management



Technology Trends & Market Data

Identify Technology Trends and Market Segments



Idea

- Market Opportunities: who will buy your product/service?
- Market Data: what information do you have of the market you want to enter in?
- Reviewing what technologies are already in the market
- Finding if there are available technologies you can exploit to identify market opportunities
- Patent intelligence based on patent database searches, patent statistics and reports



Market Opportunities Example: Gwatamatic



Idea

- ❑ An automated sadza maker by William Gwata
- ❑ Sadza – staple meal in Africa but too labor intensive
- ❑ Gwata pursued domestic buyers for his sadza maker
- ❑ Gwata finally realized the market opportunity for his invention – for commercial use



Existing Technology to Develop New Product Example: BIODOME



Idea

- ❑ BIODOME by Fatima Zahra of Morocco
- ❑ An alternate composter that harnessed renewable biogas
- ❑ Ms. Zahra studied existing composters in the market
- ❑ Target customers who could use a composter and biogas as a source of fuel





Idea

area under some
policeman or social w

patent an

document granting the s
an invention protected
made or held under

Patent Intelligence

Patent Intelligence for your Client's Benefit



Idea

Patent Intelligence: Supplement your invention with information available in patent databases
Ask questions like...

What technology of interest
is free-to-use?

What is the scope of patent
search?

Do the target markets for
your client's product/service
also limits your client's use of
certain technology?



So...is it too early to
shape your IP strategy?

IP Strategy is Necessary from Early Stage in NPD



Idea

Make sure your invention is protected against infringement

Determine what kind of IP protection would be the best

- Patent protection
- Trademark filing

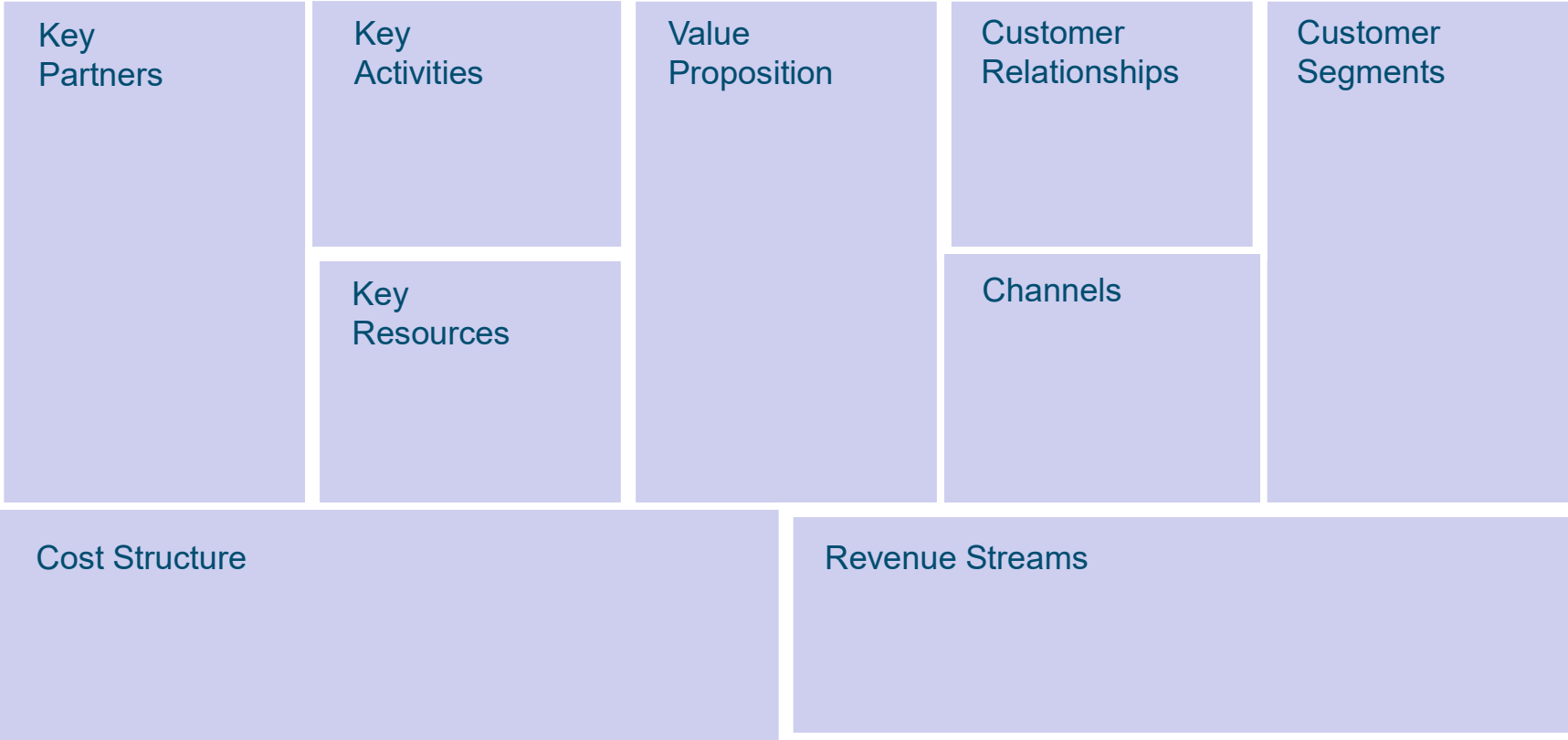
Seek an expert to draft your IP strategy

- Lack of resources often discourage legal help but may prove worthwhile **in the long run**



Business Model Canvas

Example of Business Model Canvas



Source: www.businessideageneration.com

Business Model Canvas Example: Hatua Charger



Idea

- ❑ Pressure based mobile phone charger
- ❑ Device installed inside a shoe's inner sole
- ❑ Walking motion exerts pressure on the piezoelectric crystal



Photo: Anthony Mutua

Example of Business Model Canvas



Idea



Source: www.businessideageneration.com

IP Strategy Example



GEMS Insights:



Dr. Taboada
with Dr.
Siacor Photo:
WIPO
Magazine

Dr. Evelyn B. Taboada, professor of chemical engineering at University of San Carlos discovered an innovative use for mango waste.

In 2008, she was asked by mango processing companies to find solution to mango waste. Half of mangoes processed were wastes filling up landfills and polluting environment.

Research team led by her came up with additional uses of mango skin and kernels in making mango flour, butter and tea.
In 2012, start-up GEMS was founded.

GEMS Notable Insights:

GEMS exclusively licensed the process technology developed by Dr. Taboada and her team

Products such as:

- **Mango flour:** rich in vitamins, minerals, dietary fibers, polyphenols (antioxidants), probiotics
- **Mango pectin:** used as thickener, gelling agent in jams etc.
- **Mango polyphenol:** used as additives
- **Mango tea:** rich in nutrients of mango
- **Mango butter:** food stuff, nutraceuticals, cosmetics, pharmaceuticals
- **Feed mix:** used as a nutritious feed for livestock and pets
- **Seed, husks, briquettes:** alternative sources of fuels with high heating value

All Rights Reserved.



42

Words from a leader for all seasons.....

UNITED STATES PATENT OFFICE

ABRAHAM LINCOLN, OF SPRINGFIELD, ILLINOIS.

BUOYING VESSELS OVER SHOALS.

Specification forming part of Letters Patent No. 6,469, dated May 22, 1849; application filed March 10, 1849.

To all whom it may concern:

Be it known that I, Abraham Lincoln, of Springfield, in the County of Sangamon, in the State of Illinois, have invented a new and improved manner of combining adjustable buoyant air chambers with a steamboat or other vessel for the purpose of enabling their draught of water to be readily lessened to enable them to pass over bars, or through shallow water, without discharging their cargoes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification. Similar letters indicate like parts in all the figures.

The buoyant chambers A, A, which I employ, are constructed in such a manner that they can be expanded so as to hold a large volume of air when required for use, and can be contracted, into a very small space and safely secured as soon as their services can be dispensed with.

Fig. 1. is a side elevation of a vessel with the buoyant chambers combined therewith, expanded;

Fig. 2. is a transverse section of the same with the buoyant chambers contracted.

Fig. 3. is a longitudinal vertical section through the centre of one of the buoyant chambers, and the box B, for receiving it when contracted, which is secured to the lower guard of the vessel.

The top g, and bottom h, of each buoyant chamber, is composed of plank or metal, of suitable strength and stiffness, and the flexible sides and ends of the chambers, are composed of india rubber cloth, or other suitable water-proof fabric, securely united to the edges and ends of the top and bottom of the chambers.

The sides of the chambers may be stayed and supported centrally by a frame k, as shown in Fig. 3, or as many stays may be combined with them as may be necessary to give them the requisite fullness and strength when expanded.

The buoyant chambers are suspended and operated as follows: A suitable number of

vertical shafts or spars D, D, are combined with each of the chambers, as represented in Figs. 2 and 3, to wit: The shafts work freely in apertures formed in the upper sides of the chambers, and their lower ends are permanently secured to the under sides of the chambers: The vertical shafts or spars (D, D,) pass up through the top of the boxes B, B, on the lower guards of the vessel, and then through its upper guards, or some other suitable support, to keep them in a vertical position.

The vertical shafts (D, D,) are connected to the main shaft C, which passes longitudinally through the centre of the vessel—just below its upper deck—by endless ropes f, f, as represented in Fig. 2: The said ropes, f, f, being wound several times around the main shaft C, then passing outwards over sheaves or rollers attached to the upper deck or guards of the vessel, from which they descend along the inner sides of the vertical shafts or spars D, D, to sheaves or rollers connected to the boxes B, B, and thence rise to the main shaft (C), again.

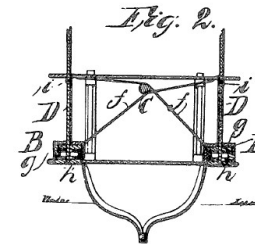
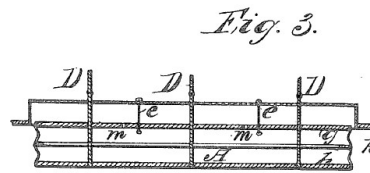
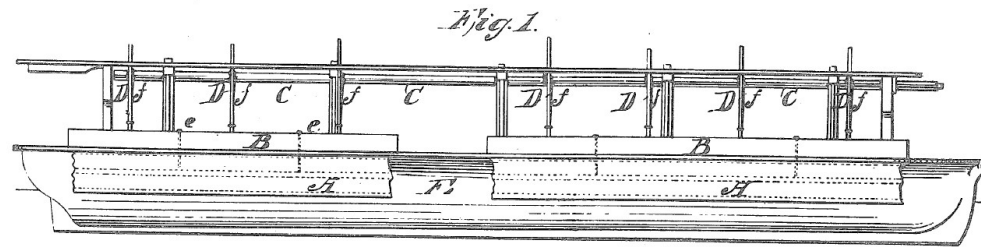
The ropes f, f, are connected to the vertical shafts at i, i, as shown in Figs. 1 and 2. It will therefore be perceived, that by turning the main shaft C, in one direction, the buoyant chambers will be expanded into the position shown in Fig. 1; and by turning the shaft in an opposite direction, the chambers will be contracted into the position shown in Fig. 2.

In Fig. 3, e, e, are check ropes, made fast to the tops of the boxes B, B, and to the upper sides of the buoyant chambers; which ropes catch and retain the upper sides of the chambers when their lower sides are forced down, and cause the chambers to be expanded to their full capacity. By varying the length of the check ropes, the depth of immersion of the buoyant chambers can be governed. A suitable number of openings m, m, are formed in the upper sides of the buoyant chambers, for the admission and emission of air when the chambers are expanded and contracted.

The ropes f, f, that connect the main shaft C, with the shafts or spars D, D, (rising from

“The Patent system added the fuel of interest to the fire of genius”

Abraham Lincoln



No. 6,469

ABRAHAM LINCOLN
MANNER OF BUOYING VESSELS

Patented May 22, 1849

Tools Discussed in the Guide



Balanced Scorecard

The 5 Ps of Marketing

Porter's Value Chain Analysis

TRIZ Methodology

Business Model Canvas 

Product Manager in NPD

SWOT Analysis

Technology Risk Management

Thank You Questions?

j-conleya@kellogg.northwestern.edu

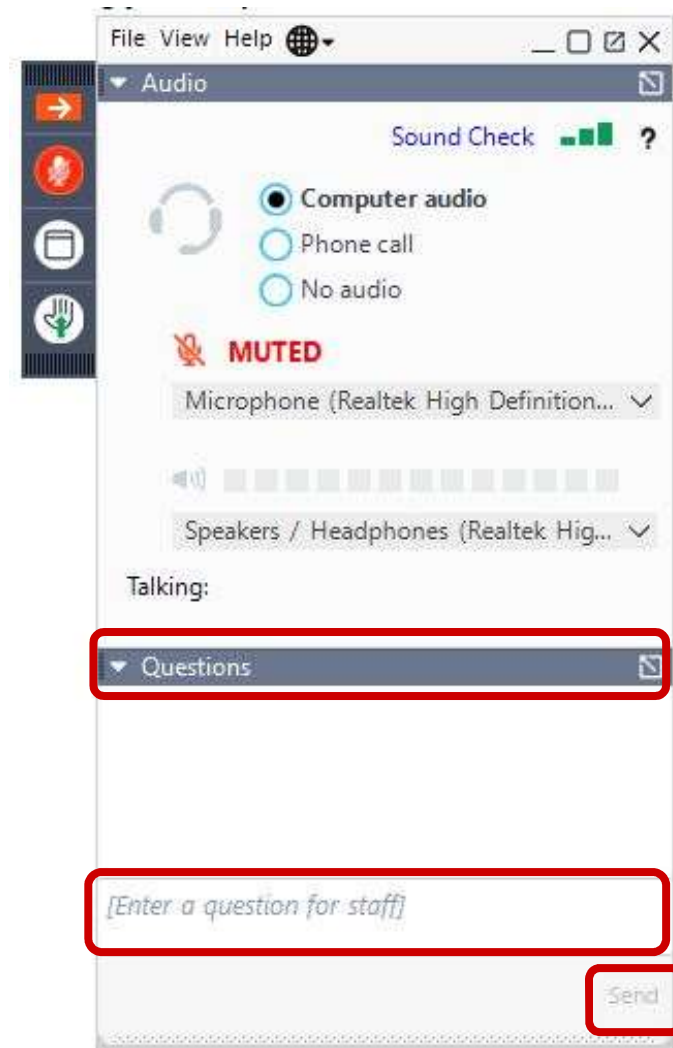
komal.bajracharya@kellogg.northwestern.edu

Northwestern
Kellogg

Center for Research in
Technology & Innovation

Question & Answer session

... please wait a moment while we review your questions...



What's next?

- Ask the Expert session on eTISC
 - Dates: July 9 to 23, 2020
 - Link: <https://etisc.wipo.int/ask-the-expert>
- Webinar on the Guide on Identifying Inventions in the Public Domain
 - Date: July 16, 2020 @3PM CEST
- Guides: <https://www.wipo.int/tisc/en/>

tisc@wipo.int