Fundamentals of using patent databases

Andrew Czajkowski
Director, Technology and Innovation Support Division
Webinar: Asking questions
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See your questions and answers
Overview

- Elements of a patent application
- Boolean operators
- Proximity operators
- Phrases
- Nesting
- Wildcard operators
Bibliographic data

Publication number

Application number
Bibliographic data

(10) International Publication Number
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B66D 55/08 (2006.01)

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93 - 9th floor, 01003-901 São Paulo-SP (BR).

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kind of national protection available): AE, AG, AL, AM,
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CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ,
EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ,
LA, LC, LK, LS, LT, LU, LY, MA, MD, ME, MG,
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
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**Applicants** (for all designated States except US): **BRASILATE S/A EMBALAGENS METÁLICAS** [BR/BR]; Rua Robert Bosch, 332, 01411-010 São Paulo-SP (BR).


**Agents**: **ARNAUD, Antonio M.P. et al.; Rua José Bonifácio, 93 - 9th floor, 01003-901 São Paulo-SP (BR).**


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(71) Applicant (for all designated States except US): BRASIL CIA ATA S/A EMBALAGENS METALICAS [BR/BR]; RUS Robert Bosch, 332, 01411-010 São Paulo-SP (BR).

(72) Inventors; and


Description (specification)

"CLOSURE DEVICE FOR METALLIC CONTAINERS"

Field of the Invention
The present invention refers to a closure device to be applied in metallic containers, such as pails, comprising a tubular body having a peripheral side wall which has a lower end portion to which is attached a bottom wall, and an upper end portion surrounding an opening, inside which is fitted and axially locked an also metallic lid with a peripheral upper skirt provided with at least one sealing element which cooperates with an upper end portion of the peripheral side wall of the tubular body of the container, to guarantee the tightness of the closure by the lid.

Prior Art
There are well known from the prior art the closure arrangements of the type mentioned above and which present one of the parts defined by the upper end portion of the tubular body of the container, or by the peripheral upper skirt of the lid provided with at least one circumferential rib which is fitted and axially retained into a respective and confronting circumferential groove provided on the other of said parts, in order to guarantee a reliable axial retention of the lid when fitted into the upper opening of the tubular body of the container. These closure arrangements are provided with at least one annular sealing element, usually an elastic sealing ring or a synthetic resin gasket, which is

- Provides background information on this problem
- Indicates other known solutions to the problem ("prior art")
- Describes how the invention works (addresses a particular technical problem)
Claims

CLAIMS

1. Closure device for metallic containers comprising: a tubular body (10) having an upper end portion (11) which incorporates an outer and upper finishing cord (13), and an outer and lower peripheral rib (14), and a lid (20) including a peripheral upper skirt (22) to be fitted inside said upper end portion and externally incorporating an outer curl, characterized in that said device comprises: a retention ring (40) seated around the tubular body (10) and axially locked between the finishing cord (13) and the peripheral rib...
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WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION
Boolean operators

- Also known as "logical operators"
- AND (or +)
- OR
- NOT (or ANDNOT or -)
Boolean operators

Results in PCT collection (English titles):

- 349 (tennis)
- 4’947 (ball)
- 5’296 total
Boolean operators: AND

- Results in PCT collection (English titles)
- 62 (tennis AND ball)
Boolean operators: OR

Results in PCT collection (English titles)

5'231 (tennis OR ball)

→ Avoids double counting tennis AND ball
Boolean operators: NOT

Results in PCT collection (English titles)

4’885 (tennis NOT ball)
Boolean operators: NOT

Results in PCT collection (English titles)

- 348 (ball NOT tennis)

→ Order of terms matters!
Boolean operators: Uses

- **OR**: synonyms or related concepts
  - corn OR maize → synonyms
  - corn OR plant → related concepts

- **AND**: additional concepts
  - corn AND fertilizer
Proximity operators: Rationale

- corn AND fertilizer

WO 2008/040445 also describes that 4-\{[(6-chloropyrid-3-yl)methyl](methyl)amino\}furan-2(5H)-one can be present in its commercially available formulations and in the use forms, prepared from these formulations, as a mixture with other active compounds, such as insecticides, attractants, sterilizing agents, bactericides, acaricides, nematicides, fungicides, growth-regulating substances, herbicides, safeners, *fertilizers* or semiochemicals.

In an embodiment of the invention, the invention is directed to the use of the combination, mixture or composition according to the invention for controlling pests which occur in rice, cotton, tea, vegetables, sugar cane, soybean, potato, top fruits, *corn*, vine, ornamentals, rangeland and pastures, canola.
Proximity operators: Function

- Define the maximum "distance" (number of terms) between search terms
  → Ensure that search terms are "in context" with each other
Proximity operators: Ordered

- Ordered: Search terms must be in given order (and within specified distance)
  corn BEFORE5 fertilizer (in PATENTSCOPE)

A process is provided for the dry treatment of agricultural products such as corn and tobacco to remove fertilizer-derived nitrate. The process involves a short duration contact of the agricultural product with HCl gas under conditions which minimize generation of non-volatile chlorocarbons that could form by interaction of the agricultural product with the gaseous products of the reaction of the HCl with the nitrate.
Proximity operators: Unordered

- Unordered: Search terms can be in any order (and within specified distance)
  
corn NEAR5 fertilizer (in PATENTSCOPE)

A process is provided for the dry treatment of agricultural products such as corn and tobacco to remove fertilizer-derived nitrate. The process involves a short duration contact of the agricultural product with HCl gas under conditions which minimize generation of non-volatile chlorocarbons that could form by interaction of the agricultural product with the gaseous products of the reaction of the HCl with the nitrate.

The organic fertilizer comprises oilseed extract and/or corn steep liquor in combination with whey and/or other protein supplements, which provide a natural, nitrate free, nitrogen to the fertilizer. Additionally, a method of manufacturing an organic fertilizer comprising heating an oilseed extract, dissolving whey in the heated extract, and filtering the resultant mixture for use domestically and abroad.
Question

How would you carry out a search for inventions related to blood pressure?

Photo source: Pia von Lützau
Boolean operators: AND

How would you carry out a search for inventions related to blood pressure?

blood AND pressure

→ No context

Photo source: Pia von Lützau
Proximity operators

- How would you carry out a search for inventions related to blood pressure?
  - blood AND pressure
    → No context
  - blood BEFORE1 pressure
    → Works, but not supported by all database systems

Photo source: Pia von Lützau
Phrases

- How would you carry out a search for inventions related to blood pressure?
  - blood AND pressure
    → No context
  - blood BEFORE1 pressure
    → Works, but not supported by all database systems
  - "blood pressure"

Photo source: Pia von Lützau
Comparison: AND, proximity, phrases

- AND: both terms required, no context required
  → Broadest search

- Proximity: both terms required, in context
  → Narrower search (depending on distance)

- Phrases: exact phrase required (e.g. compound words)
  → Narrowest search
Nesting: Rationale

apples AND oranges OR bananas
Nesting: Rationale

- apples AND oranges OR bananas

Photo source: Evan Amos, Zoofari, Amada44 (Wikimedia)
Nesting: Rationale

- apples AND oranges OR bananas

Photo source: Evan Amos, Zoofari, Amada44 (Wikimedia)
Nesting: Rationale

- apples AND oranges OR bananas

Photo source: Evan Amos, Zoofari, Amada44 (Wikimedia)
Nesting

- (apples AND oranges) OR bananas

- apples AND (oranges OR bananas)

Photo source: Evan Amos, Zoofari, Amada44 (Wikimedia)
Question

How would you carry out a search for all manner of inventions related to electricity?

Photo source: Dmitri G (Wikimedia)
Key concepts

- electricity
- electrical
- electric
- electronic
- electromagnetic
- ...

WIPO
WORLD INTELLECTUAL PROPERTY ORGANIZATION
Boolean operators: OR

- electricity
- electrical
- electric
- electronic
- electromagnetic
- ...

→ electricity OR electrical OR electric OR electronic OR electromagnetic …
Wildcard operators

- electricity
- electrical
- electric
- electronic
- electromagnetic
- ...

WIPO
WORLD INTELLECTUAL PROPERTY ORGANIZATION
Wildcard operators

- electricity
- electrical
- electric
- electronic
- electromagnetic
- ...

Wildcard operators

- electricity
- electrical
- electric
- electronic
- electromagnetic
- ...

→ electr*

(* represents a given number of characters)
Review

- Elements of a patent application
- Boolean operators
- Proximity operators
- Phrases
- Nesting
- Wildcard operators
Scenario

- A shipping company would like to improve its logistics management.
- You've been asked to perform a search for inventions related to radio frequency identification (RFID) tags used to track the movement of containers.
Key concepts

radio frequency identification    RFID    containers
Phrases

"radio frequency identification" RFID containers

→ Identify compound words
Boolean operators

"radio frequency identification" OR RFID AND containers

→ Indicate relationships between concepts (synonyms and additional concepts)
Nesting

("radio frequency identification" OR RFID) AND containers

→ Resolve ambiguous logic
Wildcard operators

( "radio frequency identification" OR RFID) AND container*

→ Include variants (here: plural form)
Search

SIMPLE SEARCH

Using PATENTSCOPE you can search 84 million patent documents including 3.8 million published international patent applications (PCT). Detailed coverage information

PCT publication 22/2020 (28.05.2020) is now available here. The next PCT publication 23/2020 is scheduled for 04.06.2020. More

Check out the new PATENTSCOPE features: CPC, PCT families,... More

New Search Facility to Support COVID-19 Innovation Efforts

Search terms:

("radio frequency identification" OR RFID) AND container"
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Check out the new PATENTSCOPE features: CPC, PCT families,... More

New Search Facility to Support COVID-19 Innovation Efforts.

Field
Front Page
Search terms...
("radio frequency identification" OR RFID) AND container"
1. **2015200868** SYSTEM FOR TRACKING LIQUID CONTAINERS IN AUTOMATED LABORATORY ANALYZERS BY RADIO FREQUENCY IDENTIFICATION

**Int.Class:** GC1N 35/00 ①  **Appl.No:** 2015129629  **Applicant:** ABBOTT LABORATORIES  **Inventor:** FRITCHE PATRICIA

PROBLEM TO BE SOLVED: To provide a system that enables a transfer of a reagent from one automated system to a different system when the automated system is down.

SOLUTION: A system for automation of laboratory analyzers utilizing radio frequency identification (RFID) tags and radio frequency identification (RFID) readers to identify containers and liquid containers, and contents of the containers and liquid containers that are employed in the system. The radio frequency identification tags conforming to guidelines of ISO 14443 or ISO 18000 or ISO 18000, are disposed on objects such as, for example, reagent containers, sample containers, and micropipettes of the like. The tags can be read by and written in a movable antenna of the RFID reader or a stationary antenna of the RFID reader. Reading of the RFID tags and writing to the RFID tags are controlled by software.

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2. **3691711** MANAGEMENT OF LARGE NUMBER OF RFID TAGS IN CRYOGENIC CONTAINER

**Int.Class:** G06C 10/00 ①  **Appl.No:** 18724919  **Applicant:** VIKING GENETICS FMBA  **Inventor:** PEDERSEN GERT FRIDJUNG

The present disclosure relates to a radio-frequency identification system for a container, such as a cryogenic container, comprising: a large number of radio-frequency identification tags for cryogenic straws, preferably at least 100 radio-frequency identification tags, each radio-frequency identification tag attachable to or embeddable in a cryogenic straw, an interrogation unit adapted to be placed or integrated inside the cryogenic container, wherein the interrogation unit and radio-frequency identification tags are configured to operate with a frequency of at least 39 MHz. The disclosure further relates to a method of identifying a large number of radio-frequency identification tags in a cryogenic container, preferably at least 100 radio-frequency identification tags, the method comprising the steps of: configuring a radio-frequency identification interrogation unit to transmit radio-frequency interrogation signals in the container with a frequency of at least 39 MHz, configuring the radio-frequency identification interrogation unit to operate in a plurality of different signal propagation modes such that the cryogenic container is divided into a plurality of propagation zones, wherein each propagation zone is associated with a corresponding propagation mode, and wherein only the radio-frequency identification tags within a specific propagation zone are excited when the interrogation unit is in the corresponding propagation mode, and configuring the radio-frequency identification interrogation unit to receive radio-frequency response signals from the radio-frequency identification tags.
1. **2015200888 SYSTEM FOR TRACKING LIQUID CONTAINERS IN AUTOMATED LABORATORY ANALYZERS BY RADIO FREQUENCY IDENTIFICATION**

- **Int.Class:** B65N 15/00
- **Appl.No:** 2015200888
- **Applicant:** ABBOY LABORATORIES
- **Inventor:** FRIETHE PATRICK P

**PROBLEM TO BE SOLVED:** To provide a system that enables a transition of a reagent from one automated system to a different system when the automated system is down.

**SOLUTION:** A system for automation of laboratory analyzers utilizes radio frequency identification (RFID) tags and radio frequency identification (RFID) readers to identify containers and liquid containers, and contents of the containers and liquid containers, that are employed in the system. The radio frequency identification tags conforming to guidelines of ISO 14443 or ISO 15693 or ISO 18000, are disposed on objects such as, for example, reagent containers, sample containers, and microplates and the like. The tags can be read by and written in a movable antenna of the RFID reader or a stationary antenna of the RFID reader. Reading of the RFID tags and writing to the RFID tags are controlled by software.

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2. **9581711 MANAGEMENT OF LARGE NUMBER OF RFID TAGS IN CRYOGENIC CONTAINER**

- **Int.Class:** 2302 10/08
- **Appl.No:** 18728198
- **Applicant:** VIKING GENETICS FMB
- **Inventor:** PEDERSEN GERT FALUND

The present disclosure relates to a radio-frequency identification system for a container, such as a cryogenic container, comprising a large number of radio-frequency identification tags for cryogenic straws, preferably at least 100 radio-frequency identification tags, each radio-frequency identification tag attachable to or embeddable in a cryogenic straw, an interrogation unit adapted to be placed or integrated inside the cryogenic container, wherein the interrogation unit and radio-frequency identification tags are configured to operate with a frequency of at least 30 MHz. The disclosure further relates to a method of identifying a large number of radio-frequency identification tags in a cryogenic container, preferably at least 100 radio-frequency identification tags, the method comprising the steps of: configuring a radio-frequency identification interrogation unit to transmit radio-frequency interrogation signals in the container with a frequency of at least 30 MHz, configuring the radio-frequency identification interrogation unit to operate in a plurality of different signal propagation modes such that the cryogenic container is divided into a plurality of propagation zones, wherein each propagation zone is associated with a corresponding propagation mode, and wherein only the radio-frequency identification tags within a specific propagation zone are excited when the interrogation unit is in the corresponding propagation mode, and configuring the radio-frequency identification interrogation unit to receive radio-frequency response signals from the radio-frequency identification tags.
1. **2015008888 SYSTEM FOR TRACKING LIQUID CONTAINERS IN AUTOMATED LABORATORY ANALYZERS BY RADIO FREQUENCY IDENTIFICATION**

   **Int.Class.** 06N 35/00  
   **Appl.No.** 2015126528  
   **Applicant** ABBOTT LABORATORIES  
   **Inventor** FRITCHE PATRICK

   **Problem to be solved:** To provide a system that enables a transition of a reagent from one automated system to a different system when the automated system is down.

   **Solution:** A system for automation of laboratory analyzers utilizes radio frequency identification (RFID) tags and radio frequency identification (RFID) readers to identify containers and liquid containers, and contents of the containers and liquid containers, that are employed in the system. The radio frequency identification tags conforming to guidelines of ISO 14443 or ISO 15693 or ISO 18000, are disposed on objects such as, for example, reagent containers, sample containers, and microplates and the like. The tags can be read by and written in a movable antenna of the RFID reader or a stationary antenna of the RFID reader. Reading of the RFID tags and writing to the RFID tags are controlled by software.

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2. **386111 MANAGEMENT OF LARGE NUMBER OF RFID TAGS IN CRYOGENIC CONTAINER**

   **Int.Class.** 06N 12/00  
   **Appl.No.** 18724818  
   **Applicant** VIKING GENETICS PMBA  
   **Inventor** PEDERSEN GERT FRIELUND

   The present disclosure relates to a radio-frequency identification system for a container, such as a cryogenic container, comprising a large number of radio-frequency identification tags for cryogenic straws, preferably at least 100 radio-frequency identification tags, each radio-frequency identification tag attachable to or embeddable in a cryogenic straw; an interrogation unit adapted to be placed or integrated inside the cryogenic container, wherein the interrogation unit and radio-frequency identification tags are configured to operate with a frequency of at least 30 MHz. The disclosure further relates to a method of identifying a large number of radio-frequency identification tags in a cryogenic container, preferably at least 100 radio-frequency identification tags, the method comprising the steps of: configuring a radio-frequency identification interrogation unit to transmit radio-frequency interrogation signals in the container with a frequency of at least 30 MHz; configuring the radio-frequency identification interrogation unit to operate in a plurality of different signal propagation modes such that the cryogenic container is divided into a plurality of propagation zones, wherein each propagation zone is associated with a corresponding propagation mode, and wherein only the radio-frequency identification tags within a specific propagation zone are excited when the interrogation unit is in the corresponding propagation mode; and configuring the radio-frequency identification interrogation unit to receive radio-frequency response signals from the radio-frequency identification tags.
Thank you for your attention!

Any questions?

For more information, please contact:

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