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# Search Tools and Strategies

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# Overview

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

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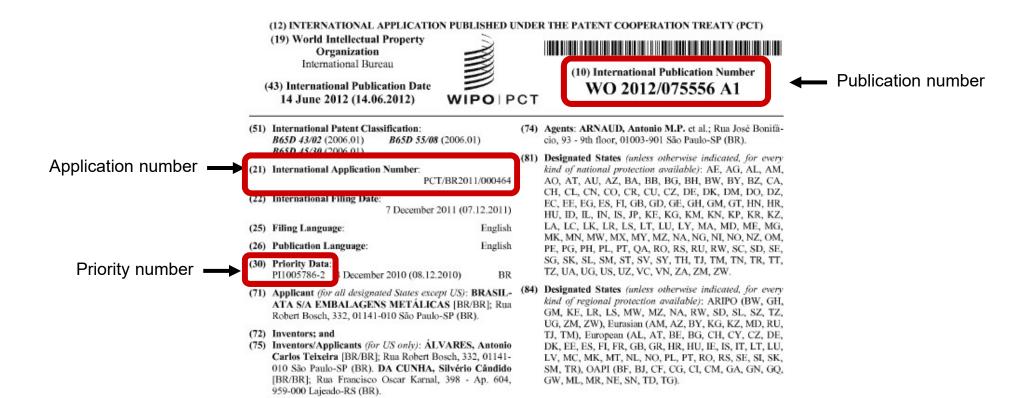
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- ATA S/A EMBALAGENS METÁLICAS [BR/BR]; Rua Robert Bosch, 332, 01141-010 São Paulo-SP (BR).
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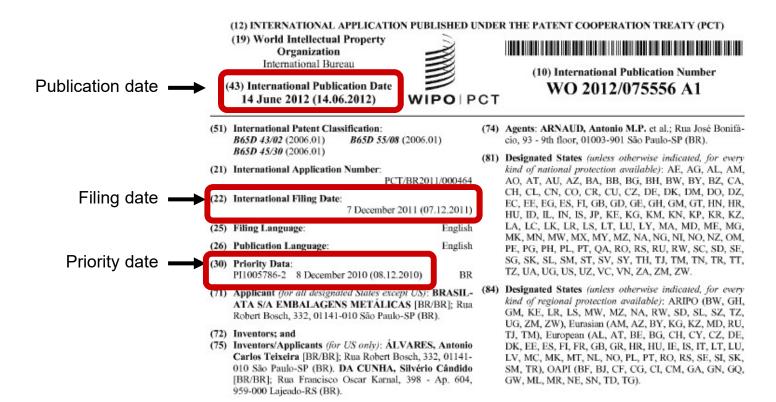
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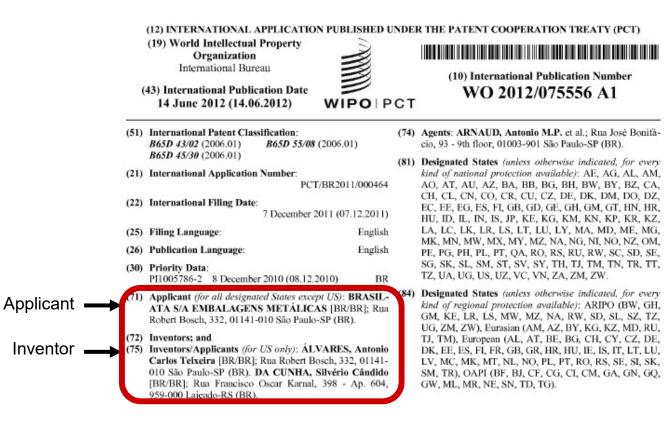
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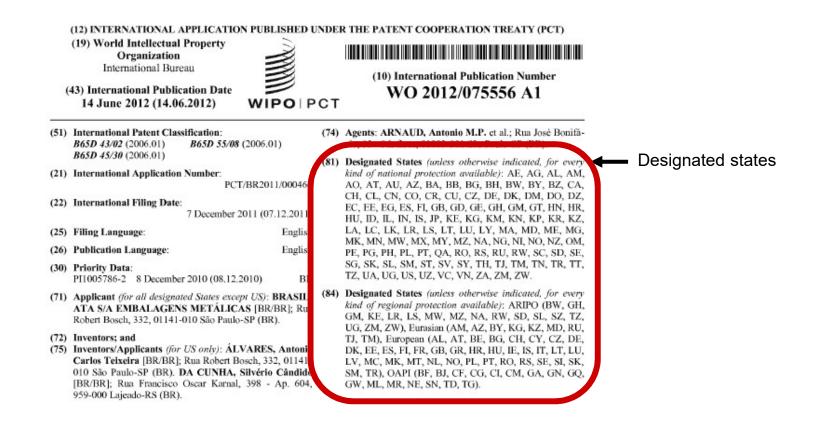












# **Description** (specification)

### "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

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

# 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

Define the scope of protection sought by the applicant

# Fields

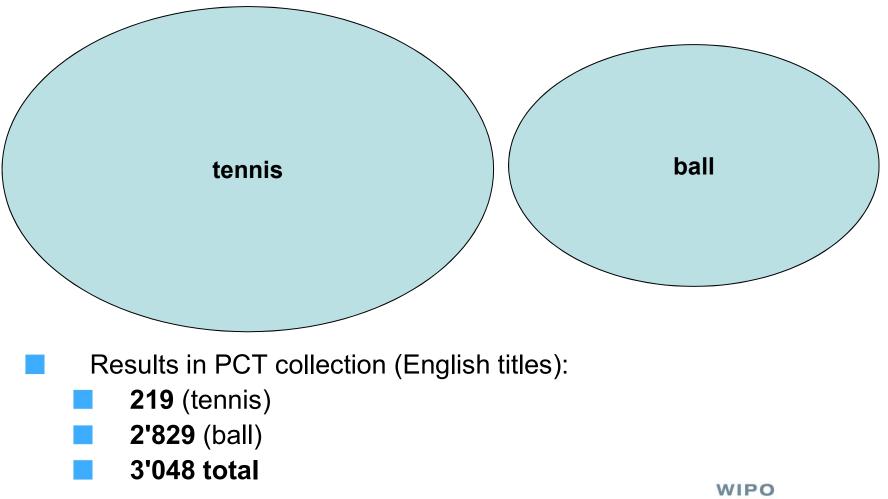
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	WIPO Publication Number		0
	Application Number	=	0
	Publication Date	=	0
	English Title		0
	English Abstract	× =	0
	Applicant Name		0
	International Class	=	0
	Inventor Name		0
ND -	Office Code		0
	English Description	=	0
	English Claims	-	0
ND	Licensing availability		
ND	Inventor Name	■ Is Empty: ● N/A C Yes C No	

# **Boolean operators**

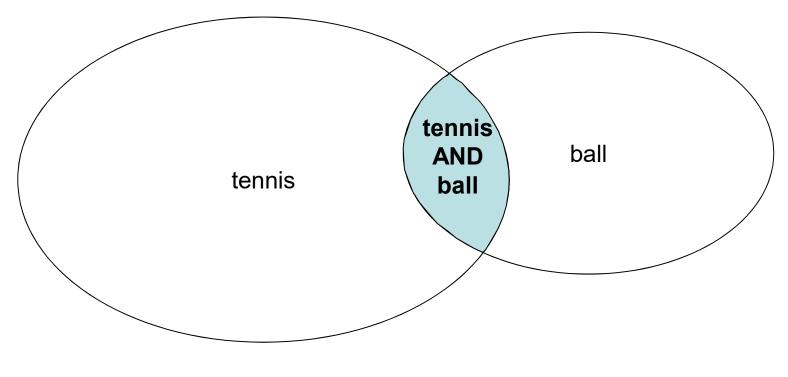
Also known as "logical operators"

AND (or +)
OR
NOT (or ANDNOT or -)

# **Boolean operators**

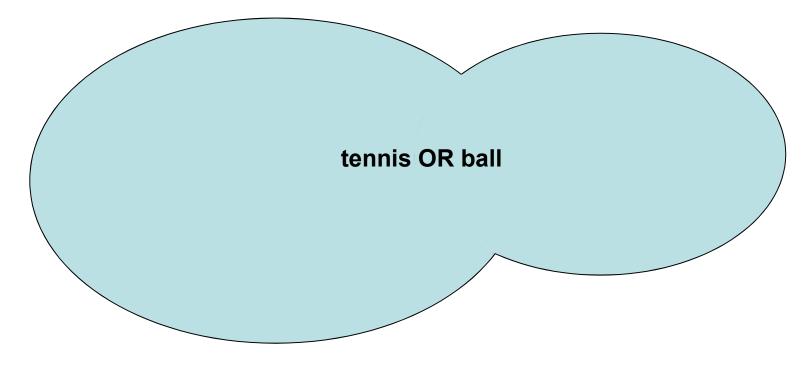


# **Boolean operators: AND**



- Results in PCT collection (English titles)
  - 38 (tennis AND ball)

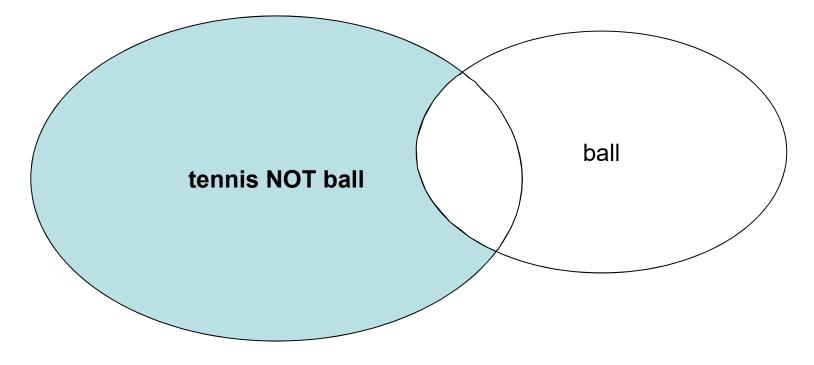
# **Boolean operators: OR**



### Results in PCT collection (English titles) **3'010** (tennis OR ball)

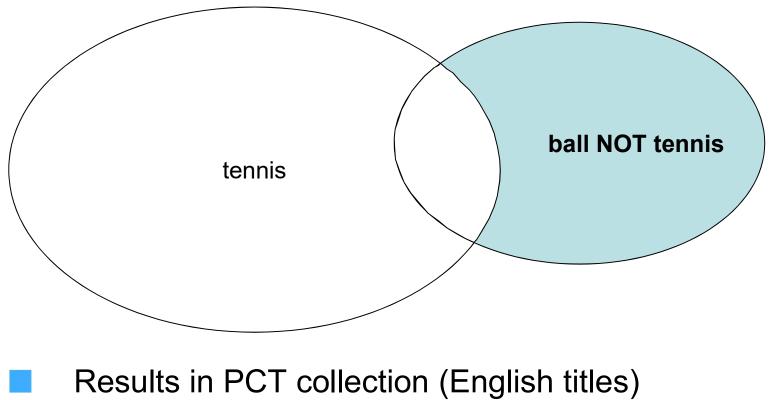
 $\rightarrow$  Avoids double counting tennis AND ball

# **Boolean operators: NOT**



Results in PCT collection (English titles)181 (tennis NOT ball)

# **Boolean operators: NOT**



**2'791** (ball NOT tennis)

 $\rightarrow$  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**

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 HC1 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 HC1 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 termizer. 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?



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# **Boolean operator: AND**

- How would you carry out a search for inventions related to blood pressure?
- blood AND pressure
- $\rightarrow$  No context



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# **Proximity operator**

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



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# Phrases

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



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# Comparison: AND, proximity, phrases

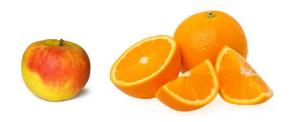
AND: both terms required, no context required
→ Broadest search

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

Phrases: exact phrase required (e.g. compound words)
 Narrowest search

apples AND oranges OR bananas

### apples AND oranges OR bananas



or

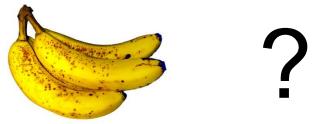


Photo source: Evan Amos, Zoofari, Amada44 (Wikimedia)



### apples AND oranges OR bananas

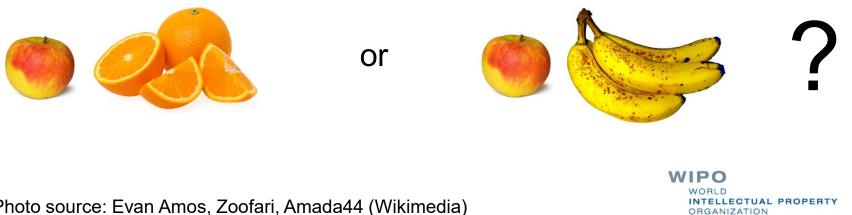


Photo source: Evan Amos, Zoofari, Amada44 (Wikimedia)

### apples AND oranges OR bananas

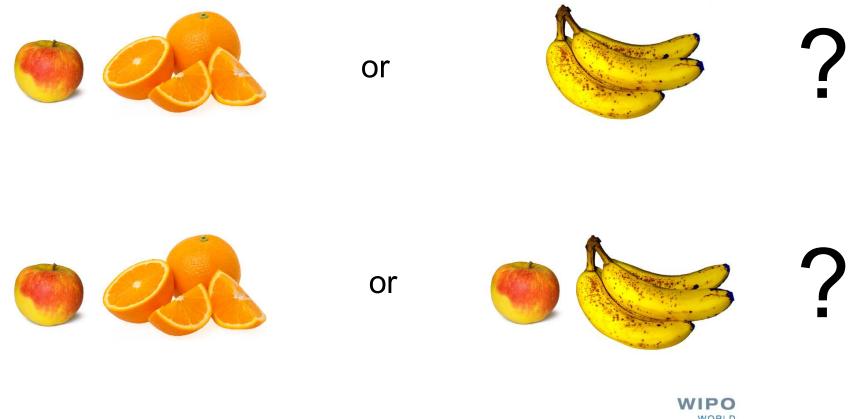


Photo source: Evan Amos, Zoofari, Amada44 (Wikimedia)

# Nesting

### (apples AND oranges) OR bananas



or



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?



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Photo source: Dmitri G (Wikimedia)

# Key concepts

electricity

electrical

electric

. . .

electronic

electromagnetic

# **Boolean operators: OR**

electricity

electrical

electric

. . .

electronic

electromagnetic

→ electricity OR electrical OR electric OR electronic OR electromagnetic …

# Wildcard operators

electricity

electrical

electric

. . .

electronic

electromagnetic

# Wildcard operators

electricity
electrical
electric
electronic

. . .

electromagnetic

### Wildcard operators

electricity
electrical
electric
electronic
electromagnetic

 $\rightarrow$  electr\*

. . .

(\* represents a given number of characters)

#### Wildcard operators

Any number of characters : \* electr\* → electric, electron, electronic …

One character exactly (stackable) : ? coll?sion → collision, collusion ... foc?? → focus, focal ...

Can be used at the end of a term or inside a term

#### Range operators

Range including end points : [*term1* TO *term2*]
 Range excluding end points : {term1 TO term2}

ID number ranges
 [WO1999012345 TO WO1999012350]
 Date ranges
 [20100101 TO 20100601]
 Name ranges
 PA:[m\* TO n\*]

#### 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.





radio frequency identification RFID containers



#### Phrases

"radio frequency identification" RFID containers

 $\rightarrow$  Identify compound words

#### **Boolean operators**

"radio frequency identification" OR RFID AND containers

 $\rightarrow$  Indicate relationships between concepts (synonyms and additional concepts)

# Nesting

("radio frequency identification" OR RFID) AND containers

 $\rightarrow$  Resolve ambiguous logic

#### Wildcard operators

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

 $\rightarrow$  Include variants (here: plural form)

# Search



PATENTSCOPE

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Front Page	• • (	'radio frequency id	entification" OR R	FID) AND con	tainer*	0	Office: All	Search		



# Search





# Search



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#### Search: Results

		Title		Cir	PubDate
Int.Class		Appl.No	Applicant		Inventor
1. 2232409 AN ASSOCI. Patient	ATED SET OF RADIO FR	EQUENCY IDENTIFICAT	ION ( RFID ) TAGGED CONTAINERS FOR SPECIMENS FROM A	EP	29.09.2010
G06K 19/00	08860310		3M INNOVATIVE PROPERTIES CO	EGBE	RT WILLIAM C
2. 103482212 RFID (Rad thereof	lio Frequency Identific	ation) omnidirectional	electronic tag of liquid container and configuration method	CN	01.01.2014
CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR	dio Frequency Identific	ation) omnidirectional	electronic tag of liquid container and configuration method	CN	01.01.2014
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the RFID omnidirectiona loop are attached to the	al electronic tag. The ele inner side of a bottle ca the bottle cap of the liqu	ectronic tag comprises ap of the liquid containe uid container, so that th	Identification) omnidirectional electronic tag of a liquid containe a radiation loop and a power supply loop, wherein the radiation of in a winding mode, and a demolishing component on the electronic tag is physically destroyed through the demolishing ont. By using the RFID omnidirectional electronic tag, the remova	loop and tronic tag compon	the power supply g is connected with ent when the bottle

#### Search: Results

	Titl	e	Ctr	PubDate
int.Class	Appl.No	Applicant		Inventor
1, 2232409 AN ASSOCIATED SE Patient	T OF RADIO FREQUENCY IDENTIFICA	ATION ( RFID ) TAGGED CONTAINERS FOR SPECIMENS FROM A	EP	29.09.2010
G06K 19/00	08860310	3M INNOVATIVE PROPERTIES CO	EGBE	RT WILLIAM C
OL SYN A MARKET	uency Identification) omnidirectiona	al electronic tag of liquid container and configuration method	CN	01.01.2014
thereof	201210194952.2	al electronic tag of liquid container and configuration method 航天信息股份有限公司	CN 金永公	

# Search: Results

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1. 2232409 AN ASSOCIAT Patient	ED SET OF RADIO FREQUENCY ID	DENTIFICATION ( RFID ) TAGGED CONTAINERS FOR SPECIMENS FRO	MA EP	29.09.2010
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2. 103482212 RFID (Radio thereof G06K 1/00	Frequency Identification) omnid	directional electronic tag of liquid container and configuration met 航天信息股份有限公司	hod CN 金永公	01.01.2014
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#### tisc@wipo.int