Using International Patent Classification (IPC) as a Search Tool

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Dar es Salaam Zanzibar May 2016



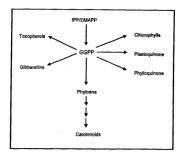
WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

51) International Patent Classification 7:		(11) International Publication Number: WO 00/53768
C12N 15/52, 15/53, 15/82, 5/10, A01H 5/00	A1	(43) International Publication Date: 14 September 2000 (14.09.00)
21) International Application Number: PCT/EP 22) International Filing Date: 3 March 2000 (30) Priority Data: 199 09 637.6 5 March 1999 (05.03.99) 21) Applicant (for all designated States except US): GRE TION PFLANZENBIOTECHNOLOGIE GMBH Sonnenstrases 5, D-79104 Freiburg im Breisgau (22) Inventors; and 55 Inventors/Applicants (for US only): BEYER [DE/DE]: In der Etzmatt 10, D-79423 Heitershe POTRYKUS, Ingo [DE/CH]; Im Stigler 34, (Magden (CH)). 31 Agent: JOACHIM STÜRKEN PATENTANWA SELLSCHAFT MBH; Engesserstrasse 4b, Freiburg im Breisgau (DE).	ENOVA (DE/DE/DE). R, Petim (DE/CH-431	BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EB ES, PI, GB, GD, GG, GH, GM, HR, HU, IDI, LN, IS, JP KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE LS, MW, SD, SL, SZ, TZ, UG, ZW, Eurnsian patent (AM AZ, BY, KG, KZ, MD, RU, TI, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, TI, LU MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: METHOD FOR IMPROVING THE AGRONOMIC AND NUTRITIONAL VALUE OF PLANTS



(57) Abstract

The present invention provides means and methods of transforming plant cells, seeds, tissues or whole plants in order to yield transformants capable of expressing all enzymes of the carotenoid biosynthesis pathway that are essential for the targeted host plant to accumulate carotenes and/or santhophylis of interest. The present invention also provides DNA molecules designed to be suitable for carrying out the method of the invention, and plasmids or vector systems comprising said molecules. Furthermore, the present invention provides transgenic plant cells, seeds, tissues and whole plants that display an improved nutritional quality and contain such DNA molecules and/or that have been generated by use of the methods of the present invention.

GB-A-2365393

(12) UK Patent Application (19) GB (11) 2 365 393 (13) A

GB 2242401 A

GB 2080217 A

GB 0516738 A US 3233849 A

(21) Application No 0019361.5

(22) Date of Filing 07.08.2000

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(51) INT CL7 B64C 25/40

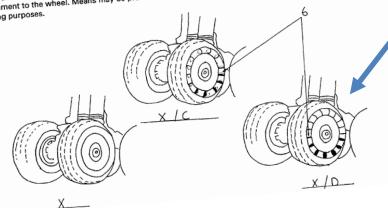
(52) UK CL (Edition T) **B7G** G8H

(56) Documents Cited GB 2334925 A GB 2193932 A GB 1407358 A US 4040582 A

Field of Search UK CL (Edition R) **B7G** INT CL⁷ **B64C 25/40**

Rotating aircraft wheels prior to landing (54) Abstract Title

(57) An aircraft tyre or wheel is provided with pockets or ridges 6, which catch the airflow past the wheel and cause the wheel to rotate. The pockets/ridges may be formed in the tyre or an additional member for cause the wheel to rotate. The pockets/huges may be romited in the tyre of an additional member for attachment to the wheel. Means may be provided for diverting air from a pocket into the wheel assembly for cooling purposes.

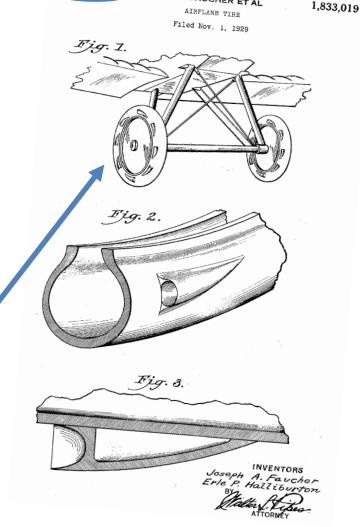


US-A-1833019

Nov. 24, 1931.

J. A. FAUCHER ET AL

AIRPLANE TIRE



Data Patent Documentation

- Bibliographic Data
- Technical Data
- Legal Data

Number of Patent Documents

- 1,5 million per year
- At present more than 90 million documents
- Piled up 120 km height
- Many languages

Until 1995 ALL PAPER



Until 1995

- Numerical Collections
- mainly paper (95 %)
- - microfilm
- CD Rom from 1988 on

- Search Files
 - All Paper:
- 35 million paper documents
- Classified in 150000 "
 groups "
- Manuel Search by examiners

WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION

Modern History of the IPC

- 1952 Council of Europe initiates work on patent classification
- 1968 European Classification of Patents for Invention 1st edition
- 1971 Diplomatic Conference on the IPC Strasbourg
- 1975 Strasbourg Agreement entered into force New editions of the IPC – every 5 years
- 2006 8th edition of the IPC IPC Reform

 Publication cycle every 3 years(Core) to 3 months(Advanced)
- 2009 Yearly publications
- 2011 IPC Simplification

Discontinuation of Advanced/Core levels (full IPC/main group)

2013 IPC Revision Roadmap

Identify areas for revision. / Accelerate the publication procedure.

Strasbourg Agreement

•1975 - Strasbourg Agreement entered into force

•IPC Union

- initially 13 members
- currently 62 member states (as of June 2014)
- in addition 4 organizations (EPO, EAPO, ARIPO, OAPI)

Rights of Member States

participate in improving the IPC

Strasbourg Agreement

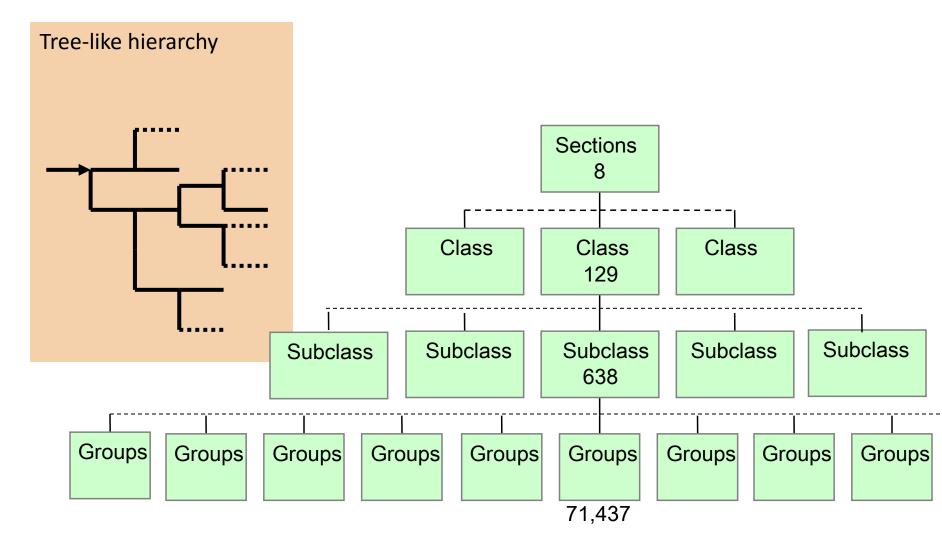
Obligation of Member States

 allot IPC symbols to national published patent documents.

Option of classifying in main groups only

- IPOs that do not have sufficient expertise for classifying to a detailed level have the option to classify in main groups only.
- ✓ IPC applied by more than 100 countries
- (e.g. 148 PCT members as of June 2014)

IPC hierarchical structure



Section

✓ Hierarchical top level: 8 Sections

```
А
          SECTION A — HUMAN NECESSITIES
В
          SECTION B — PERFORMING OPERATIONS; TRANSPORTING
C
          SECTION C — CHEMISTRY: METALLURGY
          SECTION D — TEXTILES; PAPER
D
          SECTION E — FIXED CONSTRUCTIONS
E
F
          SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING;
          WEAPONS; BLASTING
G
          SECTION G — PHYSICS
н
          SECTION H — ELECTRICITY
```

Class

Class = Second hierarchical level under the section

Class symbol = Section symbol followed by two digits

Class Title gives a broad indication of the content of the class

Example:

Section A HUMAN NECESSITIES

Class A01 AGRICULTURE; FORESTRY; ANIMAL;

A21 BAKING; EQUIPMENT FOR MAKING ...

A22 BUTCHERING; MEAT TREATMENT; ...

Subclass

Subclass Symbol = Class symbol followed by a letter

Subclass Title indicates the content as precisely as possible.

Example:

Class A47 FURNITURE; DOMESTIC ARTICLES OR

APPLIANCES; COFFEE MILLS; SPICE MILLS;

SUCTION CLEANERS IN GENERAL

Subclass A47B Tables, Desks; Office furniture, Cabinets; Drawers;

General details of furniture

A47C Chairs; Sofas; Beds

A47D Furniture specially adapted for children

Titles may consist of several words/phrases separated by semicolons, representing related areas of technology which have been grouped together.

Main groups and Subgroups

Group symbol = Subclass symbol followed by one to three digits + "/" + two to six digits

Example:

```
A01K 31/00 Housing birds Main group (XX/00)

A01K 31/02 • Door appliances; Automatic door-openers

A01K 31/04 • Dropping-boards; Devices for removing excrement

A01K 31/06 • Cages

A01K 31/07 • Transportable cages

A01K 31/08 • Collapsible cages

Subgroups (XX/yy)
```

Main groups and Subgroups

✓ Two types of groups: Main groups

Subgroups of main groups

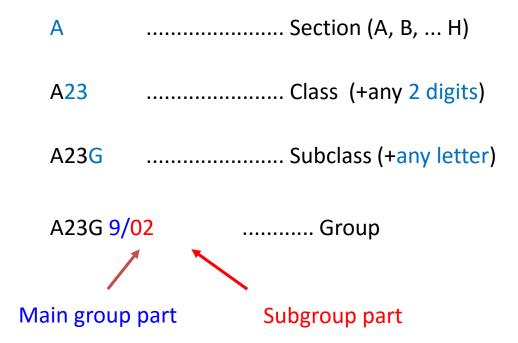
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A23G 9/00 ...... Main group xxx/00 xxx= 1 to 999

A23G 9/02 ..... Subgroup xxx/yy (yy ≠ 00) xxx/yyyyyy
```

Complete Symbol

A23G 9/02

✓ Complete symbol; consists of different components



Symbols and Titles

- ✓ Each IPC place/entry (section, class, subclass, group) is characterized by Symbol and Title.
- Symbol = succession of upper case letters and numbers
- Title = phrase describing the technical content (scope)

Example:

Section A Human Necessities

Class A47 Furniture; Domestic articles ...

Subclass A47H Furnishings for windows or doors

Group A47H 1/00 Curtain suspension devices

Symbols and Titles

WIPO

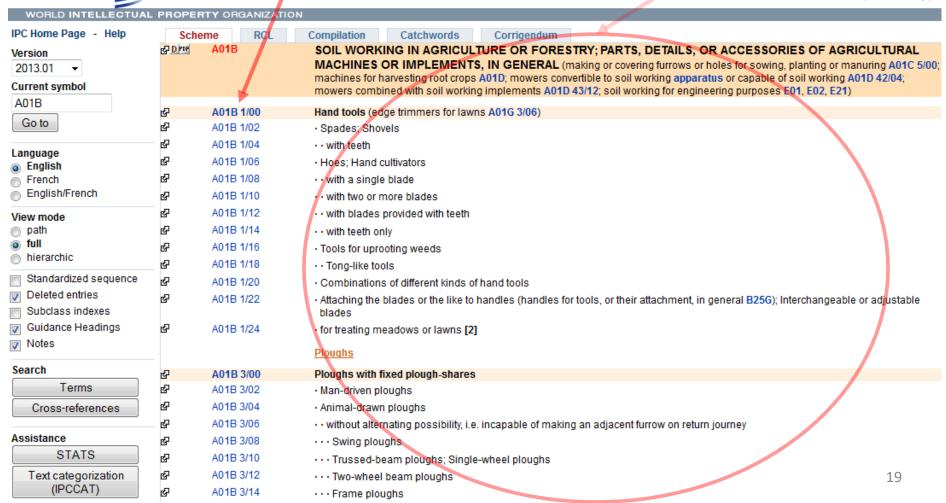
Symbols

IP SERVICES Interpational I

Interpational Patent Classification (IPC) Official Publication

Titles

Fr
Sea
Contact us | Accessibility | 5



Hierarchical Structure of Groups

✓ Hierarchical level of groups indicated by <u>number of dots</u> (indentation level) not by the group symbol

```
1/00 T

1/02 \cdot T^{1}

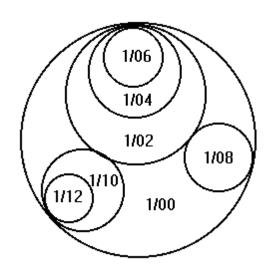
1/04 \cdot T^{2}

1/06 \cdot T^{3}

1/08 \cdot T^{4}

1/10 \cdot T^{5}

1/12 \cdot T^{6}
```



- ✓ Group 1/12 (2-dot group) should be a subset of group 1/10 (1-dot group) which is a subset of group 1/00 (main group).
- ✓ Group 1/12 is not a subset of group 1/02 nor of group 1/08.

Example:

31,719 documents (NB: include all subdivisions)

<i>†</i>			
н	SECTION H — ELECTRICITY	Section	
H01	BASIC ELECTRIC ELEMENTS	Class	
H01F	MAGNETS; INDUCTANCES; TRANSFORMERS; SELECTION OF MATERIALS FOR THEIR MAGNETIC PROPERTIES (ceramics based on ferrites C04B 35/26; alloys C22C; thermomagnetic devices H01L 37/00; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers H04R) [2]	Subclass	
H01F 1/00	Magnets or magnetic bodies characterised by the magnetic materials therefor; Selection of materials for their magnetic properties (thin magnetic films characterised by their composition H01F 10/10)	Main group	
H01F 1/01	 of inorganic materials (H01F 1/44 takes precedence) [6] 	Cubaroupa	
H01F 1/03	· · characterised by their coercivity [6]	Subgroups	
H01F 1/032	· · · of hard-magnetic materials [6]		
H01F 1/04	· · · · metals or alloys [6]	\downarrow	
H01F 1/047	· · · · · Alloys characterised by their composition [6]		
H01F 1/053	· · · · · containing rare earth metals [6]		
H01F 1/055	•••••• and magnetic transition metals, e.g. SmCo ₅ [6]		
H01F 1/057	······ and Illa elements, e.g. Nd ₂ Fe ₁₄ B [6]	a with a second	
H01F 1/058	······and IVa elements, e.g. Gd ₂ Fe ₁₄ C [6]	12 th level	
H01F 1/059	······ and Va elements, e.g. Sm ₂ Fe ₁₇ N ₂ [6]		
	► sufficiently small numbers	21	

Hierarchy of Subgroups

- ✓ Level of hierarchy:
 - Indicated by dots
 - Number of dots > indentation/hierarchical level
 - Independent of numbering of subgroups!

Example:

```
G01N 33/483 • Physical analysis of biological material 33/487 • • of liquid biological material 33/49 • • • blood 33/50 • Chemical analysis of biological material, e.g. blood
```

Technical hierarchy is independent of numbering.

Numbering of subgroups

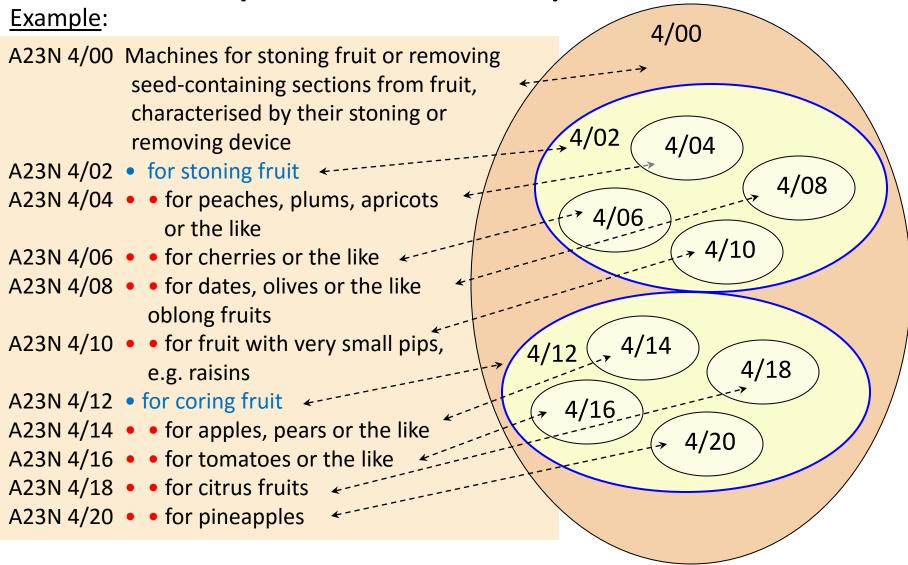
- ✓ Numbering does <u>not</u> determine hierarchical level.
- ✓ Numbering determines sequential/presentation order of subgroups.

"/" can be interpreted as a decimal point.

```
Example: 1/23 > 1.23 
34/02 > 34.02
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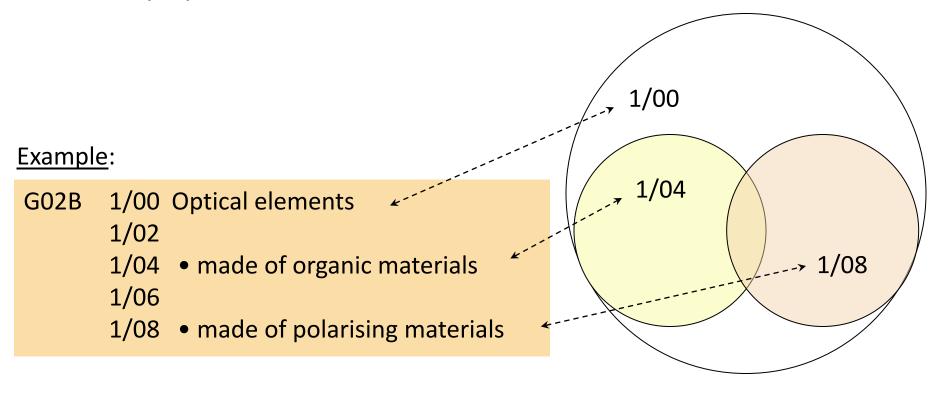
```
G01N 33/483 • Physical analysis of biological material (33.483) 33/487 • • of liquid biological material (33.487) 33/49 • • • blood (33.49) 33/50 • Chemical analysis of biological material, e.g. blood
```

Scope of IPC Group



Scope of IPC Group

- ✓ Mutually exclusive scopes are ideal situations
- ✓ Overlap is possible



Exercise

- •Q7) In main group A47C 1/00, where would you classify:
 - (a) devices for reserving a theatre chair?
 - (b) a theatre chair tipping upwards?
 - (c) devices for reserving a beach chair?

```
A47C 1/00 Chairs adapted for special purposes
```

A47C 1/02 · Reclining or easy chairs

A47C 1/04 · Hairdressers' or similar chairs

A47C 1/12 · Theatre, auditorium, or similar chairs

A47C 1/121 ··· having tipping-up seats

A47C 1/122 · · · tipping-up sideways

A47C 1/124 · · Separate chairs, connectible together into a row

A47C $1/126 \cdot \cdot \cdot$ stowable in floor or wall

A47C 1/13 ··· Indicators; Devices for reserving or the like

A47C 1/14 · Beach chairs

Answer

•A7) (a) devices for reserving a theatre chair? (b) a theatre chair tipping upwards? (c) devices for reserving a beach chair? A47C 1/00 Chairs adapted for special purposes A47C 1/02 · Reclining or easy chairs A47C 1/04 · Hairdressers' or similar chairs A47C 1/12 · Theatre, auditorium, or similar chairs A47C 1/121 ··· having tipping-up seats A47C 1/122 · · · tipping-up sideways A47C 1/124 · · Separate chairs, connectible together into a row A47C $1/126 \cdot \cdot$ stowable in floor or wall A47C 1/13 ··· Indicators; Devices for reserving or the like A47C 1/14 · Beach chairs

Answer

- A7)
- (a) devices for reserving a theatre chair
- A47C 1/13
- (b) a theatre chair tipping upwards
- A47C 1/121
- (c) devices for reserving a beach chair
- A47C 1/14

Full Text search

- Non structured data base
- Incomplete results
- No drawings, no tridimensional structures.
- Various languages
- Problems of terminology
- How reliable is the information?
- A lot of noise in the results

Search using IPC

- IPC: creation of an artificial structure by means of IPC) which is under control of the users. Enormous intellectual investment.
- By using the IPC, you will benefit fully from the experience of the examiners, each in their specefic technical field.

Publications of the IPC

- Only electronic publications of the official version:
 - online
 - XML Master Files for local installations
 - PDF for download
- Former paper publication was discontinued
- English and French as offical languages
 - approved by IPC members during revison
- Other language versions provided by national Offices
 - no control by IPC Union
 - accessible via links in bridge in online IPC: German, Russian, Spanish, Portuguese, ...

COFFEE <u>A23F 5/00</u>

COFFEE -making apparatus A47J 31/00

COFFEE mills A47J 42/00

COFFEE pots <u>A47G 19/14</u>

compositions for whitening COFFEE A23C

11/00

roasting COFFEE A23F 5/04

coffee

- A23F 5/00
- <u>Coffee</u>; <u>Coffee substitutes</u>; <u>Preparations</u> thereof [3]
- A23F 5/02
- Treating green <u>coffee</u>; <u>Preparations</u> produced thereby (roasting <u>A23F 5/04</u>; removing unwanted substances <u>A23F 5/16</u>; reducing or removing <u>alkaloid</u> content <u>A23F 5/20</u>; extraction <u>A23F 5/24</u>) [3]
- A23F 5/04
- Methods of roasting <u>coffee</u> (machines therefor <u>A23N 12/00</u>) [3]
- A23F 5/06
- · · · of roasting extracted coffee [3]
- A23F 5/08
- Methods of grinding coffee (coffee mills A47J 42/00) [3]
- A23F 5/10
- Treating roasted <u>coffee</u>; <u>Preparations</u> produced thereby (removing unwanted substances <u>A23F 5/16</u>; reducing or removing <u>alkaloid</u> content <u>A23F 5/20</u>; coffee extraction, making instant coffee A23F 5/24) [3]
- A23F 5/12
- Agglomerating, flaking or tabletting (of coffee extract or instant coffee A23F 5/38) [3]
- A23F 5/14
- ... using additives, e.g. milk, sugar; Coating, e.g. for preserving (flavouring A23F 5/46) [3]
- A23F 5/16
- Removing unwanted substances (reducing or removing <u>alkaloid</u> content <u>A23F 5/20</u>) [3]
- A23F 5/18
- · · from coffee extract [3]
- <u>A23F 5/20</u>
- Reducing or removing <u>alkaloid</u> content; <u>Preparations</u> produced thereby; Extracts or infusions thereof [3]
- A23F 5/22
- · · · Reducing or removing <u>alkaloid</u> content fro

Coffee mills

- A47J 42/02
- · having grinding cones
- A47J 42/04
- · · hand driven
- A47J 42/06
- · · mechanically driven
- A47J 42/08
- · · Adjusting mechanisms
- A47J 42/10
- Grinding cones
- A47J 42/12
- having grinding discs
- A47J 42/14
- · · hand driven
- A47J 42/16
- · · mechanically driven
- A47J 42/18
- · · Adjusting mechanisms
- A47J 42/20
- · · · Grinding discs
- A47J 42/22
- having pulverising beaters or rotary knives
- A47J 42/24
- · · hand driven
- A47J 42/26
- · · mechanically driven

Classification and description

A23F3/00

Tea; Tea substitutes; Preparations thereof

```
• Treating tea before extraction (reducing or removing alkaloid content A23F3/36); Preparations produced thereby (tea extract
              preparations A23F3/16)
A23F3/08 • • Oxidation; Fermentation
A23F3/10 •• • Fermentation with addition of micro-organisms or enzymes
A23F3/12 • • Rolling or shredding tea leaves
A23F3/14 • • Tea preparations, e.g. using additives (flavouring A23F3/40)
A23F3/16 • Tea extraction; Tea extracts; Treating tea extract; Making instant tea
A23F3/163 • Liquid or semi-liquid tea extract preparations, e.g. gels, liquid extracts in solid capsules
A23F3/166 • • Addition of, or treatment with, enzymes or micro-organisms
A23F3/18 • Extraction of water soluble tea constituents (A23F3/166 takes precedence; isolation of tea flavour or tea oil A23F3/42)
A23F3/20 •• Removing unwanted substances (A23F3/166 takes precedence; reducing or removing alkaloid content A23F3/38)
A23F3/205 • • • Using flocculating or adsorbing agents
            • • Drying or concentrating tea extract (A23F3/166 takes precedence)
A23F3/225 • • • by evaporation, e.g. drying in thin layers, foam drying (A23F3/26 and A23F3/28 take precedence)
A23F3/24 •• • by freezing out the water
A23F3/26 • • • by lyophilisation
A23F3/28 ••• by spraying into a gas stream
A23F3/30 • Further treatment of dried tea extract; Preparations produced thereby, e.g. instant tea (A23F3/166 takes precedence;
```

flavouring A23F3/40)

- A23F3/32 •• Agglomerating, flaking or tabletting or granulating
- A23F3/34 Tea substitutes, e.g. mate; Extracts or infusions thereof
- A23F3/36 Reducing or removing alkaloid content; Preparations produced thereby; Extracts or infusions thereof
- A23F3/363 •• by addition of alkaloid neutralising or complexing agents (A23F3/166 takes precedence)
- A23F3/366 •• by extraction of the leaves with selective solvents
- A23F3/38 •• Reducing or removing alkaloid content from tea extract
- A23F3/385 •• using flocculating, precipitating, adsorbing or complex-forming agents, or ion-exchangers
- A23F3/40 Tea flavour; Tea oil; Flavouring of tea or tea extract (synthetic tea flavours A23L1/226)
- A23F3/405 •• Flavouring with flavours other than natural tea flavour or tea oil
- A23F3/42 •• Isolation or recuperation of tea flavour or tea oil
- A23F3/423 ••• by solvent extraction; Tea flavour from tea oil
- A23F3/426 •• by distillation, e.g. stripping leaves; Recovering volatile gases (flavour from tea oil A23F3/423

Advantages of using IPC

Summary

- ✓ Language independent
- ✓ Terminology / "jargon" independent
- ✓ Standardized application to documents (by experts of patent offices)
- ✓ Available for (old) patent documents where no full text of claims / description is available
- ✓ Concept search
- More complete search results than pure text search

Thank you

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