



Topic 4A: **Retrieving and utilizing external examination results**

Lutz Mailänder
Head, Patent Information Section
Global IP Infrastructure Sector

Harare
10-12 July 2012

Agenda

- Opportunities
- Requirements
- Types of results
 - final
 - intermediary
- Public resources for retrieval
- Issues

Opportunities through patent families

- Utilisation possible if same invention was/is filed in several IPOs
 - OFF: Office of First Filing
 - OSFs: Office(s) of Second Filing
- **Active worksharing**: avoid duplication of work by active organisation of the work distribution; e.g. OFF treats applications with priority and OSF wait for results
 - Some collaborations have started, e.g. Vancouver Group (AU, CA, UK)
 - Trilateral offices (EPO,JP,USPTO)
- **„Passive worksharing“**: Use results that were obtained for family members at other IPOs

Active worksharing trilateral offices

- Utilisation requires that results produced by the Office of First Filing are available on-time at the Office of Second Filing
- The EPO performs systematic prioritisation of first filings. Utilisation at the EPO requires that other offices also do the same:
- **JP-FIRST:** JP Fast Information Release Strategy - JPO launched in 2009 this pilot to prioritise certain first filings that are subsequently filed at the EPO and USPTO
- **SHARE:** Strategic Handling of Application for Rapid Examination. USPTO launched in 2010 a pilot with the EPO and JPO where this office prioritises first filings (FLASH - First Look Application Sharing)

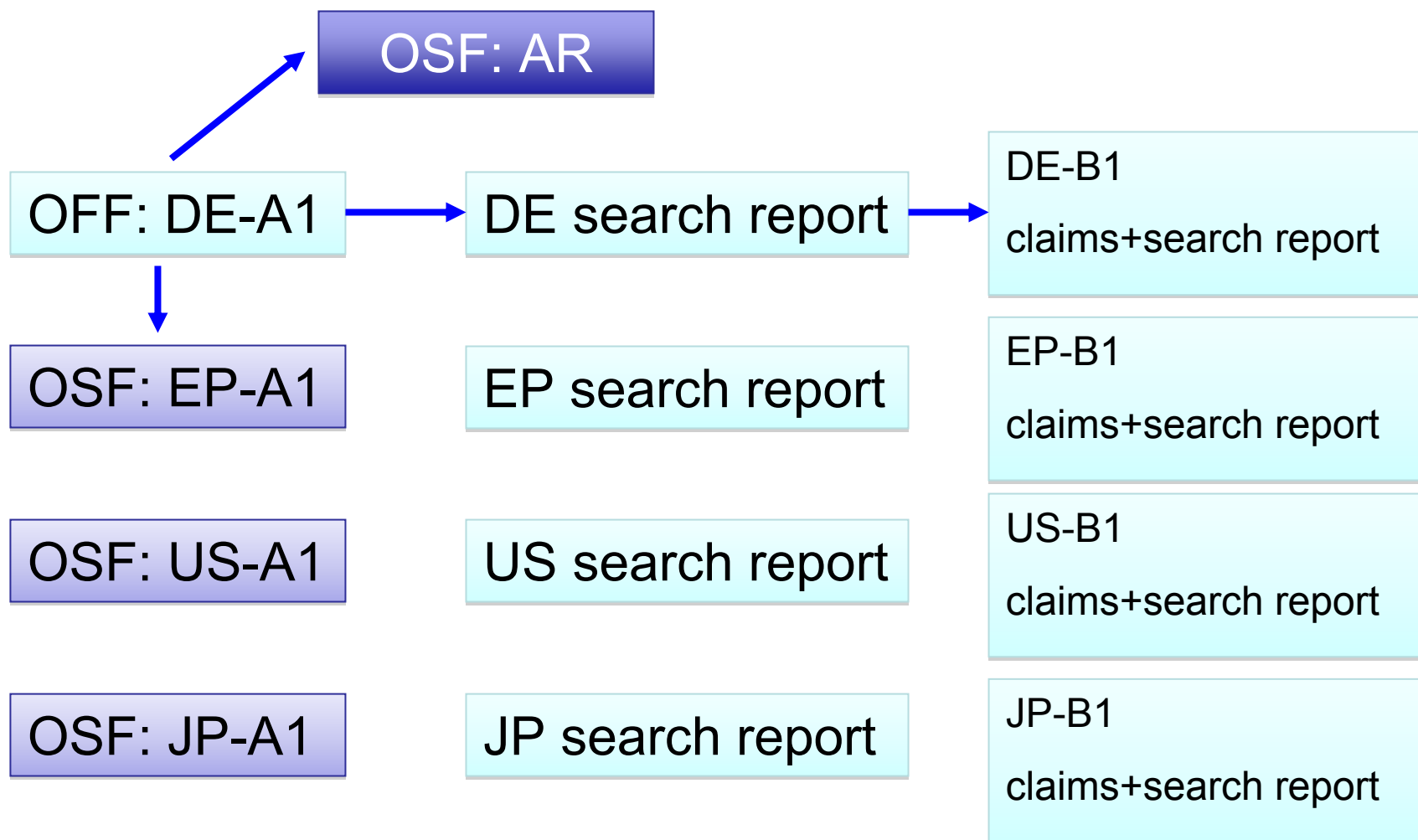
Passive worksharing

- Utilization of examination results obtained by other IPOs can save resources and improve quality, e.g.
 - Other IPOs may have access to other information resources
 - Individual examiners at other IPO may have particular expertise in a certain field
 - Learning from/improving other search strategies
 - Examination reports may include valuable arguments
- Effective strategy for small IPOs to cover all technical areas, instead of outsourcing of substantive examination (see presentation of topic 1)

Types of examination results

- Intermediary or pre-grant results
 - Search reports (basic; enriched, e.g. with search strategies)
 - Written opinions, examination reports
 - Communications between applicant and examiner
 - Third party observations
- Final results
 - Granted claims
 - Rejections; withdrawals following substantive reports
- Post-grant results
 - Additional prior art from opposition/re-examination
 - Amended claims
 - Communications between involved parties (3+)

Usable results



Issues with final results

Utilization of final results

- Requires identical claims
- Requires cooperative lawyers/applicants that agree to use the claims granted abroad
- Requires the claims to be compatible with national law, e.g. exemptions
- Requires confidence in the work of other IPOs
- Implies considerable delay because final results have to become available
- (See separate presentation on topic 8 for use of granted claims)

Patent prosecution highway PPH

- JPO initiative to accelerate granting in case of grants at other IPOs
- **In case of grants:** Option for applicants to obtain patent protection more efficiently and faster in the Office of Second Filing when the Office of First Filing has determined allowable / patentable subject-matter.
- (See separate presentation on topic 8 for use of granted claims)

Issues with intermediary results

- Implies some but smaller delay than waiting for final results
- Searches are based on claims: the foreign search results may be incomplete/inappropriate if claims are different
- Requires checking whether same priorities
- Different priorities and priority dates can lead to different claims or prior art
- Usually no problems if simple family
- Using results for members of extended family may be problematic

Planning of utilization

- ▶ Utilization of examination results requires knowledge of
 - Family information, i.e. where else has an invention been filed (Paris, PCT, technical family)
 - Examination practice of other IPOs, i.e. do they have deferred examination (e.g. DE), is prior art search mandatory (e.g. EP, PCT) ?
 - Examination status, i.e. is substantive examination under way (i.e. national phase entry for PCT applications)
- ▶ Depending on national requirements, e.g. deadline for first action by examiner

Retrieval options

- Active retrieval by examiner, i.e. **research family information** and **research examination status** and **retrieve results** from online resources
- Request applicant to submit information; some legislations provide for a respective obligation

Article 124 EPC

(1) The European Patent Office may, in accordance with the Implementing Regulations, **invite the applicant to provide information on prior art taken into consideration in national or regional patent proceedings** and concerning an invention to which the European patent application relates.

(2) **If the applicant fails to reply deemed to be withdrawn.**

Online resource

- ▶ Various (public) online databases provide
 - Family information (see topic 3)
 - Examination status
 - Published applications and granted patents with search reports, granted claims
 - Several IPOs also offer access to the examination file (file wrapper), e.g.
 - Examination reports
 - Replies from applicants

Selected online resources

- European Patent Register (EP)

- <https://register.epo.org/espacenet/regviewer>

- Common Citation Document (Pilot)

- <http://www.trilateral.net/ccd>

- Patentscope

- <http://www.wipo.int/patentscope/search/en/search.jsf>

- Public Pair (US)

- <http://portal.uspto.gov/external/portal/pair>

- AIPN (JP)

- <http://aipn.ipdl.inpit.go.jp/>

- K-PION (KR)

- <http://kposd.kipo.go.kr:8088/up/kpion/>

- DPMAregister (DE)

- <http://register.dpma.de/DPMAregister/Uebersicht?lang=en>

Online resources

- European Patent Register (EP)
 - EP applications: enriched SR, ER, examination status, file wrapper)
- Common Citation Document (Pilot)
 - SRs for EP, JP, US, WO,.....
- Patentscope
 - WO applications: enriched SR, ER, file wrapper
- Public Pair (US)
 - US applications: file wrapper with SR, ER, examination status
- AIPN (JP)
 - See topic 4B presented by JPO
- K-PION (KR)
 - See topic 4B presented by JPO
- DPMAregister (DE)
 - DE applications: SR, examination status

USPTO - PAIR

■ Patent Application Information Retrieval (PAIR)

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Patent Searches

- Patent Official Gazette
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- Search Biological Sequences
- Copies, Products & Services

Other

- Copyrights
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Patent Application Information Retrieval

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** indicates a required field*

You may search for a specific application or conduct a search related to a customer number.

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Choose type of number:

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- Patent Number *i*
- PCT Number (EXAMPLE: PCT/CCYY/999999 or PCT/CCYYY/999999) *i*
- Publication Number *i*

* Enter number:

If you need help:

- Call the Patent Electronic Business Center at (866) 217-9197 (toll free) or e-mail EBC@uspto.gov for specific questions about Patent Application Information Retrieval (PAIR).
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11/093,685 **FIBER OPTIC TRANSCEIVER MODULE HAVING BUILT-IN TEST CAPABILITY AND ASSOCIATED METHOD** 038190/281944

Select New Case | Application Data | Transaction History | Image File Wrapper | Patent Term Adjustments | Continuity Data | Fees | Published Documents | Address & Attorney/Agent | Display References

Bibliographic Data

Application Number:	11/093,685	Customer Number:	-
Filing or 371 (c) Date:	03-30-2005	Status:	Patented Case
Application Type:	Utility	Status Date:	02-20-2008
Examiner Name:	WONG, TINA MEI SENG	Location:	ELECTRONIC
Group Art Unit:	2874	Location Date:	-
Confirmation Number:	9505	Earliest Publication No:	US 2006-0228078 A1
Attorney Docket Number:	038190/281944	Earliest Publication Date:	10-12-2006
Class / Subclass:	385/089	Patent Number:	7,341,384
First Named Inventor:	Eric Y. Chan , Mercer Island, WA (US)	Issue Date of Patent:	03-11-2008

Title of Invention: FIBER OPTIC TRANSCEIVER MODULE HAVING BUILT-IN TEST CAPABILITY AND ASSOCIATED METHOD

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"Image File Wrapper" contains search and examination reports

09-28-2006	WFEE	Fee Worksheet (SB06)	PROSECUTION	1	<input type="checkbox"/>
04-28-2006	CTNF	Non-Final Rejection	PROSECUTION	10	<input type="checkbox"/>
04-28-2006	1449	List of References cited by applicant and considered by examiner	PRIOR ART	1	<input type="checkbox"/>
04-28-2006	892	List of references cited by examiner	PRIOR ART	1	<input type="checkbox"/>
04-28-2006	FWCLM	Index of Claims	PROSECUTION	1	<input type="checkbox"/>

Notice of References Cited	Application/Control No. 11/093,685	Applicant(s)/Patent Under Reexamination CHAN ET AL.	
	Examiner Tina M. Wong	Art Unit 2874	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,081,638	06-2000	Zhou, Ping	385/31
*	B	US-6,842,467	01-2005	Aronson et al.	372/27
*	C	US-5,179,420	01-1993	So et al.	356/73.1
	D	US-			
	E	US-			

German Patent Office DPMAregister

- Access to examination status and search reports of applications processed by German patent office: no file wrapper yet

The screenshot shows the DPMAregister website interface. At the top, there is a navigation bar with links for 'DPMAregister-Startseite', 'English', 'Impressum/Datenschutzerklärung', and 'Hilfe'. Below this is a menu with categories: 'Patente und Gebrauchsmuster', 'Marken', 'Geschmacksmuster', 'Geografische Herkunftsangaben', 'Service', and 'DPMAkurier'. Under 'Patente und Gebrauchsmuster', there are sub-links: 'Patentblatt', 'Einsteiger', 'Monitoring', 'Experte', and 'PIZ-Unterstützung'. The current page is 'Einsteigerrecherche'.

The main content area is titled 'Einsteigerrecherche'. It includes a link for 'Hilfe' and information about the International Patent Classification (IPC). Below this is a section 'Recherche formulieren' with the following fields:

- Schutzrechtsart: Patent Gebrauchsmuster Schutzzertifikat Topografie ?
- Aktenzeichen/Veröffentlichungsnummer: ? z.B. 102008005373.2
- Bezeichnung/Titel: ? z.B. Mikroprozessor
- Anmelder/Inhaber/Erfinder: ? z.B. Schmidt GmbH
- Publikationstag: ? z.B. 06.10.2010
- IPC-Haupt-/Nebeklasse: ? z.B. F17D 5/00

Below the search fields is a checkbox for 'Nur in Kraft befindliche Schutzrechte anzeigen: ?'.

The 'Trefferliste konfigurieren' section includes the following options:

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- IPC-Hauptklasse
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- Erfinder
- Status
- IPC-Nebeklasse(n)
- Eintragungstag
- Vertreter

Trefferlisten sortierung nach:

Treffer/Seite: Maximale Trefferzahl:

Buttons: 'Recherche starten', 'Zurücksetzen'

German Patent Office **DPMA**register

Treffer 1/1, Registerauskunft

Aktenzeichen DE: 10 2005 050 747.6

Schutzrechtsart: Patent

Status: anhängig/in Kraft

Stand am: 16. November 2011

[Zurück zur Einsteigerrecherche](#) [Zurück zur Trefferliste](#)

Stammdaten [Details schließen](#)

INID	Kriterium	Feld	Inhalt
	Schutzrechtsart	SART	Patent
	Status	ST	Anhängig/in Kraft
21	Aktenzeichen DE	DAKZ	10 2005 050 747.6
54	Bezeichnung/Titel	TI	Multiplex-Sender für Polymerfaserübertragung und Verfahren zu dessen Herstellung
51	IPC-Hauptklasse	ICM (ICMV)	H04J 14/02 (2006.01)
22	Anmeldetag DE	DAT	22.10.2005
43	Offenlegungstag	OT	26.04.2007
71/73	Anmelder/Inhaber	INH	ESA Patentverwertungsagentur Sachsen-Anhalt GmbH, 39114 Magdeburg, DE; Hochschule Harz (FH), 38855 Wernigerode, DE
72	Erfinder	IN	Ulrich, Prof. Dr. Fischer-Hirchert, 38640 Goslar, DE
74	Vertreter	VTR	Sperling, Fischer & Heyner Patentanwälte, 39108 Magdeburg, DE
10	Veröffentlichte DE-Dokumente	DEPN	DE102005050747A1
	Zustellanschrift		Sperling, Fischer & Heyner Patentanwälte, 39108 Magdeburg, DE
	Fälligkeit	FT FG	31.10.2011 Jahresgebühr für das 7. Jahr
	Zuständige Patentabteilung		55
57	Zusammenfassung	AB	Die Erfindung betrifft einen Multiplex-Sender für Polymerfaserübertragung und ein Verfahren zu dessen Herstellung.\$A Erfindungsgemäß besitzt der Multiplex-Sender einen Grundkörper mit Aussparungen, in denen Wellenleiter der Eingangskanäle sowie Wellenleiter des oder der Ausgangskanäle angeordnet sind, wobei sowohl der Grundkörper mit Aussparungen als auch die Wellenleiter Spritzgussteile sind.\$A Im Verfahren zur Herstellung eines Multiplex-Senders für Polymerfaserübertragung werden in einem ersten Verfahrensschritt der Grundkörper mit den Aussparungen als Spritzgussteil hergestellt, während in einem zweiten Verfahrensschritt die Wellenleiter ebenfalls durch Spritzguss in Aussparungen des Grundkörpers eingebracht werden.
56	Entgegenhaltungen	CT	DE000019716838A1 DE000010323032A1 DE000069030437T2 US000006356692B1 US020050175347A1 US020050069013A1
	Anzahl der Bescheide		2

Search → Results → EP1864167 (A2)

EP 1864167 (A2)
Bibliographic data
Description
Claims
Mosaics
Original document
INPADOC legal status

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Bibliographic data: EP 1864167 (A2)

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FIBER OPTIC TRANSCEIVER MODULE HAVING BUILT-IN TEST CAPABILITY AND ASSOCIATED METHOD

Page bookmark [EP 1864167 \(A2\) - FIBER OPTIC TRANSCEIVER MODULE HAVING BUILT-IN TEST CAPABILITY AND ASSOCIATED METHOD](#)

Publication date: 2007-12-12

Inventor(s): CHAN ERIC Y [US]; KOSHINZ DENNIS G [US] ±

Applicant(s): BOEING CO [US] ±

Classification:
- **international:** [G01M11/00](#); [G02B6/42](#)
- **European:** [G01M11/00B2A](#); [G02B6/42C3R](#); [G02B6/42C6](#)

Application number: [EP20060748697](#) 20060324

Priority number(s): WO2006US10973 20060324; US20050093685 20050330

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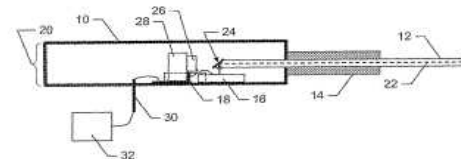
Also published as: [WO 2006104953 \(A2\)](#)
[WO 2006104953 \(A3\)](#)
[US 2006228078 \(A1\)](#)
[US 7341384 \(B2\)](#)

PDF-documents of publications

Cited documents: [US6205274 \(B1\)](#) → [US4021121 \(A\)](#) → [View all](#)

Abstract not available for EP 1864167 (A2)
Abstract of corresponding document: WO 2006104953 (A2)
[Translate this text](#)

A fiber optic transceiver module, having built-in test capability and a low physical profile that meets mil spec requirements, comprises a housing. The housing comprises an optical fiber having an angled end that defines an acute angle relative to the longitudinal axis of the optical fiber, an optical source for emitting an optical signal which is reflected by the angled end of the optical fiber and propagated along the optical fiber, and an optical detector for receiving a return optical signal transmitted through the angled end of the optical fiber in response to reflection from a discontinuity in the optical fiber. The acute angle may be 48 degrees, causing a desired portion of the signal emitted from the optical source to be propagated along the optical fiber and to cause a desired portion of the return optical signal to be transmitted through the angled end to a photodetector.



European Patent Register

- Contains procedural information on **European** patent applications once published (examination status, validity)
- Not to be confused with similar looking Espacenet interface; similar search options:
 - Number Search: Publication and Application Number, Filing Date
 - Advanced Search: Keywords, Applicant/Inventor, Representative, Opponent, Priority Dates and Numbers, IPC classes

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Advanced search

Publication number i e.g. EP1883031

Application number i e.g. EP20070010825

Filing date i e.g. 20070919

Publication date i e.g. 20070919

Priority number i e.g. US20030423700

Priority date i e.g. 20070919

Applicant(s) i e.g. IBM

Inventor(s) i e.g. Siemens

Representative i e.g. vande gucht

Opponent i e.g. basf

International Patent Classification (IPC) i e.g. H02M7/537 H03K17/687

Keyword(s) in title i e.g. motor

European Patent Register

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EP1864167

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Status	Examination is in progress <i>Database last updated on 14.11.2011</i>
Most recent event	24.06.2011 Change: Appeal number
Applicant(s)	For all designated states The Boeing Company 100 North Riverside Plaza Chicago, IL 60606 / US [N/P]
Inventor(s)	01 / Chan, Eric Y. 7555 80th Place S.E. Mercer Island, WA 98040-5909 / US 02 / Koshinz, Dennis G. 100 110th Ave NE B204 Bellevue, WA 98004-3607 / US [2007/50]
Representative(s)	Land, Addick Adrianus Gosling , et al Arnold & Siedsma Sweelinckplein 1 2517 GK Den Haag / NL [2008/34]
Application number, filing date	06748697.7 24.03.2006 [2007/50] WO2006US10973
Priority number, date	US20050093685 30.03.2005 Original published format: US 93685 [2007/50]
Filing language	EN
Procedural language	EN
Publication	Type : A2 Application without search report No. : EP1864167

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EPR - All documents

<input type="checkbox"/>	14.02.2008	Annex to the communication
<input type="checkbox"/>	14.02.2008	Communication from the Examining Division
<input type="checkbox"/>	14.11.2007	Notification on forthcoming publication of bibliographic data
<input type="checkbox"/>	07.11.2007	Communication regarding possible amendment of claims/payment o
<input type="checkbox"/>	22.10.2007	Copy of the international preliminary report on patentability
<input type="checkbox"/>	03.10.2007	Amended claims filed after receipt of (European) search report
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<input type="checkbox"/>	16.03.2007	Notification of the recording of a change
<input type="checkbox"/>	30.11.2006	Copy of the international search report



Land, Addick Adrianus Gosling
Arnold & Siedsma,
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PAYS-BAS

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Formalities Officer
Name: SANCHEZ BARRIO, S
Tel: +49 89 2399 - 2292
or call
+31 (0)70 340 45 00

Substantive Examiner
Name: Wolf, Steffen
Tel: +49 89 2399 - 7029



Application No. 06 748 697.7 - 2216	Ref. H2FA75/AK1066	Date 14.02.2008
Applicant The Boeing Company		

Communication pursuant to Article 94(3) EPC

The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(2) EPC.

You are invited to file your observations and insofar as the deficiencies are such as to be rectifiable, to correct the indicated deficiencies within a period

of 4 months

from the notification of this communication, this period being computed in accordance with Rules 126(2) and 131(2) and (4) EPC.

One set of amendments to the description, claims and drawings is to be filed within the said period on separate sheets (R. 50(1) EPC).

Failure to comply with this invitation in due time will result in the application being deemed to be withdrawn (Art. 94(4) EPC).



Wolf, Steffen
Primary Examiner
for the Examining Division

Patentscope: PCT file inspection

Covers only international phase

Search result: 1 of 1

(WO/2006/026494) SYSTEM AND METHOD FOR PRODUCING WATER

Documents

International Application Status

Date	Title	view	download
24.05.2010	International Application Status Report	view	download

Published International Application

Date	Title	view	download
09.03.2006	Initial Publication with ISR (A1 10/2006)	view	download
09.03.2006	Declaration	view	download

Related Documents on file at the International Bureau ([more information](#))

Date	Title	view	download
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09.03.2006	US 60/642,597 10.01.2005 (Pr. Doc.)	view	download
09.03.2006	US 60/606,326 31.08.2004 (Pr. Doc.)	view	download
09.03.2006	US 60/619,264 15.10.2004 (Pr. Doc.)	view	download

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Common Citation Document (CCD)

- CCD offers consolidated access to family information and the related **citation data** from JPO, USPTO, EPO, PCT, and several other jurisdictions for each respective family member.
- CCD builds on the EPO's family system and has been developed and is hosted by the EPO.
- CCD permits viewing of cited patent documents
- No examination reports included
- Various display options



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<http://www.trilateral.net/ccd>

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CCD View

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#	CC	Cat.	Citation details	Claims
1	EP		Application N° EP04425475 (EP20040425475) - 30 June 2004	
			National Search Report	
	X	DE	DE4310994 A1 (REXROTH MANNESMANN GMBH [DE]) - 6 October 1994 Column 4, line 31 - column 5, line 54 Figure 1	1-5,13 6
	Y	WO	WO011227 A1 (SIEMENS AG [DE], et al) - 15 February 2001 Page 7, line 9 - page 9, line 3 Figure 1 Claim 17	6 1
	A	EP	EP0740068 A2 (LUCAS IND PLC [GB]) - 30 October 1996 Column 4, line 27 - column 5, line 13 Figure 2	1
	A	US	US6257499 B1 (STURMAN ODED E) - 10 July 2001 Column 4, line 49 - column 5, line 23 Figure 4	1
2	AT		Application N° AT05425384 (AT20050425384) - 27 May 2005	
3	AT		Application N° AT05425383 (AT20050425383) - 27 May 2005	
4	DE		Application N° DE602004004254 (DE200460004254) - 30 June 2004	
5	DE		Application N° DE602005000662 (DE200560000662) - 27 May 2005	
6	DE		Application N° DE602005003175 (DE200560003175) - 27 May 2005	
7	EP		Application N° EP05425384 (EP20050425384) - 27 May 2005	
			National Search Report	

Simple families: 5 Total family members: 23

Inspector: biblio for EP20040425475

Bibliographic data: EP 1612403 (A1)

Servo valve for controlling an internal combustion engine fuel injector

Publication date: 4 January 2006

Inventor(s): RIZCO MARIO [IT]; DE MATTHAEIS SISTO LUIGI [IT]; GORGOLIONE ADRIANO [IT]; DI MEO ALFONSO [IT]

Applicant(s): FIAT RICERCA [IT]

Classifications: **International:** F02M59/46; F02M47/02
European: F02M47/02D; F02M63/00E2B; F02M63/00E4C; F02M63/00E4D

Application number: EP20040425475 20040630

Priority number(s): EP20040425475 20040630

Abstract of EP 1612403 (A1)

A control servo valve (8) is housed inside the casing of an internal combustion engine fuel injector (1), and has an actuator (9) between a closed and an open position to close and open the outlet passage (22), and a shutter (35) interposed between the servo valve (8) and the actuator (9) and the control chamber (13) communicating with a fuel inlet (5) and with a fuel outlet passage (22), and a sleeve (30) of the axial rod (29) interposed between the servo valve (8) and the control chamber (13) and the outlet passage (22) comes out through an outer lateral surface (30) of the axial rod (29) and, in the closed position, closes the outlet passage (22) so as to be subjected to a zero axial resultant force by the pressure of the fuel.

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CCD View

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#	CC	Cat.	Citation details	Claims
7	EP		Application N° EP05425384 (EP20050425384) - 27 May 2005	
8	ES		Application N° ES04425475 (ES20040425475) - 30 June 2004	
9	ES		Application N° ES05425384 (ES20050425384) - 27 May 2005	
10	JP		Application N° JP2005192051 (JP20050192051) - 30 June 2005	
11	JP		Application N° JP2005118446 (JP20050118446) - 15 April 2005	
12	US		Application N° US11172772 (US20050117272) - 21 April 2005	
13	US		Application N° US11741474 (US20070741474) - 27 April 2007	
14	US		Application N° US11171659 (US20050171659) - 30 June 2005	
15	EP		Application N° EP05425383 (EP20050425383) - 27 May 2005	
16	JP		Application N° JP2005191978 (JP20050191978) - 30 June 2005	
17	US		Application N° US11171658 (US20050171658) - 30 June 2005	
18	AT		Application N° AT06114551 (AT20060114551) - 25 May 2006	
19	CN		Application N° CNA2006101639681 (CN20061163968) - 24 November 2006	
20	KR		Application N° KR1020060117230 (KR20060117230) - 24 November 2006	
21	EP		Application N° EP06114551 (EP20060114551) - 25 May 2006	
22	JP		Application N° JP2006147852 (JP20060147852) - 29 May 2006	
23	US		Application N° US11441643 (US2006011443) - 26 May 2006	

Simple families: 5 Total family members: 23

Inspector: biblio for EP20040425475

Bibliographic data: EP 1612403 (A1)

Servo valve for controlling an internal combustion engine fuel injector

Abstract of EP 1612403 (A1)

A control servo valve (8) is housed inside the casing of an internal combustion engine fuel injector (1), and has an actuator (9), a control chamber (13) communicating with a fuel inlet (5) and with a fuel outlet passage (22), and a shutter (35) movable along an axis (3) by the actuator (9) between a closed position and an open position to close and open the outlet passage (22), respectively the servo valve (8) also has a fixed axial rod (29) interposed between the actuator (9) and the control chamber (13) the outlet passage (22) comes out through an outer lateral surface (30) of the axial rod (29) and the shutter (35) is defined by a sleeve which slides axially on the outer lateral surface (30), and, in the closed position, closes the outlet passage (22) so as to be subjected to a zero axial resultant force by the pressure of the fuel.

Bibliographic data: EP 1612403 (B1)

Common Citation Document (CCD)

Trilateral - CCD

Number:

EP20030746705
EP20060123454

CCD Viewer

#	CC	Cat.	Citation details	Claims
1	EP		Application N° EP20060123454 (EP06123454) - 3 November 2006	
			National Search Report	
	X	US2003035726 A1	(TIEMANN PETER, , et al) - 20 February 2003 Page 4, paragraph 44 - page 4, paragraph 45 Figure 4	1-9
	X	EP0541207 A1	(GEN ELECTRIC [US]) - 12 May 1993 Column 5, line 33 - column 5, line 37 Figure 2, 3	1-9
	A	US5695321 A	(GEN ELECTRIC [US]) - 9 December 1997 Column 6, line 28 - column 6, line 32 Figure 4 - 6	2
	A	<i>Impingement cooling in a rotating curved square annular duct with crossflow effect from rib-roughened surfaces</i> Authors: SHOU-SHING HSIEH, JUNG-TAI HUANG, HUANG-HSIU TSAI Publication data: INSPEC Abstract		8,9
2	CA		Application N° CA20062567126 (CA002567126) - 3 November 2006	
3	FR		Application N° FR20050053357 (FR0553357) - 7 November	

Inspector: classifications and fields searched

Classifications

EP
 IPC **F01D5/18**
 EC F01D9/04B, F01D5/18G2C, F01D9/06C

CA
 IPC **F01D5/18, F01D25/12**
 EC F01D9/04B, F01D5/18G2C, F01D9/06C

FR
 IPC **F01D5/18**
 EC F01D9/04B, F01D5/18G2C, F01D9/06C

JP
 IPC **F01D9/02, F01D1/18**
 FI F01D1/18, F01D9/02&102
 FTERM 3G002/CA03, 3G002/CA06, 3G002/CA07, 3G002/CB01, 3G002/CB04, 3G002/CB05, 3G002/GA08, 3G002/GB01, 3G202/CA03, 3G202/CA06, 3G202/CA07, 3G202/CB01, 3G202/CB04, 3G202/CB05, 3G202/GA08, 3G202/GB01
 EC F01D9/04B, F01D5/18G2C, F01D9/06C

RU
 IPC **F01D5/18**
 EC F01D9/04B, F01D5/18G2C, F01D9/06C

Simple families: 1 Total family members: 6

Number: EP1612402

Search

examples: EP1612402, US2006000447A1, JP20090214944

EP20040425480

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Compact view

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Filter

Original document

[also published as]

Enriched Citations for EPO

#	CC	Cat.	Citation details	Claims
1	EP		Application N° EP20040425480 (EP04425480) - 2004 National Search Report	
	X		DE10345154 A1 (DENSO CORP [JP]) - 22 April 2004 Page 3, paragraph 19 Figure 1	1-3
	X		US4501246 A (BOSCH GMBH ROBERT [DE]) - 26 February 1985 Column 2, line 22 - column 2, line 23 Figure 1	1-5
	X		EP0270720 A1 (RENAULT [FR]) - 15 June 1988 Page 5, line 12 - page 6, line 5 Figure 1, 6	1,4-8
	A		EP0299337 A2 (IVECO FIAT [IT], et al) - 18 January 1989 Figure 1	1-8
	A		DE19714489 C1 (SIEMENS AG [DE]) - 1 October 1998 Figure 1	1-8
2	AT		Application N° AT20040425480T (AT04425480) - 30 June 2004	
3	DE		Application N° DE200460002105T (DE602004002105) - 30 June 2004	
4	ES		Application N° ES20040425480T (ES04425480) - 30 June 2004	
5	JP		Application N° JP20050120087 (JP2005120087) - 18 April 2005	
6	JP		Application N° JP20090214944 (JP2009214944) - 16 September 2009 National Examination	
			JP2004011448 A (NIPPON SOKEN, et al) - 15 January 2004	
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			JP2001107776 A (NISSAN MOTOR) - 17 April 2001	

Full document: US 4501246 (A)

United States Patent
Leblanc

[54] FUEL INJECTION PUMP 4,398,518 8/1983 Leblanc et al
4,398,519 8/1983 Tissot et al.

[75] Inventor: Jean Leblanc, Lyons, France

[73] Assignee: Robert Bosch GmbH, Stuttgart, Fed. Rep. of Germany FOREIGN PATENT DOCUMENTS
53-80803 7/1978 Japan

[21] Appl. No.: 397,712
[22] Filed: Jul. 13, 1982
[30] Foreign Application Priority Data
Jul. 22, 1981 [DE] Fed. Rep. of Germany 3128975

[51] Int. Cl.³ F02M 39/00
[52] U.S. Cl. 123/449; 123/458; 417/487; 417/519

[58] Field of Search 417/487, 519, 221, 244, 417/253, 462, 505; 123/449, 450, 458, 502, 500, 506

[56] References Cited
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4,378,775 4/1983 Straubel et al. 123/458
4,382,751 5/1983 Potter 123/458 X
4,385,610 5/1983 Leblanc 123/449

ABSTRACT
A fuel injection pump is proposed metering during the intake stroke of the fuel injection pump is effected, the cross section of which is electrically controlled switching means of the control of a fuel supply pressure conduit by means of a communicating with the pump work part of a distributor shaft, is guided rpm. By means of the oblique displacement and the possibility of an longitudinal displacement of the angular position at which injection embodied in an arbitrary manner in switching valve.

5 Claims, 2 Drawing

Simple family of citation

1/5 - ABSTRACT
2/5 - DRAWINGS
3/5
4/5 - DESCRIPTION
5/5 - CLAIMS
1/5 - ABSTRACT

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Trilateral - CCD
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Number: EP1612402

EP20040425480

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Shows for each citation in which search report it is cited, taking into account equivalents

Application	Cat.	Citation details	
US20050095425		US6889656 B1 (BOSCH GMBH ROBERT [DE]) - 10 May 2005	
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US20050095425		DE19714489 C1 (SIEMENS AG [DE]) - 1 October 1998	
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US20050095425		EP0299337 A2 (IVECO FIAT [IT], et al) - 18 January 1989	

Hochdruck-kraftstoffpumpe für einen verbrennungsmotor

Publication date: 22 April 2004

Inventor(s): WATANABE TOSHIKAZU [JP]

Applicant(s): DENSO CORP [JP]

Classifications:

International: F02M59/44; F02M59/06; F02M59/08; F02M59/20; F02M59/46

European: F02M59/08; F02M59/20B; F02M59/46B

Application number: DE20031045154 20030929

Priority number(s): JP20020286361 20020930

Abstract of DE 10345154 (A1)

Ein Auslassventil 13 hat eine Kegelsitzfläche 14, die in einem Auslasskanal 12 ausgebildet ist, eine Ventilkugel 15, welche den Auslasskanal 12 schliesst, wenn sie auf einen Sitzabschnitt der Sitzfläche 14 aufliegt und eine Feder 16 zum Drängen der Ventilkugel 15 in eine Ventilschliessrichtung. Der Auslasskanal 12 ist mit einer zweiten Kegelfläche 17 stromaufwärts von dem Sitzabschnitt ausgebildet. Die zweite Kegelfläche hat einen Kegelwinkel, der kleiner als der der Sitzfläche 14 ist. Wenn Kraftstoff, der von einer Kraftstoffkammer 8 abgeführt wird, in die Sitzfläche 14 strömt, wird eine Strömungsrichtung des Kraftstoffs nicht abrupt geändert, sondern kontinuierlich verändert. Deshalb ist ein Strömungszustand des Kraftstoffs stromaufwärts von dem Sitzabschnitt verbessert. Folglich kann die Erzeugung von ungleichmässiger Strömung um die Ventilkugel 15 verhindert werden und die Erzeugung von unnormalem Geräusch kann verhindert werden.

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Inspector 2

Number: EP1612402

EP20040425480

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#	CC	Cat.	Citation details	Claims
1	EP		Application N° EP20040425480 (EP040425480) - 30 June 2004 National Search Report	
X	DE	10345154 A1	(DENSO CORP [JP]) - 22 April 2004 Page 3, paragraph 19 Figure 1	1-3
X	US	4501246 A	(BOSCH GMBH ROBERT [DE]) - 26 February 1985 Column 2, line 22 - column 2, line 23 Figure 1	1-5
X	EP	0270720 A1	(RENAULT [FR]) - 15 June 1988 Page 5, line 12 - page 6, line 5 Figure 1, 6	1,4-8
A	EP	0299337 A2	(IVECO FIAT [IT], et al) - 18 January 1989 Figure 1	1-8
A	DE	19714489 C1	(SIEMENS AG [DE]) - 1 October 1998 Figure 1	1-8
2	AT		Application N° AT20040425480T (AT04425480) - 30 June 2004	
3	DE		Application N° DE200460002105T (DE602004002105) - 30 June 2004	
4	ES		Application N° ES20040425480T (ES04425480) - 30 June 2004	
5	JP		Application N° JP20050120087 (JP2005120087) - 18 April 2005	
6	JP		Application N° JP20090214944 (JP2009214944) - 16 September 2009 National Examination	

Application EP20040425480

Biblio Description Claims Original document

Full document: EP 1612402 A1

5 EP 1 612 40

defined in the annexed claims. For example, it is possible to eliminate the motion-transmission device 26 and actuate the shaft 23 of the high-pressure pump 7 at a rate independent of the speed of the engine shaft 4. Also the solenoid valve 15 for draining the fuel from the accumulator 6 can be eliminated.

[0025] Furthermore, the two pumping elements 18 can be arranged in parallel and actuated in phase opposition by two different cams. Finally, the pump 7 can have a different number of pumping elements, for example three pumping elements actuated by a common cam with a phase offset of 120°.

Claims

1. A high-pressure variable-flow-rate pump for a fuel-injection system of an internal-combustion engine, comprising at least one pumping element (18), which is actuated in reciprocating motion through suction and delivery strokes and is provided with an intake valve (25) in communication with an intake pipe (10), and a delivery valve (30) in communication with a delivery pipe (8); said pump (7) being characterized in that its flow rate is regulated by a regulation device (27) for regulating the fuel supplied to said pumping element (18), said regulation device (27) being arranged on said intake pipe (10) and being designed to be actuated during the suction strokes of said pumping element (18).
2. The high-pressure pump according to Claim 1, in which said intake valves (25) are in communication with a common intake pipe (10), said pump being

US4501246.A (EP20040425480)

[also published as]

Biblio Description Claims Original document

Full document: US 4501246 (A)

246

4

shaft and variable opening times of the switching valve 16, it is possible for an arbitrary fuel quantity to come to the point of injection within an arbitrary range of the possible supply stroke of the pump pistons 3. With an appropriately embodied control device, arbitrary injection times and injection durations can be attained in accordance with temperature, load, rpm and other engine parameters.

The foregoing relates to a preferred exemplary embodiment of the invention, it being understood that other embodiments and variants thereof are possible within the spirit and scope of the invention, the latter being defined by the appended claims.

What is claimed and desired to be secured by Letters Patent of the United States is:

1. A fuel injection pump having at least one pump work chamber enclosed in a cylinder by at least one pump piston, which is actuated by cam means in synchronism and constant relation to drive means of said injection pump, said pump work chamber being in continuous communication with a distributor opening in an axially displaceable distributor shaft which is rotated by said drive means in synchronism therewith within a cylinder and is capable of being connected thereby with one of a series of supply lines distributed over the circumference of said cylinder which lead from said cylinder to a fuel injection point, said point being effected in sequence during the supply stroke of said pump piston, further wherein said pump work chamber is in continuous communication with a control groove in a jacket face of said distributor shaft, with control groove arranged to cooperate with a fuel inlet opening which discharges into said cylinder and wherein the rotary and axial position of a part of said control groove that coacts with said fuel inlet opening relative to said drive means is variable by an axial displacement of said distributor shaft characterized in that said fuel inlet opening is

Number: WO1999EP02462

Search

examples: EP1612402, US2006000447A1, JP20090214944

EP20040425480

WO1999EP02462

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Classifications & fields searched

#	CC	Cat.	Citation details	Claims
1	WO		Application N° WO1999EP02462 (WOEP9902462) - 13 April 1999 National Search Report	
	A		JP57046917 A (FUJISAWA PHARMACEUTICAL CO) - 17 March 1982	
	A		EP0256785 A2 (FUJISAWA PHARMACEUTICAL CO [JP]) - 24 February 1988	
	A		US4693742 A (ROHM & HAAS [US]) - 15 September 1987	
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	A		EP0009686 A1 (FUJISAWA PHARMACEUTICAL CO [JP]) - 16 April 1980	
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	A		<i>In Vitro and In Vivo Antibacterial Activity of FR-31564, a Phosphonic Acid Antimicrobial Agent</i> Authors: NEU H C, ET AL Publication data: Antimicrobial Agents and Chemotherapy, 19810601 AMERICAN SOCIETY FOR MICROBIOLOGY, WASHINGTON, DC, US Source info: Vol: 19, Nr: 6, Page(s): 1013 - 1023	
	A		<i>Antimicrobial Agents</i> ...rapy, 19821001 AMERICAN SOCIETY FOR MICROBIOLOGY, WASHINGTON, DC, US	
	A		<i>Urinary Tract Pathogens</i> ...: Vol: 18, Nr: SUPPL. 02, Page(s): S60 - S64	

Inspector: classifications and fields searched

Classifications

- WO
 - IPC A61K31/662, A01N57/00, A61K31/00, A61K31/66, A61K31/661, A61P31/00, A61P31/04, A61P31/12, A61P33/02, A61P33/06
 - EC A61K31/66, A61K31/662
- AT
 - IPC A61K31/662, A01N57/00, A61K31/00, A61K31/66, A61K31/661, A61P31/00, A61P31/04, A61P31/12, A61P33/02, A61P33/06
 - EC A61K31/66, A61K31/662
- AU
 - IPC A61K31/662, A01N57/00, A61K31/00, A61K31/66, A61K31/661, A61P31/00, A61P31/04, A61P31/12, A61P33/02, A61P33/06
 - EC A61K31/66, A61K31/662
- BR
 - IPC A61K31/662, A01N57/00, A61K31/00, A61K31/66, A61K31/661, A61P31/00, A61P31/04, A61P31/12, A61P33/02, A61P33/06
 - EC A61K31/66, A61K31/662
- CA
 - IPC A61K31/662, A01N57/00, A61K31/00, A61K31/66, A61K31/661, A61P31/00, A61P31/04, A61P31/12, A61P33/02, A61P33/06
 - EC A61K31/66, A61K31/662
- CN
 - IPC A61K31/662, A01N57/00, A61K31/00, A61K31/66, A61K31/661, A61P31/00, A61P31/04, A61P31/12, A61P33/02, A61P33/06
 - EC A61K31/66, A61K31/662
- EP
 - IPC A61K31/662, A01N57/00, A61K31/00, A61K31/66, A61K31/661, A61P31/00, A61P31/04, A61P31/12, A61P33/02, A61P33/06
 - EC A61K31/66, A61K31/662

Estimated number of simple families

Simple families: ≈24

Total family members: ≈136

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Number: WO1999EP02462 Search examples: EP1612402, US2006000447A1, JP20090214944

EP20040425480 WO1999EP02462

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#	CC	Cat.	Citation details	Claims
1	WO		Application Nº WO1999EP02462 (WOEP9902462) - 13 April 1999	
2	AT		Application Nº AT19990919226T (AT99919226) - 13 April 1999	
3	AU		Application Nº AU19990041208 (AU4120899) - 13 April 1999	
4	AU		Application Nº AU19990041208D (AU4120899) - 13 April 1999	
5	BR		Application Nº BR19990009668 (BR9909668-4) - 13 April 1999	
6	CA		Application Nº CA19992328159 (CA002328159) - 13 April 1999	
7	CN		Application Nº CN19998005115 (CN99805115) - 13 April 1999	
8	EP		Application Nº EP19990919226 (EP99919226) - 13 April 1999	
9	HU		Application Nº HU20010001716 (HU01 01716) - 13 April 1999	
10	JP		Application Nº JP19990000222 (JP990000222) - 13 April 1999	
11	MX		Application Nº MX199900002965T (MX9900002965) - 13 April 1999	
12	OA		Application Nº OA199900002965T (OA9900002965) - 13 April 1999	
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14	SK		Application Nº SK1522-2000 (SK1522-2000) - 13 April 1999	
15	TR		Application Nº TR2000/02965 (TR2000/02965) - 13 April 1999	
16	US		Application Nº US200006732 (US200006732) - 13 April 1999	
17	US		Application Nº US20030676 (US20030676) - 13 April 1999	
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19	AU		Application Nº AU19990051580D (AU5158099) - 9 July 1999	
20	AU		Application Nº AU19990051580 (AU5158099) - 9 July 1999	
21	BR		Application Nº BR19990012062 (BR9912062-3) - 9 July 1999	
22	CA		Application Nº CA19992336143 (CA002336143) - 9 July 1999	

“+” separator between simple families

Actual number of simple families

Simple families: 19 Total family members: 122

Application BR19990009669

Biblio Description Claims Original document

Bibliographic data: BR 9909669 (A)

Processo para identificação de igredientes quimicos ativos e de igredientes ativos para inibição da via de biossíntese de 1-desóxi-d-xilulose-5-fosfato

Publication date: 19 December 2000

Inventor(s): HASSAN JOMAA

Applicant(s): JOMAA HASSAN [DE]

Classifications: International: C07K14/00

Application number: BR19990009669 19990413

Priority number(s): DE19981016196 19980414
 DE19981025585 19980609
 DE19981028097 19980624
 DE19981031637 19980715
 WO1999EP02463 19990413

Abstract of BR 9909669 (A)

Patente de Invenção "PROCESSO PARA IDENTIFICAÇÃO DE INGREDIENTES QUÍMICOS ATIVOS E DE INGREDIENTES ATIVOS PARA INIBIÇÃO DA VIA DE BIOSÍNTESE DE 1-DESÓXI-D-XILULOSE-5-FOSFATO". A invenção refere-se a um processo para a obtenção de ingredientes químicos ativos que são adequados para o tratamento de doenças infecciosas causadas por parasitas unicelulares ou multicelulares. Com este processo as proteínas que estão envolvidas na via metabólica do 1-desóxi-D-xilulose-5-fosfato ou derivados das mesmas que atuam similarmente são colocados em contato com os ingredientes ativos que terão sua atividade investigada em relação aos parasitas, e os ingredientes ativos que inibem as proteínas ou seu derivados são selecionados. A invenção também refere-se aos ingredientes ativos descobertos para a produção de composições farmacêuticas contra as infecções parasiticas.

REMINDER: National sovereignty

Paris Convention:

- **No** obligation to use results of others, or to follow their conclusions
- IPO has obligation to observe national legislation
- IPO has responsibility/liability for quality patents