USPAT2

Subject Coverage	U.S. Patents and Applications in all areas of technology
File Type	Full text
Features	Thesauri: U.S. National Patent Classification (no longer updated), Cooperative Patent Classification, International Patent Classification Alerts (SDIs): Every update (twice a week), Weekly, or Monthly (Weekly is the default) CAS Registry Number® Identifiers ☑ SLART ☑ PatentPak ☑ Keep & Share ☑ Register Links ☑
Record Content	• Full text and classifications for the latest publications of U.S. patents and applications issued by the U.S. Patent and Trademark Office since 2001 • Patent assignment and reassignment information is available from 2001 – present. • Complete Chemical Abstracts indexing for one equivalent U.S. chemical patent may also be included in a record • Legal status information for U.S. patents since 2001 • Patent Classifications: NCL, CPC, IPC • PatentPak® - specific PDF links and data
File Size	More than 5.4 million records (02/2026)
Coverage	2001-present
Updates	• Twice a week • U.S. Patent Classifications – no longer updated • Cooperative Patent Classifications – updated weekly • International Patent Classifications – updated weekly
Language	English
Database Producer	U.S. Patent and Trademark Office Office of Data Base Administration Data Maintenance Division 2011 Jefferson-Davis Highway, CP2-9C18 Arlington, VA 22202 USA
Sources	U.S. patents and applications published by the U.S. Patent and Trademark Office since 2001
User Aids	• Online Helps (HELP DIRECTORY lists all help messages available) • STNGUIDE

Clusters

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STN Database Clusters information (PDF).

Related Databases

- USPATFULL
- USPATOLD

Pricing

Enter HELP COST at an arrow prompt (=>).

Search and Display Field Codes

Fields that allow left truncation are marked with an asterisk (*).

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index * (contains single words from the title (TI), abstract (AB), claims (CLM), detailed description (DETD), summary (SUMM), drawing description (DRWD), parent case data (PARN), and government interest (GOVI) fields)	None (or /BI)	S GROWTH REGUL? S NAPHTHALENE? S ?ASSAY?	AB, CLM, DETD, DRWD, GOVI, PARN, SUMM, TI
Abstract *	/AB	S COBALT CATALYST?/AB	AB
Accession Number	/AN	S 2001:100195/AN	AN
Applicant City (Corporate) **(13)**	/USPA.CTY	S CAMBRIDGE/USPA.CTY	USPA
Applicant Country (Corporate) **(13)**	/USPA.CNY	S ARGENTINA/USPA.CNY	USPA
Applicant Name (Corporate) **(13)**	/USPA	S GENOMICS/USPA	USPA
Applicant State (Corporate) **(13)**	/USPA.ST	S OH/USPA.ST	USPA
Application Country	/AC	S US/AC AND L1	AI
Application Date **(1)**	/AD	S JAN 5 2001/AD S 20010105/AD	AI
Application Number **(2,12)**	/AP	S US2001-755372/AP S US2013-13642209/AP	AI
Application Year **(1)**	/AY	S 2001/AY	AI
Art Unit **(1)**	/ARTU (or /ART)	S 172/ARTU	ARTU
CAS Registry Number (RN) (CAS data)	/RN	S 67915-31-5/RN	IT, RN
Claim Text *	/CLM	S COBALT (S) SALT#/CLM	CLM
Classification Code (CAS data) (code and text) **(3)**	/CC	S 27/CC S HETEROCYCLIC/CC	CC
Controlled Term (CAS data)	/CT	S ANTITUMOR AGENTS/CT	CT, IT
Cooperative Patent Classification **(5,10)**	/CPC	S C12N0009/CPC	CPC
Cooperative Patent Classification, Action Date	/CPC.ACD	S 20121113/CPC.ACD	CPC.TAB
Cooperative Patent Classification, Combination Sets	/CPC.CS	S (B29C0066-71 (L) B29K2021-00)/CPC.CS S (B29C0066-71 (L) B29K2021-00)/CPC.CS S (B29C0066-71 AND B29K2021-00)/CPC.CS S C04B0028-04/CPC (T) COMBINATION SET/CPC.KW	CPC.TAB
Cooperative Patent Classification, Keywords **(10)**	/CPC.KW	S C12N0009/CPC (S) I/CPC.KW	CPC.TAB
Cooperative Patent Classification, Version	/CPC.VER	S 20130101/CPC.VER	CPC.TAB
Cooperative Patent Initial Classification	/CPCI	S A61K0006-0035/CPCI	CPCI
Disclaimer Date **(1,4)**	/DCD	S 19940111/DCD	DCD
Document Type (code and text)	/DT (or /TC)	S UTILITY/DT	DT
Entry Date **(1)**	/ED	S L1 AND ED>OCT 23 2001	Not displayed
Examiner Name	/EXNAM	S ADAMS RUSSELL/EXNAM	EXNAM
Examiner's Field of Search	/EXF	S 564/EXF S 564/316/EXF	EXF
Exemplary Claim Text *	/ECLM	S COBALT (S) MIXTURE/ECLM	CLM, ECLM
Field Availability (code and text)	/FA	S CA INDEXING/FA S OS/FA	Not displayed
File Segment	/FS	S APPLICATION/FS	FS
Government Interest	/GOVI	S 93-G-003/GOVI	GOVI
Index Term (CAS data)	/IT	S REACTION OF/IT S 61848-65-5-P/IT	IT
International Patent Classification (Main and Secondary) **(5,6)**	/IC	S G03C001/IC S G03C001-89/IC S ENZYMES/IC	IC
International Patent Classification, Action Date	/IPC.ACD	S 20010529/IPC.ACD	IPC

Search and Display Field Codes (cont'd)

Search Field Name	Search Code	Search Examples	Display Codes
International Patent Classification, Keyword Terms	/IPC.KW	S INITIAL/IPC.KW	IPC
International Patent Classification, Main **(5,6,11)**	/ICM	S C07D/ICM S C07D-209/ICM S C07D-209-20/ICM S ENZYMES/ICM	ICM
International Patent Classification, Main Group Range-Searchable **(1)**	/MGR	S 200-209/MGR	ICM
International Patent Classification, Secondary **(5,6,11)**	/ICS	S G03C001-76/ICS S ENZYMES/ICS	ICS
International Patent Classification, Subgroup Range-Searchable **(1)**	/SGR	S 300-400/SGR	IC
International Patent Classification, Version(s) **(1)**	/IPC.VER	S 7/IPC.VER	IPC, IC
Inventor	/IN (or /AU)	S KRESS ROBERT J?/IN	IN
Inventor Address, City	/IN.CTY	S ROCHESTER/IN.CTY	IN, INA
Inventor Address, Country	/IN.CNY	S JAPAN/IN.CNY	IN, INA
Inventor Address, State	/IN.ST	S NJ/IN.ST	IN, INA
Inventor Address, ZIP code **(1)**	/IN.ZIP	S 14620/IN.ZIP	IN, INA
Language (code and text)	/LA	S L1 AND EN/LA	LA
Legal Representative **(3)**	/LREP (or /AG)	S CAMP JASON/LREP	LREP
Line Count **(1)**	/LN.CNT	S 1000-1500/LN.CNT	LN.CNT
National Patent Classification, Current, Main and Secondary **(5,6)**	/NCL	S 430529000/NCL S 430/529.000/NCL S 430/NCL S ZEOLITES+NT/NCL	NCL
National Patent Classification, Current, Main **(5,6)**	/NCLM	S 423121000/NCLM S 423/NCLM S ZEOLITES+NT/NCLM	NCLM
National Patent Classification Current, Secondary **(5,7)**	/NCLS	S 423206200/NCLS S 423/NCLS S ZEOLITES+NT/NCLS	NCLS
National Patent Classification, Issue, Main and Secondary **(5,7)**	/INCL	S 264016000/INCL S 264/INCL S ZEOLITES+NT/INCL	INCL
National Patent Classification, Issue, Main **(5,7)**	/INCLM	S 433173000/INCLM S 433/INCLM S ZEOLITES+NT/INCLM	INCLM
National Patent Classification, Issue, Secondary **(5,7)**	/INCLS	S 502064000/INCLS S 502/INCLS S ZEOLITES+NT/INCLS	INCLS
Number of Claims **(1)**	/CLMN	S CLMN>5	CLMN
Other Source	/OS	S 135:218709/OS	OS
Patent Assignee **(3)**	/PA (or /CS)	S AMERICAN CYANAMID/PA	PA
Patent Assignee Address, City	/PA.CTY	S STAMFORD/PA.CTY	PA
Patent Assignee Address, Country	/PA.CNY	S UNITED KINGDOM/PA.CNY	PA
Patent Assignee Address, State	/PA.ST	S CT/PA.ST	PA
Patent Assignee Address, ZIP code **(1, 4)**	/PA.ZIP	S 47404/PA.ZIP	PA
Patent Assignee Type	/PAT	S U S CORPORATION/PAT	PAT
Patent Assignee, Original	/PAO	S ABBOTT/PAO	PAO, RAI
Patent Country	/PC	S US/PC AND L2	PI
Patent Kind **(8)**	/PK	S USB2/PK	PI
Patent Number **(2)**	/PN	S US6300049/PN	PI
Patent Number/Kind Code	/PNK	S US6300049/PNK	PNK
Priority Country	/PRC	S JP/PRC	PRAI
Priority Date **(1)**	/PRD	S PRD>=MAR 24 2000 S PRD>=20000324	PRAI
Priority Number **(2,9,12)**	/PRN	S JP2000-84506/PRN S 2013-60530823/PRN	PRAI

Search and Display Field Codes (cont'd)

Search Field Name	Search Code	Search Examples	Display Codes
Priority Year **(1)**	/PRY	S PRY>=2000	PRAI
Publication Date **(1)**	/PD	S OCT 30 2001/PD	PI
Publication Year **(1)**	/PY	S PY>=2001	PI
Reassignment Agent	/RAA	S BAKER BOTTS/RAA	RAA, RAI
Reassignment Company	/RAC	S CISCO/RAC	RAC, RAI
Reassignment Country	/RAC.CNY	S AUSTRALIA/RAC.CNY	RAI
Reassignment Date **(1)**	/RAD	S 20070411/RAD	RAD, RAI
Reassignment Recorded Year **(1)**	/RARY	S 2010/RARY	Not displayed
Reassignment Execution Date **(1)**	/RAXD	S 20070411/RAXD	RAXD, RAI
Reassignment Execution Year **(1)**	/RAXY	S 2011/RAXY	Not displayed
Reassignment Kind	/RAK	S CABLE/RAK	RAK, RAI
Reassignment Update Date **(1)**	/RAUP	S 20080324	RAUP, RAI
Reference Non-Patent Information	/REN	S SYNTHE? CATALYST#/REN	REN
Reference Patent Classification **(5,7)**	/RPCL	S 338162000/RPCL S 338/162.000/RPCL	REP
Reference Patent Country	/RPC	S L7 AND US/RPC	REP
Reference Patent Inventor	/RPIN	S ABE/RPIN	REP
Reference Patent IPC	/RPIC	S B41J/RPIC S B41J002/RPIC	REP
Reference Patent Number **(2)**	/RPN	S US1099685/RPN	REP
Reference Patent Publication Date **(1)**	/RPD	S JUN 1914/RPD	REP
Reference Patent Publication Year **(1)**	/RPY	S 1914/RPY	REP
Related Application Country	/RLC	S US/RLC	RLI
Related Application Date **(1)**	/RLD	S MAR 22 2000/RLD	RLI
Related Application Number **(2)**	/RLN	S US2000-532918/RLN	RLI
Related Application Type	/RLT	S DIVISION OF/RLT	RLI
Related Application Year **(1)**	/RLY	S RLY<1999	RLI
Related Patent Publication Date **(1)**	/RLPD	S 2011/RLPD	RLI
Related Patent Number **(2)**	/RLPN	S US6269207/RLPN	RLI
Related Patent Publication Year **(1)**	/RLPY	S 1999/RLPY	RLI
Related Publication Indicator	/RLP	S ABANDONED/RLP	RLI
Section Cross-reference (CAS data) **(3)**	/SX	S 14/CC,SX S PHARMACOLOGY/SX	CC, SX
Supplementary Term (CAS data)	/ST	S POLYURETHANE?/ST	ST
Term of Patent **(1, 4)**	/PTERM	S 10-15/PTERM	PTERM
Title *	/TI	S FILM?/TI	TI
Ultimate Owner	/UO	S BASF/UO	UO
Ultimate Owner Standardized	/UOS	S BASF/UOS	UOS
Update Date **(1)**	/UP	S L2 AND UP>SEP 2001	Not displayed
Update Date of CA Indexing **(1)**	/UPCA	S UPCA>=20011030	Not displayed

(1) Numeric search field that may be searched with numeric operators or ranges.
(2) Either STN format or Derwent format may be used.
(3) Search with implied (S) proximity is available in this field.
(4) This is a valid search field, but data is not available as of 11/2001.
(5) An online thesaurus is available for this field.
(6) This field contains the classifications and catchwords for main classification subject headings and subheadings from the (7th) edition of the WIPO International Patent Classifications (IPC) manual. To search the classifications from any of the specific editions (1-8) of the IPC manual, use the field code followed by the edition number, e.g., /IC2, ICM2, /ICS2 for the 2nd edition. Catchwords are included only in the fields for the 7th, 6th, and 5th editions of the IPC manual.
(7) This field is range-searchable in Manual of Classification order. However, it is not a numeric field and may not be searched using numeric operators.
(8) Available for patent documents published starting in 2001.
(9) U.S. provisional priority numbers are searched only with the P appended, e.g., US1999-121903P/PRN.
(10) When searching combinations of CPC and CPC.KW data, use (S) proximity operator.
(11) These fields have not been populated since December 31, 2005 with the introduction of IPC Reform.
(12) Application numbers for U.S. utility patents from series code 13 forward, design patents (series code 29) and provisional patent applications (series code 60 and 61) may be searched either with or without their series code. Include the series code if known to ensure precision. Note that provisional patent application numbers searched without their series codes must have a P appended to the end of the number (e.g., US2013-686038P). Series code information is not available for U.S. patent application numbers with series codes below 13.
(13) Available for selected patent documents usually from September 2012 or later.

Property Fields[(1)]

In USPAT2 a numeric search for a specific set of physical properties (/PHP) is available within the Basic Index fields (most notably TI, AB, CLM, DETD, and SUMM). The numeric values are not displayed as single fields, but are instead highlighted within HIT, KWIC, and ALL displays.

EXPAND in the /PHP field to find numeric properties of interest, or type HELP NPS at an arrow prompt while in USPAT2 to see a list of all available numeric properties. The /PHP index contains a complete list of codes and related text for all physical properties available for numeric property searching in USPAT2.

Field Code	Property	Unit	Symbol	Search Examples
/AOS	Amount of Substance	Mol	mol	S 10 /AOS
/BIR	Bit Rate	Bit/Second	bit/s	S 8000-10000/BIR
/BIT	Stored Information	Bit	Bit	S BIT > 3 MEGABIT
/CAP	Capacitance	Farad	F	S 1-10 MF/CAP
/CATA	Catalytic Activity	Katal	kat	S 200-250 KAT/CATA
/CDN	Current Density	Ampere/Square Meter	A/m^2	S CDN>10 A/M**2
/CMOL	Molarity, Molar Concentration	Mol/Liter	mol/L	S UREA/BI (S) 8/CMOL
/CON	Conductance	Siemens	S	S 1S-3/CON
/DB	Decibel	Decibel	dB	S DB>50
/DEG	Degree	Degree	°	S CYLINDER/BI (S) 45/DEG
/DEN (/C)	Density (Mass Concentration	Kilogram/Cubic Meter	kg/m^3	S 5E-3-10E-3/DEN
/DEQ	Dose Equivalent	Sievert	Sv	S 100/DEQ
/DOA	Dosage	Milligram/Kilogram/Day	mg/kg/day	S 10 MG/KG/DAY/DOA
/DOS	Dose	Milligram/Kilogram	mg/kg	S DOS>0.8
/DV	Viscosity, Dynamic	Pascal * Second	Pa * s	S DV>5000
/ECH (/CHA)	Electric Charge	Coulomb	C	S 0.0001-0.001/ECH
/ECO (/ECND)	Electrical Conductivity	Siemens/Meter	S/m	S ECO>800 S/M (15A) AQUEOUS
/ELC (/ECC)	Electric Current	Ampere	A	S 1-10/ELC
/ELF (/ECF)	Electric Field	Volt/Meter	V/m	S 200/ELF
/ENE	Energy	Joule	J	S DROPLETS (10A) 40 JOULE - 70 JOULE /ENE
/ERE (/ERES)	Electrical Resistivity	Ohm * Meter	Ohm * m	S ERE>0.1
/FOR	Force	Newton	N	S 50 N /FOR
/FRE (/F)	Frequency	Hertz	Hz	S OSCILLAT?/BI (S) 1- 3/FRE
/IU	International Unit	none	IU	S IU>1000 (P) VITAMIN A
/KV	Viscosity, kinematic	Square Meter/Second	m^2/s	S METHYLPOLYSILOXANES/BI (10A) 100-200 CST/KV
/LEN (/SIZ)	Length, Size	Meter	m	S 1-4/LEN
/LUME	Luminous Emittance, Illuminance	Lux	lx	S 10-50/LUME
/LUMF	Luminous Flux	Lumen	Lm	S LUMF>1000
/LUMI	Luminous Intensity	Candela	cd	S LUMI<4
/M	Mass	Kilogram	kg	S ALLOY/BI (30A) 1E-10-1E-5/M
/MCH	Mass to Charge Ratio	none	m/z	S MCH=1
/MFD (/MFS)	Magnetic Flux Density	Tesla	T	S MFD>102
/MFR (/MFL)	Mass Flow Rate	Kilogram/Second	kg/s	S MFR<0.1

Property Fields (cont'd)

Field Code	Property	Unit	Symbol	Search Examples
/MOLS	Molality of Substance	Mol/Kilogram	mol/kg	10 MOL/KG/MOLS
/MFST	Magnetic Field Strength	Ampere/Meter	A/m	S 50 A/M/MFST
/MM (/MW, /MOM)	Molar Mass, Molecular Weight	Gram/Mol	g/mol S	2000-3000 G/MOL/MM
/PHV (/PH)	pH Value	pH	pH	S 7.4-7.6/PHV
/POW (/PW)	Power	Watt	W	S "HG-XE-?"/BI (S) 100-200 WATT/POW
/PPM	Parts per million	PPM	ppm	S 100 PPM /PPM (10A) ADDITIVE/BI
/PRES (/P)	Pressure	Pascal	Pa	S (VACUUM (5A) DISTILL?)/BI (S) 1000-1100/PRES
/RAD	Radioactivity	Becquerel	Bq	S 1-10/RAD
/RES	Electrical Resistance	Ohm	Ohm	S SENSOR /BI (S) 10- 100/RES
/RI	Refractive Index	none	none	S 3-4/RI
/RSP	Rotational Speed	Revolution/Minute	rpm	S 2 RPM - 100 RPM /RSP (S) ENGINE/BI
/SAR	Area	Square Meter	m²	S PLATE/BI (S) 10 M**2 - 100 M**2 /SAR
/SOL (/SLB)	Solubility	Gram/100 gram	g/100 g	S SOL>20 G/100G (5A) WATER
/SSAM	Specific Surface Area, Mass	Square Meter/ Kilogram	m^2/kg	S 9/SSAM
/STSC	Surface Tension, Spring Constant	Joule /Square Meter	J/m²	S 60 J/M**2/STSC
/TCO (/TCND)	Thermal Conductivity	Watt/Meter * Kelvin	W/m * K	S 1/TCO (S) HEAT?
/TEMP (/T)	Temperature	Kelvin	K	S 20-25/TEMP
/TEX	Tex	Gram/Kilometer	g/km	S 1-5/TEX
/TIM	Time	Second	s	S ?INCUB?/BI (10A) 50 S - 150 S /TIM
/VEL (/V)	Velocity	Meter per Second	m/s	S REDUC?/BI (S) 1E-3-5E-3/VEL
/VELA	Velocity, Angular	Radian/Second	rad/s	S VELA>10
/VLR	Volumetric Flow Rate	Cubic Meter/Second	m³/s	S 1 M**3/S - 2 M**3/S /VLR (S) ABRASIVE
/VOL	Volume	Cubic Meter	m³	S 1E-8-2E-8/VOL.EX
/VOLT	Voltage	Volt	V	S TENSION/BI (10A) 5E-3 V <VOLT

(1) Exponential format is recommended for the search of particularly high or low values, e.g., 1.8E+7 or 1.8E7 (for 18000000) or 9.2E-8 (for 0.000000092).

Super Search Fields

Enter a super search code to execute a search in one or more fields that may contain the desired information. Super search fields facilitate crossfile and multifile searching. EXPAND may not be used with super search fields. Use EXPAND with the individual field codes instead.

Search Field Name	Search Code	Fields Searched	Search Examples	Display Codes
Cooperative Patent Classification **(1)**	/CPC	/CPCI, /CPCR	S C12N0009/CPC	CPC, CPCI, CPCR
International Patent Classifications (**2,3)**	/IPC	/IC, /ICM, /ICS, /IPCI, /IPCR	S G03C/IPC S G03C001/IPC	IPC
International Patent Classifications (Old)	/IPC.OLD	/IC, /ICM, /ICS	S A01B059-00/IPC.OLD	IPC
Application Number Group **(1,4)**	/APPS	/AP, /PRN, /RLN	S US2001-755372/APPS S US2013-61786274/APPS S US2013-509793/APPS	AI, PRAI, RLI
Patent Applicant/Assignee **(5)**	/PASS	/PA, /UO, /USPA	S BRAUN/PASS	PA, UO, USPA
Patent Country Group	/PCS	/PC, /RPC	S US/PCS	PI, REP, RLI
Patent Number Group **(1)**	/PATS	/PN, /RLPN, /RPN	S US6300049/PATS	PI, REP, RLI

(1) Either STN format or Derwent format may be used.
(2) A thesaurus is available for this field.
(3) EXPAND and SELECT work with this field.
(4) Application numbers for U.S. utility patents from series code 13 forward, design patents (series code 29) and provisional patent applications (series code 60 and 61) may be searched either with or without their series code. Include the series code if known to ensure precision. Note that provisional patent application numbers searched without their series codes must have a P appended to the end of the number (e.g., US2013-686038P). Series code information is not available for U.S. patent application numbers with series codes below 13.
(5) The /PASS search code searches the applicant/assignee name portion of the /PA and /USPA fields, as well as /UO..

CPC (/CPC) Thesaurus

The Cooperative Patent Classification (CPC) is jointly developed and maintained by the European Patent Office and the US Patent and Trademark Office. This thesaurus is available in the /CPC search field. All relationship codes can be used with both the EXPAND and SEARCH commands.

Relationship Code	Content	Search Examples
ALL	All usually required terms (BT, SELF, CODE, DEF)	E C12M0001-00+ALL/CPC
AUTO **(1)**	Automatic relationship (BT, SELF, CODE, DEF)	E G01J003-443+AUTO/CPC
BT	Broader terms (BT, SELF)	E G01J0003-443+BT/CPC
CODE	Classification Code (SELF, CODE)	E CARTRIDGES+CODE/CPC
DEF	Definition (SELF, DEF)	E B65G0045-16+DEF/CPC
HIE	Hierarchy terms (all broader and narrower terms) (BT, SELF, DEF, NT)	E A01B0001-00+HIE/CPC
KT	Keyword terms (SELF, KT)	E LASER+KT/CPC
MAX	All associated terms	E G01J0003-44+MAX/CPC
NEXT	Next classification within the same class (SELF, NEXT)	E A01B0001-24+NEXT/CPC
NEXT(n)	Next n classification within the same class	E A01B0001-24+NEXT3/CPC
NT	Narrower terms	E G05B0001-04+NT/CPC
PREV	Previous Code within the same class (SELF, PREV)	E G05B0019-00+PREV/CPC
PREV(n)	Previous n classifications within the same class	E G05B0019-00+PREV2/CPC
TI	Complete Title of SELF Term and Broader Terms (BT, SELF)	E G05B0001-03+TI/CPC

(1) Automatic Relationship is SET OFF. In case of SET REL ON the result of EXPAND or SEARCH without any relationship code is the same as described for AUTO.

Thesaurus Fields - IPC Thesaurus and U.S. National Patent Classification

A thesaurus is present for the National Patent Classification fields (/INCL, /INCLM, /INCLS, /NCL, /NCLM, /NCLS, /RPCL) and the International Patent Classification fields. The classifications and catchwords for the main headings and subheadings from the 8th edition of the WIPO International Patent Classification (IPC) manual are available in the following fields: /IC, /ICM, /ICS, /IPC, IPCI, and IPCR. The classifications from the previous editions (1-7) are also available as separate thesauri. To EXPAND and SEARCH in the thesauri for editions 1-8, use the field code followed by the edition number, e.g., /IC2, /ICM2, /ICS2 for the 2nd edition. Catchwords are included only in the thesauri for the 8th, 7th, 6th, and 5th editions.

Code	Content	Example
ALL	All associated terms	E A01N025-04+ALL/IPC E 264016000+ALL/INCL E A01N025-04+ALL/IPC
AUTO **(1)**	Automatic Relationship (BT, SELF)	E A01N025-04/IC REL=ON
ED	Validity Range	E A01B001-00/ED
HIE	Hierarchy (Broader and Narrower Terms (all Broader and Narrower Terms) (BT, SELF, NT)	E 523523000+HIE/NCL E A01B001-06+HIE/IPC
INDEX	IPC Index Terms	E A01B001-00/INDEX
TI	Complete Title of the SELF Term	E 135+TI/NCLM E A01B001-04+TI/IPC
BT	Broader Terms (BT, SELF)	E 423206200+BT/NCLS E A01N029-12+BT/IPC
KT	Keyword Terms **(2)** (SELF, KT)	E ZEOLITES+KT/NCL
NT	Narrower Terms (SELF, NT)	E 264016000+NT/INCL E A01N025-00+NT/IPC
NEXT	Next Classification	E 135086000+NEXT15/INCL E A01B001-16+NEXT5/IPC
PREV	Previous Classification	E 523523000+PREV3/NCLS E A01B001-18+PREV5/IPC
BRO	Complete Class	E 135019000+BRO5/INCL E A01B003-14+BRO3/IPC
RT	Related Terms	E A01B001-16+RT/IPC

(1) AUTOMATIC relationship is SET OFF. If you SET RELATION ON, the result of EXPAND without any relationship code is the same as described for AUTO.

(2) Keyword terms are the catchwords corresponding to the USPTO Manual of Classifications subject index headings and subheadings.

DISPLAY and PRINT Formats

Any combination of formats may be used to display or print answers. Multiple codes must be separated by spaces or commas, e.g., D L3 1-10 TI,AB or D L3 1-10 TI AB. The fields are displayed or printed in the order requested.

Hit term highlighting is available in all fields except DRWN and ECL. Highlighting must be on when a SEARCH is performed to use the FHITSTR, HIT, HITRN, HITSTR, KWIC, and OCC formats.

Format	Content	Examples
AB	Abstract	D 1-3 AB
AI (AP) **(1)**	Application Information	D 4 9 AI
AN **(2)**	Accession Number	D AN
ARTU	Art Unit	D L3 5-7 ARTU
CC (SX)	Classification Code and Section cross-reference (CAS data)	D L3 CC 1-5
CLM	Patent Claim Text	D CLM L8
CLM(n) **(3)**	Patent Claim Text for Claim n	D CLM(2)
CLMN	Number of Claims	D CLMN
CT **(2)**	Controlled Term (CAS data)	D 4 CT
CPC	Cooperative Patent Classification	D CPC
CPCI	CPC Initial Classification	D CPCI
CPCR	CPC Reclassification	D CPCR
DCD	Disclaimer Date	D L3 6,8 DCD
DETD	Detailed Description	D 1-4 DETD
DRWD	Drawing Description	D L9 DRWD 3-6
DRWN	Number of Drawings	D DRWN
DT (TC)	Document Type	D DT 2,6-10
ECL	Exemplary Claim Number	D 7 L3 ECL
ECLM **(3)**	Exemplary Claim Text	D 1-5, 10 ECLM
EXF **(2)**	Examiner's Field of Search	D 1,5,8 EXF
EXNAM	Examiner Name	D EXNAM 4-8,11
FS **(2)**	File Segment	D FS
GOVI	Government Interest	D 3,5,7 GOVI
ICM **(2)**	IPC, Main	D 5-6 L1 ICM
ICS **(2)**	IPC, Secondary	D L4 1-6 ICS
IN (AU)	Inventor (includes INA)	D IN
INA **(3)**	Inventor Address	D L5 1-4 INA
INCLM **(2)**	Issue Main National Patent Classification Code	D 2,5 INCLM
INCLS **(2)**	Issue Secondary National Patent Classification Code	D L2 1-3 INCLS
IPC.F **(3)**	IPC, First Invention	D IPC.F
IPCI **(2,5)**	IPC, Initial Classification	D IPCI
IPCR **(2)**	IPC, Reclassification	D IPCR
IT	Index Term (CAS data)	D 1,5,10 IT
LA **(3)**	Language	D LA
LN.CNT	Line Count	D LN.CNT
LREP (AG)	Legal Representative	D 2 7 LREP
MFN	Microfilm Frame Number of document at the U.S. Patent and Trademark Office	D MFN
MRN	Microfilm Reel Number of document at the USPTO	D MRN
NCLM **(2)**	Current Main National Patent Classification Code	D 1-2 NCLM
NCLS **(2)**	Current Secondary National Patent Classification Code	D 1-5 NCLS
OS	Other Source Chemical Abstracts	D OS
PA (CS)	Patent Assignee (includes PAA and PAT)	D 1-3 PA
PAA **(3)**	Patent Assignee Address	D 4 9 PAA
PAO	Patent Assignee, Original	D PAO
PARN	Parent Case Data	D L3 5-7 PARN
PAT **(3)**	Patent Assignee Type	D L3 PAT 1-5
PI (PN) **(1)**	Patent Information	D PI L8
PNK	Patent Number/Kind Code	D PNK
PRAI (PRN) **(1)**	Priority Information	D PRAI
PTERM	Term of Patent	D 4 PTERM

DISPLAY and PRINT Formats (cont'd)

Format	Content	Examples
RAA	Reassignment Agent	D RAA
RAC	Reassignment Company	D RAC
RAD	Reassignment Date	D RAD
RAK	Reassignment Kind	D RAK
RAUP	Reassignment Update Date	D RAUP
REN	Reference Non-Patent Information	D L3 6,8 REN
REP (RPN)	Reference Patent Information	D 1-4 REP
RLI (RLN) **(1)**	Related Application Information	D L9 RLI 3-6
RN **(3)**	CAS Registry Number (CAS data)	D RN 2,6-10
RNK **(6)**	Relevance Rank in single file	D RNK
RNKM **(6)**	Relevance Rank in multifiles	D RNKM
ST	Supplementary Terms (CAS data)	D ST
SUMM	Summary of the Invention	D L5 1-4 SUMM
TI **(2)**	Title	D 2,5 TI
UO	Ultimate Owner	D UO
UOS	Ultimate Owner Standardized	D UOS
USPA	Applicant Name (Corporate)	D USPA
ABS	AB	D L3 1-5 ABS
ALL **(1)**	PatentPak, AN, TI, IN, USPA, PA, UO, UOS, PI, AI, PTERM, DCD, RLI, PRAI, DT, FS, REP, REN, EXNAM, LREP, CLMN, ECL, DRWN, AB, GOVI, PARN, SUMM, DRWD, DETD, CLM, INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), IPC (IPC.VER, ICM, ICS, IPCI, IPC), EXF, ARTU	D 3 ALL
APPS **(1)**	AI, PRAI, RLI	D APPS
BIB **(1)**	PatentPak, AN, TI, IN, USPA, PA, UO, UOS, PI, AI, PTERM, DCD, RLI, PRAI, DT, FS, EXNAM, LREP, CLMN, ECL, DRWN, LN.CNT	D BIB
BPP **(1)**	PatentPak, AN, TI, IN, PA, UO, UOS, USPA, PI, AI, PTERM, DCD, RLI, PRAI, DT, FS, EXNAM, LREP, CLMN, ECL, DRWN, LN.CNT, PPAK	D BPP
CAS	OS, CC, ST, IT	D CAS 3 L2
CBIB	Compressed bibliographic information	D CBIB
CPC	CPCI, CPCR for the basic patent and patent family members	D CPC
CPC.TAB	CPC, CPC.KW, CPC.ACD, CPC.VER in tabular format	D CPC.TAB
CPC.UNIQ	Deduplicated list of CPC codes for the patent family	D CPC.UNIQ
DALL **(1)**	ALL, delimited for postprocessing	D 1-15 DALL
IABS	ABS, with a text label	D 1-4 IABS
IALL **(1)**	ALL, indented with text labels	D IALL 2
IBIB **(1)**	BIB, indented with text labels	D IBIB 4-10
IBPP**(1)**	BPP, indented with text labels	D IBPP
IMAX **(1)**	MAX, indented with text labels	D IMAX 1
INCL **(2)**	Issue National Patent Classification Code (INCLM, INCLS)	D 1,5 L4 INCL
IND	INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), IPC (IPC.VER, ICM, ICS, IPCI, IPC), EXF, ARTU, OS, CC, ST, IT	D L2 IND 1-4
IPC **(2,5)**	International Patent Classifications (IPC.VER, ICM, ICS, IPCI, IPCR)	D 1-4 L2 IPC
IPC.TAB **(2,5)**	IPC in Tabular Format	D IPC.TAB
IPC.UNIQ	Unique IPC codes for a basic and equivalents	D IPC.UNIQ
IRAI (PA.HIST)	RAI, indented with text labels	D IRAI 1, D PA.HIST
ISPP	SPP, indented with text labels	D ISPP
ISTD **(1)**	STD, indented with text labels	D ISTD 1,5
MAX **(1)**	PatentPak, AN, TI, IN, USPA, PA, UO, UOS, PI, AI, PTERM, DCD, RLI, PRAI, DT, FS, REP, REN, EXNAM, LREP, RAD, RAUP, RAK, PAO, RAXD, RAC, RAA, MRN, MFN, CLMN, ECL, DRWN, AB, GOVI, PARN, SUMM, DRWD, DETD, CLM, INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), IPC (IPC.VER, ICM, ICS, IPCI, IPCR), EXF, ARTU, OS, CC, ST, IT	D MAX L1 1
NCL **(2)**	National Patent Classification Code (NCLM, NCLS)	D 6,12 L1 NCL
PATS **(1)**	PI, REP, RLI	D PATS 1-3
RAI (LSUS)	RAD, RAXD, RAUP, RAK, PAO, RAC, RAC.CNY, RAA, MRN, MFN	D RAI, D LSUS
SBIB **(1)**	PatentPak, AN, TI, IN, USPA, PA, UO, UOS, PI, AI, RLI, PRAI, DT, FS, LN.CNT	D SBIB

DISPLAY and PRINT Formats (cont'd)

Format	Content	Examples
SCAN **(2,4)**	AN, TI, NCL (NCLM, NCLS), CPC (CPCI, CPCR), IPC (IPC.VER, ICM, ICS, IPCI, IPCR) (random answer display, no answer)	D SCAN
SPP **(1)**	PatentPak, AN, TI, IN, USPA, PA, UO, UOS, PI, AI, RLI, PRAI, DT, FS, LN.CNT, INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), IPC (IPC.VER, ICM, ICS, IPCI, IPCR), EXF, PPAK (If PatentPak enabled)	D SPP
STD **(1)**	PatentPak, AN, TI, IN, USPA, PA, UO, UOS, PI, AI, RLI, PRAI, DT, FS, LN.CNT, INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), IPC (IPC.VER, ICM, ICS, IPCI, IPCR), EXF (STD is the default)	D STD 1, 8
TRIAL (FREE) **(2)**	AN, TI, INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), IPC (IPC.VER, ICM, ICS, IPCI, IPCR)	D TRIAL
FP **(1)**	Front page format for: PatentPak, PI, TI, IN, USPA, PA, UO, UOS, PTERM, DCD, AI, RLI, PRAI, IPC (IPC.VER, ICM, ICS, IPCI, IPCR), INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), EXF, REP, REN, ARTU, EXNAM, LREP, CLMN, DRWN, AB	D FP
FPALL **(1)**	Front page format for: PatentPak, PI, TI, IN, USPA, PA, UO, UOS, PTERM, DCD, AI, RLI, PRAI, IPC (IPC.VER, ICM, ICS, IPCI, IPCR), INCL (INCLM, INCLS), NCL (NCLM, NCLS), CPC (CPCI, CPCR), REP, REN, EXF, ARTU, EXNAM, LREP, CLMN, DRWN, AB, PARN, SUMM, DRWD, DETD, CLM	D FPALL L10 1
FPBIB **(1)**	Front page format for: PatentPak, PI, TI, IN, USPA, PA, UO, UOS, PTERM, DCD, AI, RLI, PRAI, REP, REN, EXNAM, LREP, CLMN, DRWN	D 1-10 FPBIB
CPC.HIT (HITCPC)	HIT display of CPC code searched	D CPC.HIT or D HITCPC
FHITSTR	First hit CAS Registry Number, its text modification, its CA index name, and its structure diagram	D CBIB FHITSTR
HIT	Fields containing hit terms	D HIT
HITIPC (IPC.HIT)	Hit IPC	D HITIPC or D IPC.HIT
HITPPAK	Hit PatentPak entry (based on chemical name or RN search)	D STD IT HITPPAK
HITRN	Hit CAS Registry Number and its text modification	D HITRN
HITSTR	Hit CAS Registry Number, its text modification, its CA index name, and its structure diagram	D HITSTR
KWIC	Up to 20 words before and after hit terms (KeyWord-In-Context)	D KWIC
OCC **(2)**	Number of occurrences of hit terms and fields in which they occur	D OCC

(1) By default, patent numbers, application and priority numbers are displayed in STN format. To display them in Derwent format, enter SET PATENT DERWENT at an arrow prompt. To reset display to STN format, enter SET PATENT STN.
(2) No online display fee for the format.
(3) Custom display only.
(4) SCAN must be specified on the command line, i.e., D SCAN or DISPLAY SCAN.
(5) IPCI-2 is a display label relating to the most recent publication of the patent document. It is part of the IPCI display field.
(6) The RNK and RNKM formats display only the hit term occurrence ranking for the record, with the following line: RELEVANCE SCORE ##. RNK is for the single file environment, while RNKM is for the multifile environment.

Extended DISPLAY and PRINT Formats

Use the extended display formats to display not only the publication from the USPAT2 file, i.e., the latest publication, but also the original publication for the invention from the USPATFULL file.

Format	Content	Examples
BIB.EX	BIB for the latest plus BIB for the original publication	D 1-5 BIB.EX
CLM.EX	CLM for the latest plus CLM for the original publication	DIS L2 CLM.EX
FP.EX	FP for the latest plus FP for the original publication	D FP.EX 1-
IBIB.EX	IBIB for the latest plus BIB for the original publication	D IBIB.EX 1-3 L5
IMAX.EX	IMAX for the latest plus IMAX for the original publication	D IMAX.EX 1
MAX.EX	MAX for the latest plus MAX for the original publication	DISPLAY L1 1 MAX.EX
STD.EX	STD for the latest plus STD for the original publication	D STD.EX L5 3, 6

Full-Text Browsing

User Request	Example	System Response
DISPLAY BROWSE	=> DISPLAY BROWSE ENTER (L1) or L# ENTER (DIS), ANSWER NUBMERS, OR END:	NOVICE version
D BRO	=> D BRO L1 :	EXPERT version
Answer number(s)	:1-3	display answers 1, 2, and 3 in default format
	:.	display next answer in default format
Answer number(s) and format	:4 HIT	display answer 4 in HIT format
Format only	:TI TX	display title and text of last answer displayed
*Format	:*KWIC	change default to KWIC; no answer displayed
Forward n fields	:F3	move forward 3 fields
Backward n fields	:B1	move backward 1 field
Search forward for a character string	:S GROWTH REGUL	search forward within record for 'growth regul'
	:S	repeat search forward for the current string
Search backward for a character string	:S- ALKANOIC ACID	search backward within record for 'alkanoic acid.'
	:S-	repeat search backward for the current string
End DISPLAY BROWSE	:END =>	exit DISPLAY BROWSE and return to => prompt

SELECT, ANALYZE, and SORT Fields

The SELECT command is used to create E-numbers containing terms taken from the specified field in an answer set.
The ANALYZE command is used to create an L-number containing terms taken from the specified field in an answer set.
The SORT command is used to rearrange the search results in either alphabetic or numeric order of the specified field(s).

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Abstract	AB	Y	N
Accession Number	AN	Y	N
Applicant City (Corporate)	USPA.CTY	Y	Y
Applicant Country (Corporate)	USPA.CNY	Y	Y
Applicant Name (Corporate)	USPA	Y	Y
Applicant State (Corporate)	USPA.ST	Y	Y
Application Country	AC	Y **(2)**	Y
Application Date	AD	Y **(2)**	Y
Application Information	AI	Y **(2,3,4)**	Y
Application Number	AP	Y **(2,3)**	Y
Application Number Group	APPS	Y **(2,3,5)**	N
Application Year	AY	Y **(2)**	Y
Art Unit	ARTU	Y	Y
Author (Inventor)	AU	Y **(6)**	Y
CAS Registry Number (CAS data)	RN	Y **(2)**	N
Citation	CIT	Y **(2,7)**	N
Classification Code (CAS data)	CC	Y	Y
Controlled Term	CT	Y **(2)**	N
CPC Classification	CPC	Y **(20)**	N
CPC, Initial	CPCI	Y **(21)**	N
CPC, Reclassified	CPCR	Y **(21)**	N
CPC Hit Display	CPC.HIT (HITCPC)	Y	Y
CPC Codes Deduplicated for patent family	CPC.UNIQ	Y	Y
Corporate Source (Patent Assignee)	CS	Y **(8)**	Y
Current Main National Patent Classification Code	NCLM	Y	Y
Current National Patent Classification Code, Main and Secondary	NCL	Y	Y
Current Secondary National Patent Classification Code	NCLS	Y	N
Detailed Description	DETD	Y **(9)**	N
Disclaimer Date	DCD	Y	Y
Document Type	DT	Y	Y
Drawing Description	DRWD	Y **(9)**)	N
Examiner Name	EXNAM	Y	Y
Examiner's Field of Search	EXF	Y	Y
Exemplary Claim Text	ECLM	Y	N
Government Interest	GOVI	Y	N
Index Term (CAS data)	IT	Y **(2)**	N
International Patent Classifications, All codes	IPC	Y **(10)**	N
International Patent Classifications, Main and Secondary	IC	Y	Y
Inventor	IN	Y	Y
Inventor Address	INA	N	Y
Inventor Address, City	IN.CTY	Y	Y
Inventor Address, Country	IN.CNY	Y	Y
Inventor Address, State	IN.ST	Y	Y
Inventor Address, ZIP Code	IN.ZIP	Y	Y
IPC First Invention	IPC.F	Y **(10)**	N
IPC, Main	ICM	Y	Y
IPC, Secondary	ICS	Y	Y
IPC Initial Classification	IPCI	Y **(10)**	N
IPC Reclassification	IPCR	Y **(10)**	N
Issue Main National Patent Classification Code	INCLM	Y	Y
Issue National Patent Classification Code, Main and Secondary	INCL	Y	Y

SELECT, ANALYZE, and SORT Fields (cont'd)

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Language	LA	Y	Y
Legal Representative	LREP	Y	N
	AG	Y **(11)**	N
Line Count	LN.CNT	N	Y
Number of Claims	CLMN	N	Y
Occurrence Count of Hit Terms	OCC	N	Y
Other Source Chemical Abstracts	OS	Y **(2)**	N
Other Source Patent Number	OSPN	Y **(2,12)**	N
Parent Case Data	PARN	Y **(9)**	N
Patent Assignee	PA	Y	Y
Patent Assignee Address	PAA	N	Y
Patent Assignee Address, City	PA.CTY	Y	Y
Patent Assignee Address, Country	PA.CNY	Y	Y
Patent Assignee Address, State	PA.ST	Y	Y
Patent Assignee Address, ZIP Code	PA.ZIP	Y	Y
Patent Assignee Type	PAT	Y	Y
Patent Assignee, Original	PAO	Y	N
Patent Claim Text	CLM	Y	N
Patent Country	PC	Y **(2)**	Y
Patent Country Group	PCS	Y **(2,13)**	Y
Patent Date	PD	Y **(2)**	Y
Patent Information	PI	Y **(2,3,14)**	Y
Patent Kind	PK	Y	Y
Patent Number	PN	Y **(2,3)**	Y
Patent Number Group	PATS	Y **(2,3,15)**	Y
Patent Number/Kind Code	PNK	Y	Y
Patent Year	PY	Y **(2)**	Y
Priority Country	PRC	Y **(2)**	Y
Priority Date	PRD	Y **(2)**	Y
Priority Information	PRAI	Y **(2,3,16)**	Y
Priority Number	PRN	Y **(2,3)**	Y
Priority Year	PRY	Y **(2)**	Y
Reassignment Agent	RAA	Y	N
Reassignment Company	RAC	Y	N
Reassignment Country	RAC.CNY	Y	Y
Reassignment Date	RAD	Y	N
Reassignment Execution Date	RAXD	Y	N
Reassignment Kind	RAK	Y	N
Reassignment Update Date	RAUP	Y	N
Reference Patent Classification	RPCL	Y **(2)**	N
Reference Patent Country	RPC	Y **(2)**	N
Reference Patent Information	REP	Y **(2,3,17)**	N
Reference Patent Inventor	RPIN	Y **(2)**	N
Reference Patent IPC	RPIC	Y **(2,3)**	N
Reference Patent Number	RPN	Y **(2,3)**	N
Reference Patent Publication Date	RPD	Y **(2)**	N
Reference Patent Publication Year	RPY	Y **(2)**	N
Related Application Country	RLC	Y **(2)**	N
Related Application Date	RLD	Y	N
Related Application Information	RLI	Y **(3,18)**	N
Related Application Number	RLN	Y **(3)**	N
Related Application Type	RLT	Y	Y
Related Application Year	RLY	Y	N
Related Patent Number	RLPN	Y **(3)**	Y
Related Patent Publication Year	RLPY	Y	N
Section Cross-reference (CAS data)	SX	Y	Y
Summary of the Invention	SUMM	Y **(9)**	N
Supplementary Term (CAS data)	ST	Y	N

SELECT, ANALYZE, and SORT Fields (cont'd)

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Term of Patent	PTERM	N	Y
Title	TI	Y (default)	Y
Treatment Code	TC	Y **(19)**	Y
Ultimate Owner	UO	Y	Y
Ultimate Owner Standardized	UOS	Y	Y

(1) HIT may be used to restrict terms extracted to terms that match the search expression used to create the answer set, e.g., SEL HIT TI.
(2) SELECT HIT and ANALYZE HIT are not valid with this field.
(3) Enter SET PATENT DERWENT at an arrow prompt (=>) to SELECT or ANALYZE patent and application numbers in Derwent format.
(4) Selects or analyzes the application number with /AP appended to the terms created by SELECT.
(5) Selects or analyzes AP, PRN, and RLN and appends /APPS to the terms created by SELECT.
(6) Appends /IN to the terms created by SELECT.
(7) Extracts patent number, publication year with a truncation symbol appended and with /RE appended to the terms created by SELECT.
(8) Appends /PA to the terms created by SELECT.
(9) Appends /BI to the terms created by SELECT.
(10) Selects or analyzes all codes and appends /IPC to the terms created by SELECT.
(11) Appends /LREP to the term created by SELECT.
(12) Appends /PN to the terms created by SELECT.
(13) Selects or analyzes the PC and RPC and appends /PCS to the] terms created by SELECT.
(14) Selects or analyzes the PN and appends /PN to the terms created by SELECT.
(15) Selects or analyzes PN, RPN, RLPN and appends /PATS to the terms created by SELECT.
(16) Selects or analyzes the PRN and appends /PRN to the terms created by SELECT.
(17) Selects or analyzes the RPN and appends /RPN to the terms created by SELECT.
(18) Selects or analyzes the RLN and appends /RLN to the terms created by SELECT.
(19) Appends /DT to the terms created by SELECT.
(20) Select CPC selects all CPCI and CPCR classifications and appends /CPC as a field code.
(21) SELECT appends /CPC.

Sample Records

DISPLAY IMAX

```
ANSWER 1 OF 1  USPAT2 on STN
ACCESSION NUMBER:       2008:355896  USPAT2  Full-text
TITLE:                  Method and device for aligning a stent with a stent
                        support
INVENTOR(S):            Park, Sang joon, Waterloo, CANADA
                        Choo, Shaulaine, Cambridge, CANADA
                        Andreacchi, Anthony S., San Jose, CA, UNITED STATES
                        Chen, Yung-Ming, Cupertino, CA, UNITED STATES
                        Currlin, Arnoldo M., San Diego, CA, UNITED STATES
                        Garcia, Antonio, San Jose, CA, UNITED STATES
                        Van Sciver, Jason, Los Gatos, CA, UNITED STATES
                        Esbeck, Thomas David, Murrieta, CA, UNITED STATES
                        Glenn, Bryan D., Murrieta, CA, UNITED STATES
PATENT ASSIGNEE(S):     Abbott Cardiovascular Systems Inc., Santa Clara, CA,
                        UNITED STATES (U.S. corporation)
                        ATS Automation Tooling Systems Inc., Ontario, CANADA
                        (non-U.S. corporation)
ULTIMATE OWNER:         ATS CORPORATION; ABBOTT LABORATORIES INC
ULTIMATE OWNER STANDARD:ATS Automation; Abbott Laboratories

                             NUMBER       KIND    DATE
                        ---------------- ------ --------
PATENT INFORMATION:     US 7606625         B2   20091020
APPLICATION INFO.:      US 2007-764015          20070615  (11)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           GRANTED

                            NUMBER        DATE      CLASS     INVENTOR
                        --------------- -------- ----------- -----------
REFERENCED PATENT:      US 5630830      May 1997 606/198.000 Verbeek
                        US 5897911      Apr 1999             Loeffler
                        US 6161029      Dec 2000 600/381.000 Spreigl et al.
                        US 6527863      Mar 2003             Pacetti et al.
                        US 6575994      Jun 2003 606/198.000 Marin et al.
                        US 7390524      Jun 2008 427/002.240 Chen
                        US 7402329      Jul 2008             Pacetti et al.
                        US 7404979      Jul 2008             Pacetti
                        US 20060035012  Feb 2006             Pacetti et al.
                        US 20070003688  Jan 2007             Chen et al.
                        US 20070073134  Mar 2007 600/407.000 Teichman et al.
                        US 20080087474  Apr 2008             Nufer et al.
                        US 20080280025  Nov 2008 427/002.240 Scheer
                        US 20080307668  Dec 2008             Watterodt et al.
                        US 20080311280  Dec 2008             Rego et al.
                        US 20080311281  Dec 2008             Andreacchi et al.
                        US 20080312747  Dec 2008             Cameron et al.
                        US 20080312869  Dec 2008 702/173.000 Hemphill et al.
                        DE 10032398     Feb 2001
                        EP 1195584      Apr 2002
                        WO 2007130257   Nov 2007
NON-PATENT REFERENCE:   U.S. Appl. No. 10/255,913, filed Sep. 26, 2002, Tang et
                        al.
                        U.S. Appl. No. 10/750,312, filed Dec. 30, 2003,
                        Desnoyer et al.
                        U.S. Appl. No. 10/805,047, filed Mar. 18, 2004, Yip et
                        al.
                        U.S. Appl. No. 11/193,849, filed Jul. 28, 2005, Harold
                        et al.
                        International Search Report and the Written Opinion,
                        for PCT/US2008/061806, mailed Dec. 5, 2008, 19 pgs.
                        Invitation to pay additional fees, including
                        communication relating to the results of the partial
```

international search, for PCT/US2008/061806, mailed Aug. 27, 2008, 9 pgs.

PRIMARY EXAMINER: Patel, Ramesh B
LEGAL REPRESENTATIVE: Squire, Sanders & Dempsey, L.L.P.

ASSIGNMENT HISTORY FOR US 7606625

DATE RECORDED: 20090622
UPDATE DATE: 20091020
DESCRIPTION: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
PATENT ASSIGNOR(S): ANDREACCHI, ANTHONY S. (DATE EXECUTED: 20090401)
CHEN, YUNG-MING (DATE EXECUTED: 20090401)
CURRLIN, ARNOLDO M. (DATE EXECUTED: 20090401)
GARCIA, ANTONIO (DATE EXECUTED: 20090401)
VAN SCIVER, JASON (DATE EXECUTED: 20090401)
GLENN, BRYAN D. (DATE EXECUTED: 20090401)
PATENT ASSIGNEE(S): ABBOTT CARDIOVASCULAR SYSTEMS INC., 3200 LAKESIDE DRIVE, SANTA CLARA, UNITED STATES
AGENT: CAMERON K. KERRIGAN, SQUIRE, SANDERS & DEMPSEY L.L.P., ONE MARITIME PLAZA, SUITE 300, SAN FRANCISCO, CALIFORNIA 94111
MICROFILM REEL NO: 22858
MICROFILM FRAME NO: 234 (4 Page(s))

DATE RECORDED: 20090723
UPDATE DATE: 20091020
DESCRIPTION: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
PATENT ASSIGNOR(S): ESBECK, THOMAS DAVID (DATE EXECUTED: 20090707)
PATENT ASSIGNEE(S): ABBOTT CARDIOVASCULAR SYSTEMS INC., 3200 LAKESIDE DRIVE, SANTA CLARA, UNITED STATES
AGENT: SQUIRE SANDERS & DEMPSEY LLP, ONE MARITIME PLAZA, SUITE 300, SAN FRANCISCO, CA 94111
MICROFILM REEL NO: 22998
MICROFILM FRAME NO: 859 (3 Page(s))

DATE RECORDED: 20090723
UPDATE DATE: 20091020
DESCRIPTION: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
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MICROFILM REEL NO: 22998
MICROFILM FRAME NO: 868 (5 Page(s))

NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 17 Drawing Figure(s); 16 Drawing Page(s)
ABSTRACT:

A method for aligning a stent with a stent support includes the steps of (1) placing a stent support and a stent mounted on the stent support in a vertically position with the stent support's first support element at a lower position and the stent support's second support element at an upper position; (2) obtaining a digital image of the stent support and stent; (3) analyzing the digital image of the stent support and stent to compute the vertical position of the stent's upper end; (4) computing a desired position of the second support element based on the position of the stent's upper end; and (5) using a positioning device to move the second support element to the desired position.

The movement of the second support element causes the conical sections of the first and second support elements to engage the respective ends of the stent to center the stent around a core element of the stent support and to secure the stent in a longitudinal direction of the stent support.

FIELD OF THE INVENTION

This invention relates to a method and device for aligning a stent with a stent support.

BACKGROUND

In the last several years, minimally invasive surgical procedures, such as percutaneous transluminal coronary angioplasty (PTCA), have become increasingly common. A PTCA procedure involves the insertion of a catheter into a coronary artery to position an angioplasty balloon at the site of a stenotic lesion that is at least partially blocking the coronary artery. The balloon is then inflated to compress the stenosis and to widen the lumen in order to allow an efficient flow of blood through the coronary artery.

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Currently there are no efficient and reliable methods to ensure a proper alignment of a stent with a stent support.

SUMMARY

The method and device of the present invention can reliably, efficiently and precisely mount a stent on a stent support with a proper alignment of the axes of the stent and stent support.

According to one aspect of the invention, a method for aligning a stent with a stent support includes the steps of (1) placing a stent support and a stent mounted thereon in a vertical position with the stent support's first support element at a lower position and the stent support's second support element at an upper position, (2) obtaining a digital image of the stent support and stent, (3) analyzing the digital image of the stent support and stent to compute the vertical position of the stent's upper end, (4) computing a desired position of the second support element based on the position of the stent's upper end, and (5) using a positioning device to move the second support element to the desired position. The movement of the second support element causes the conical sections of the first and second support elements to engage the respective ends of the stent to center the stent around a core element of the stent support and to secure the stent in a longitudinal direction of the stent support.

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According to another aspect of the invention, a device for aligning a stent with a stent support includes a stent support receptacle for receiving a first support element of a stent support to position the stent support in a vertical position, a digital imaging device for imaging a stent mounted on the stent support, a computer, and a positioning device for moving a second support element of the stent support to the desired position. The computer can be used to compute the position of an upper end of the stent from a digital image of the stent support and stent and to compute a desired position of the second support element of the stent support based on the position of the stent's upper end. The computer can also be used to compute stent runout, stent type and stent orientation. In a preferred embodiment, the device for aligning a stent with a stent support further includes a core element support for supporting a free end of a core element of the stent support so that the core element and the first support element are substantially coaxial.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an exemplary device of the present invention for mounting a stent on a stent support in a way that reduces stent runout.

FIG. 2 is a perspective view of a cylindrically-shaped stent.

FIG. 3 is a schematic diagram for a spray coating apparatus.

FIG. 4 is a perspective view of a stent support.

FIGS. 5A and 5B are perspective views showing the conical portions of the first and second support elements of a stent support supporting the ends of a stent.

FIG. 6 is a perspective view of a stent mounted on the core element of a stent support without the second support element of the stent support.

FIG. 7 is a perspective view of a stent mounted on the core element of a stent support with the second support element of the stent support.

FIG. 8 is a perspective view of a stent and a stent support mounted vertically in a stent support receptacle.

FIG. 9 is a perspective view of the free end of a core element being supported by a first core element support.

FIG. 10 is a cross-sectional view of the first core element support.

FIG. 11 is a perspective view of a second core element support.

FIG. 12 is a perspective view of a positioning device.

FIG. 13 is a schematic diagram showing a feedback control loop for controlling the position of the second support element of the stent support.

FIG. 14 is a view of a stent mounted on a stent support with stent runout.

FIGS. 15 and 16 are perspective views of crowns at a stent end.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

One aspect of the present invention relates to a device for precisely and efficiently mounting a stent on a stent support in a way that reliably reduces stent runout. FIG. 1 illustrates an exemplary device 10 of the present invention. The device 10 includes a stent support receptacle 12 for receiving a stent support 16 to position the stent support 16 in a vertical position; a digital imaging device 20, such as a digital camera; a computer 14 (FIG. 13); and a positioning device 18. The device 10 may include additional components, as shown in FIG. 1, which will be described hereinafter.

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While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications can be made without departing from this invention in its broader aspects. Therefore, the appended claims are to encompass within their scope all such changes and modifications as fall within the true spirit and scope of this invention.

What is claimed is:

1. A method for aligning a stent with a stent support, comprising: placing a stent support and a stent mounted on the stent support in a vertical position with the stent support's first support element at a lower position and the stent support's second support element at an upper position, wherein the lower end of the stent faces a conical portion of the first support element and the upper end of the stent faces a conical portion of the second support element; obtaining a digital image of the stent support and stent; analyzing the digital image of the stent support and stent to compute the vertical position of the stent's upper end; computing a desired position of the second support element based on the position of the stent's upper end; and using a positioning device to move the second support element to the desired position, wherein the movement of the second support element causes the conical portions of the first and second support elements to engage the respective ends of the stent to center the stent around a core element of the stent support and to secure the stent in a longitudinal direction of the stent support.

• • •
29. A device for aligning a stent with a stent support, comprising: a stent support receptacle for receiving a first support element of a stent support to position the stent support in a vertical position; a digital imaging device for imaging a stent mounted on the stent support; a computer connected to the digital imaging device for receiving a digital image of the stent support and the stent mounted thereon, wherein the computer computes the position of an upper end of the stent from the digital image of the stent support and the stent mounted thereon and computes a desired position of a second support element of the stent support based on the position of the stent's upper end; and a positioning device for moving the second support element to the desired position.

30. The device of claim 29, further comprising: a core element support for supporting a free end of a core element of the stent support so that the core element and the first support element are substantially coaxial.

ISSUE U.S. PATENT CLASSIF.:
  MAIN: 700/057.000
  SECONDARY: 700/056.000; 700/060.000; 700/186.000; 700/192.000; 600/374.000; 600/381.000; 623/001.110; 623/001.170
CURRENT U.S. PATENT CLASSIF.:
  MAIN: 700/057.000; 623/001.110
  SECONDARY: 600/374.000; 600/381.000; 623/001.110; 623/001.170; 700/056.000; 700/060.000; 700/186.000; 700/192.000; 623/001.150
COOP. PATENT CLASSIF.:
  INITIAL: A61F0002-82 [I]; A61F0002-91; A61F2250-0067; B23K0026-4065 [I]
  INITIAL-2: A61F0002-82 [I]; A61F0002-91; A61F2250-0067; B23K0026-4065 [I]
INT. PATENT CLASSIF.:
  INITIAL: A61F0002-06 [I]
  INITIAL-2: G05B0013-02 [I]; A61F0002-06 [I]; G06F0019-00 [N]; A61F0005-04 [N]
  RECLASS: G05B0013-02 [I]; A61F0002-06 [I]; A61F0005-04 [N]; G06F0019-00 [N]
FIELD OF SEARCH: 623/1.11; 623/1.15; 623/1.16; 623/1.17; 600/374; 600/381; 600/407; 700/56-60; 700/117; 700/159-160; 700/186; 700/192; 700/195
ART UNIT: 211

CHEMICAL ABSTRACTS INDEXING COPYRIGHT 2013 ACS on STN

				PATENT	KIND	DATE
OS	CA 150:64178	* WO	2008156920	A2	20081224
	CA 150:41508	US	20080307668	A1	20081218
	CA 150:41507	US	20080311280	A1	20081218
	CA 150:64120	US	20080311281	A1	20081218
	CA 154:192106	US	7885788	B2	20110208

* CA Indexing for this record included
CA CLASSIF.: 63-7 (Pharmaceuticals)
SUPPL. TERM: stent spray coating implant pharmaceutical
INDEX TERM: Prosthetic materials and Prosthetics
    (implants; methods and devices for coating stents)
INDEX TERM: Coating materials
Coating process
Pharmaceutical coatings
    (methods and devices for coating stents)
INDEX TERM: Coating process
    (spray; methods and devices for coating stents)
INDEX TERM: Medical goods
Pharmaceutical implants
    (stents; methods and devices for coating stents)
INDEX TERM: 9003-63-8, Poly(butyl methacrylate) 9011-17-0, Vinylidene

fluoride-hexafluoropropene copolymer
(methods and devices for coating stents)

DISPLAY CLM.EX

ANSWER 1 OF 1 USPAT2 on STN

-- Latest Publication -- (GRANTED - B2)

CLM What is claimed is:

1. A method for aligning a stent with a stent support, comprising: placing a stent support and a stent mounted on the stent support in a vertical position with the stent support's first support element at a lower position and the stent support's second support element at an upper position, wherein the lower end of the stent faces a conical portion of the first support element and the upper end of the stent faces a conical portion of the second support element; obtaining a digital image of the stent support and stent; analyzing the digital image of the stent support and stent to compute the vertical position of the stent's upper end; computing a desired position of the second support element based on the position of the stent's upper end; and using a positioning device to move the second support element to the desired position, wherein the movement of the second support element causes the conical portions of the first and second support elements to engage the respective ends of the stent to center the stent around a core element of the stent support and to secure the stent in a longitudinal direction of the stent support.

2. The method of claim 1, further comprising: the step of obtaining the digital image of the stent support and stent includes using a digital imaging device to obtain the digital image of the stent support and stent.

3. The method of claim 1, further comprising: computing stent runout after the step of using the positioning device to move the second support element.

4. The method of claim 3, further comprising: if the computed stent runout is greater than an acceptable limit, lifting the second support element to disengage the second support element from the upper end of the stent.

5. The method of claim 4, further comprising: after the second support element has been disengaged from the upper end of the stent, repeating the step of obtaining a digital image of the stent support and stent; repeating the step of analyzing the digital image; repeating the step of computing a desired position of the second support element; and repeating the step of using the positioning device to move the second support element to the desired position.

6. The method of claim 1, further comprising: obtaining a second digital image of the stent support and stent after the step of using the positioning device to move the second support element; and computing the actual position of the second support element from the second digital image and comparing the actual position of the second support element with the desired position.

7. The method of claim 6, further comprising: if the difference between the actual and desired positions of the second support element exceeds an acceptable limit, using the positioning device to move the second support element to the desired position.

8. The method of claim 1, further comprising: re-seating the stent on the conical portion of the first support element before the step of

obtaining the digital image of the stent support and the stent.

9. The method of claim 8, wherein the step of re-seating includes vibrating the first support element.

10. The method of claim 8, wherein the step of re-seating includes striking the first support element.

11. The method of claim 8, wherein the step of re-seating includes lifting the stent off the first support element and releasing the stent.

12. The method of claim 8, wherein the step of re-seating includes tapping on the stent.

13. The method of claim 1, further comprising determining the orientation of the stent from the digital image of the stent support and stent.

14. The method of claim 13, wherein the step of determining the orientation of the stent includes examining crown types at least one stent end.

15. The method of claim 1, further comprising determining the type of the stent from the digital image of the stent support and stent.

16. The method of claim 15, further comprising computing the length of the stent and determining the type of the stent based on the length of the stent.

17. The method of claim 15, further comprising computing the number of end crowns at least one of the stent ends and determining the type of the stent based on the number of end crowns.

18. The method of claim 15, further comprising determining the types of end crowns at least one of the stent ends and determining the type of the stent based on the types of end crowns.

19. The method of claim 15, further comprising: determining the types of end crowns at least one of the stent ends; computing the length of the stent; and determining the type of the stent based on the types of end crowns and the length of the stent.

20. The method of claim 1, wherein the digital image includes the entire outer surfaces of the stent ends.

21. The method of claim 20, further comprising determining the orientation of the stent from the digital image of the stent support and stent.

22. The method of claim 21, wherein the step of determining the orientation of the stent includes examining the end crown types at least one stent end.

23. The method of claim 20, further comprising determining the type of the stent from the digital image of the stent support and stent.

24. The method of claim 23, further comprising computing the length of the stent and determining the type of the stent based on the length of the stent.

25. The method of claim 23, further comprising determining the number of end crowns at least one of the stent ends and determining the type of the stent based on the number of end crowns.

26. The method of claim 23, further comprising determining the types of end crowns at least one of the stent ends and determining the type of

the stent based on the types of end crowns.

27. The method of claim 23, further comprising: determining the types of end crowns at least one of the stent ends; computing the length of the stent; and determining the type of the stent based on the types of end crowns and the length of the stent.

28. The method of claim 1, further comprising: supporting a free end of the core element so that the core element and the first support element are substantially coaxial.

29. A device for aligning a stent with a stent support, comprising: a stent support receptacle for receiving a first support element of a stent support to position the stent support in a vertical position; a digital imaging device for imaging a stent mounted on the stent support; a computer connected to the digital imaging device for receiving a digital image of the stent support and the stent mounted thereon, wherein the computer computes the position of an upper end of the stent from the digital image of the stent support and the stent mounted thereon and computes a desired position of a second support element of the stent support based on the position of the stent's upper end; and a positioning device for moving the second support element to the desired position.

30. The device of claim 29, further comprising: a core element support for supporting a free end of a core element of the stent support so that the core element and the first support element are substantially coaxial.

-- Original Publication -- (APPLICATION - A1)

CLM What is claimed is:

1. A method for aligning a stent with a stent support, comprising: placing a stent support and a stent mounted on the stent support in a vertical position with the stent support's first support element at a lower position and the stent support's second support element at an upper position, wherein the lower end of the stent faces a conical portion of the first support element and the upper end of the stent faces a conical portion of the second support element; obtaining a digital image of the stent support and stent; analyzing the digital image of the stent support and stent to compute the vertical position of the stent's upper end; computing a desired position of the second support element based on the position of the stent's upper end; and using a positioning device to move the second support element to the desired position, wherein the movement of the second support element causes the conical sections of the first and second support elements to engage the respective ends of the stent to center the stent around a core element of the stent support and to secure the stent in a longitudinal direction of the stent support.

2. The method of claim 1, further comprising: the step of obtaining the digital image of the stent support and stent includes using a digital imaging device to obtain the digital image of the stent support and stent.

3. The method of claim 1, further comprising: computing stent runout after the step of using the positioning device to move the second support element.

4. The method of claim 3, further comprising: if the computed stent runout is greater than an acceptable limit, lifting the second support element to disengage the second support element with the upper end of the stent.

5. The method of claim 4, further comprising: after the second support

element has been disengaged with the upper end of the stent, repeating the step of obtaining a digital image of the stent support and stent; repeating the step of analyzing the digital image; repeating the step of computing a desired position of the second support element; repeating the step of using the positioning device to move the second support element to the desired position.

6. The method of claim 1, further comprising: obtaining a second digital image of the stent support and stent after the step of using the positioning device to move the second support element; and computing the actual position of the second support element from the second digital image and comparing the actual position of the second support element with the desired position.

7. The method of claim 6, further comprising: if the difference between the actual and desired positions of the second support element 46 exceeds an acceptable limit, using the positioning device to move the second support element 46 to the desired position.

8. The method of claim 1, further comprising: re-seating the stent on the conical portion of the first support element before the step of obtaining the digital image of the stent support and the stent;

9. The method of claim 8, wherein the step of re-seating includes vibrating the first support element.

10. The method of claim 8, wherein the step of re-seating includes striking the first support element.

11. The method of claim 8, wherein the step of re-seating includes lifting the stent off the first support element and releasing the stent.

12. The method of claim 8, wherein the step of re-seating includes tapping on the stent.

13. The method of claim 1, further comprising determining the orientation of the stent from the digital image of the stent support and stent.

14. The method of claim 13, wherein the step of determining the orientation of the stent includes examining crown types at least one stent end.

15. The method of claim 1, further comprising determining the type of the stent from the digital image of the stent support and stent.

16. The method of claim 15, further comprising computing the length of the stent and determining the type of the stent based on the length of the stent.

17. The method of claim 15, further comprising computing the number of end crowns at least one of the stent ends and determining the type of the stent based on the number of end crowns.

18. The method of claim 15, further comprising determining the types of end crowns at least one of the stent ends and determining the type of the stent based on the types of end crowns.

19. The method of claim 15, further comprising: determining the types of end crowns at least one of the stent ends; computing the length of the stent; and determining the type of the stent based on the types of end crowns and the length of the stent.

20. The method of claim 1, wherein the digital image includes the entire outer surfaces of the stent ends.

21. The method of claim 20, further comprising determining the orientation of the stent from the digital image of the stent support and stent.

22. The method of claim 21, wherein the step of determining the orientation of the stent includes examining the end crown types at least one stent end.

23. The method of claim 20, further comprising determining the type of the stent from the digital image of the stent support and stent.

24. The method of claim 23, further comprising computing the length of the stent and determining the type of the stent based on the length of the stent.

25. The method of claim 23, further comprising determining the number of end crowns at least one of the stent ends and determining the type of the stent based on the number of end crowns.

26. The method of claim 23, further comprising determining the types of end crowns at least one of the stent ends and determining the type of the stent based on the types of end crowns.

27. The method of claim 23, further comprising: determining the types of end crowns at least one of the stent ends; computing the length of the stent; and determining the type of the stent based on the types of end crowns and the length of the stent.

28. The method of claim 1, further comprising: supporting a free end of the core element so that the core element and the first support element are substantially coaxial.

29. A device for aligning a stent with a stent support, comprising: a stent support receptacle for receiving a first support element of a stent support to position the stent support in a vertical position; a digital imaging device for imaging a stent mounted on the stent support; a computer connected to the digital imaging device for receiving a digital image of the stent support and the stent mounted thereon, wherein the computer computes the position of an upper end of the stent from the digital image of the stent support and the stent mounted thereon and computes a desired position of a second support element of the stent support based on the position of the stent's upper end; and a positioning device for moving the second support element to the desired position.

30. The device of claim 29, further comprising: a core element support for supporting a free end of a core element of the stent support so that the core element and the first support element are substantially coaxial.

DISPLAY BIB.EX

ANSWER 1 OF 1 USPAT2 on STN

-- Latest Publication -- (GRANTED - B2)

AN 2008:355896 USPAT2 Full-text
TI Method and device for aligning a stent with a stent support
IN Park, Sang joon, Waterloo, CANADA
Choo, Shaulaine, Cambridge, CANADA
Andreacchi, Anthony S., San Jose, CA, UNITED STATES
Chen, Yung-Ming, Cupertino, CA, UNITED STATES
Currlin, Arnoldo M., San Diego, CA, UNITED STATES
Garcia, Antonio, San Jose, CA, UNITED STATES
Van Sciver, Jason, Los Gatos, CA, UNITED STATES

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       Esbeck, Thomas David, Murrieta, CA, UNITED STATES
       Glenn, Bryan D., Murrieta, CA, UNITED STATES
PA     Abbott Cardiovascular Systems Inc., Santa Clara, CA, UNITED STATES (U.S.
       corporation)
       ATS Automation Tooling Systems Inc., Ontario, CANADA (non-U.S.
       corporation)
UO     ATS CORPORATION; ABBOTT LABORATORIES INC
UOS    ATS Automation; Abbott Laboratories
PI     US 7606625          B2  20091020
AI     US 2007-764015          20070615 (11)
DT     Utility
FS     GRANTED
EXNAM  Primary Examiner: Patel, Ramesh B
LREP   Squire, Sanders & Dempsey, L.L.P.
CLMN   Number of Claims: 30
ECL    Exemplary Claim: 1
DRWN   17 Drawing Figure(s); 16 Drawing Page(s)
LN.CNT 921
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

   -- Original Publication --  (APPLICATION - A1)

AN     2008:355896  USPATFULL  Full-text
TI     METHOD AND DEVICE FOR ALIGNING A STENT WITH A STENT SUPPORT
IN     Park, Sang joon, Waterloo, CANADA
       Choo, Shaulaine, Cambridge, CANADA
       Andreacchi, Anthony S., San Jose, CA, UNITED STATES
       Chen, Yung-Ming, Cupertino, CA, UNITED STATES
       Currlin, Arnoldo M., San Diego, CA, UNITED STATES
       Garcia, Antonio, San Jose, CA, UNITED STATES
       Van Sciver, Jason, Los Gatog, CA, UNITED STATES
       Esbeck, Thomas David, Murrieta, CA, UNITED STATES
       Glenn, Bryan D., Murrieta, CA, UNITED STATES
UO     ATS CORPORATION; ABBOTT LABORATORIES INC
UOS    ATS Automation; Abbott Laboratories
PI     US 20080312728      A1  20081218
       US 7606625          B2  20091020
AI     US 2007-764015      A1  20070615 (11)
DT     Utility
FS     APPLICATION
LREP   SQUIRE, SANDERS & DEMPSEY LLP, 1 MARITIME PLAZA, SUITE 300, SAN
       FRANCISCO, CA, 94111, US
CLMN   Number of Claims: 30
ECL    Exemplary Claim: 1
DRWN   16 Drawing Page(s)
LN.CNT 916
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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DISPLAY SPP

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L2   ANSWER 1 OF 430  USPAT2 on STN
AN     2019:103873  USPAT2 Full-text
TI     Lettuce cultivar M8515
IN     Sousa, Douglas Alan, Hollister, CA, UNITED STATES
PA     MISSION RANCHES COMPANY, LLC, King City, CA, UNITED STATES (U.S.
       corporation)
UO     ATS CORPORATION; ABBOTT LABORATORIES INC
UOS    ATS Automation; Abbott Laboratories
PI     US 10292355         B2  20190521
AI     US 2017-15715360        20170926 (15)
DT     Utility
FS     GRANTED
LN.CNT 1743
CPC    CPCI   A01H0005-12 [I]; A01H0006-1472 [I]
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       CPCI-2 A01H0005-12 [I]; A01H0006-1472 [I]
IPC    IPCI   A01H0005-12 [I]; A01H0001-02 [I]; C12N0015-82 [I]
       IPCI-2 A01H0005-12 [I]; A01H0006-14 [I]
       IPCR   A01H0005-12 [I]; A01H0006-14 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
PPAK
     100-47-0D, Benzonitrile, Pg 16
     108-94-1D, Cyclohexanone, Pg 16
     290-87-9D, Triazine, Pg 16
     30581-70-5D, Cyclohexanedione, Pg 16
     35724-27-7D, Pg 16
     38669-41-9D, Phenoxypropionic acid, Pg 16
     9013-03-0, Nitrate reductase, Pg 17
     1071-83-6, Glyphosate, Pg 16
     1918-00-9, Dicamba, Pg 16
     35597-44-5, L-Phosphinothricin, Pg 16
     51276-47-2, Glufosinate, Pg 16
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