





طبقه‌بندی بین‌المللی اسناد اختراع

مهارت ۴ - سطح ۲

ارائه دهنده: محسن جمشیدی شفق

اردیبهشت ۱۴۰۴



s of America

Number

Date

Number

Date

er

مفهوم اولویت در تخصیص
کدها

Kind

B60P 1/20

G05D 1/02

B60P 1/32

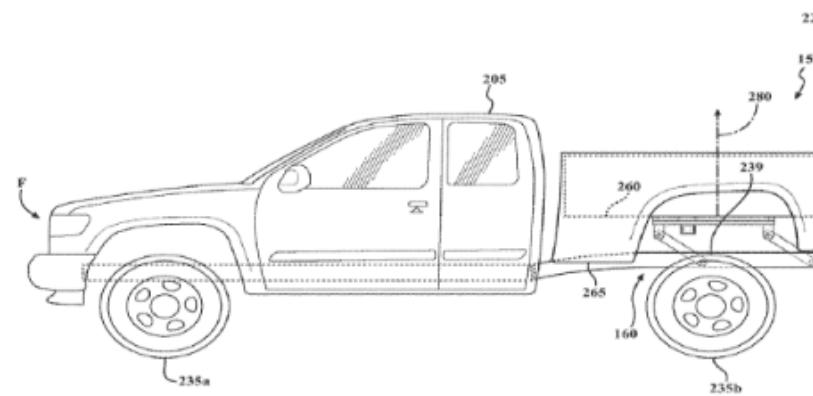
B60P 1/34

B60Y 2200/16

Engineering & Manufacturing North

Title

[EN] Rotatable bed for a pickup truck



Abstract

[EN]

A pickup truck can include a bed that is configured to be rotatable. The bed can be configured by a first side wall, a second side wall, a front wall, a back wall, and a floor. The standard position in which the first and second side walls of the bed can be substantially in a longitudinal direction of the pickup truck. The bed can be selectively rotated into one or more rotated positions. In a rotated position, the first and second side walls can be angled relative to the longitudinal direction. The bed can also be raised in a vertical direction such that a lowermost point of the bed is located above a chassis of the truck. A rotatable bed can expand its uses and allow for convenient access to a desired position.



**When classified in the full IPC:
Int.Cl.**

B28B 5/00 (2006.01)

H04H 20/12 (2008.01)

H01H 33/65 (2009.01)

Where:

B28B 5/00 indicates invention information (bold font style) classified in the full IPC (italics font style);

H04H 20/12 indicates invention information (bold font style) classified in the full IPC (italics font style);

H01H 33/65 indicates additional information (regular font style, i.e., non-bold) classified in the full IPC (italics font style).



برای طبقه بندی به چه اطلاعاتی نیاز خواهید داشت؟

- مشکل فنی
- راه حلی که از طریق اختراع ارائه شده است
- زمینه فنی اختراع
- کلمات کلیدی فنی



انواع روش های طبقه بندی

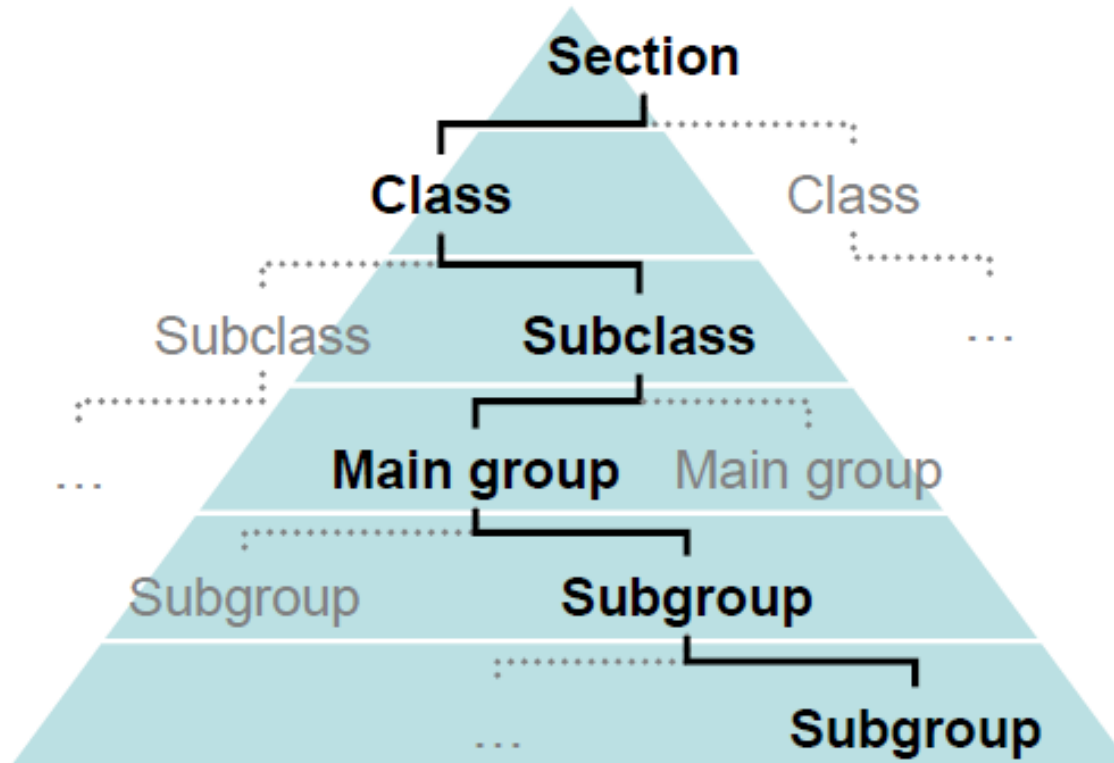
- روش نظام مند یا Systematic
- روش عملگرایانه یا Pragmatic
- روش آماری یا Statistical
- استفاده از شاخص کلمات کلیدی Catchword Index
- استفاده از امکانات زبان شناختی پایگاه های داده
- بهره گیری از تعاریف سیستم IPC و CPC



Systematic

طبقه بندی اختراع

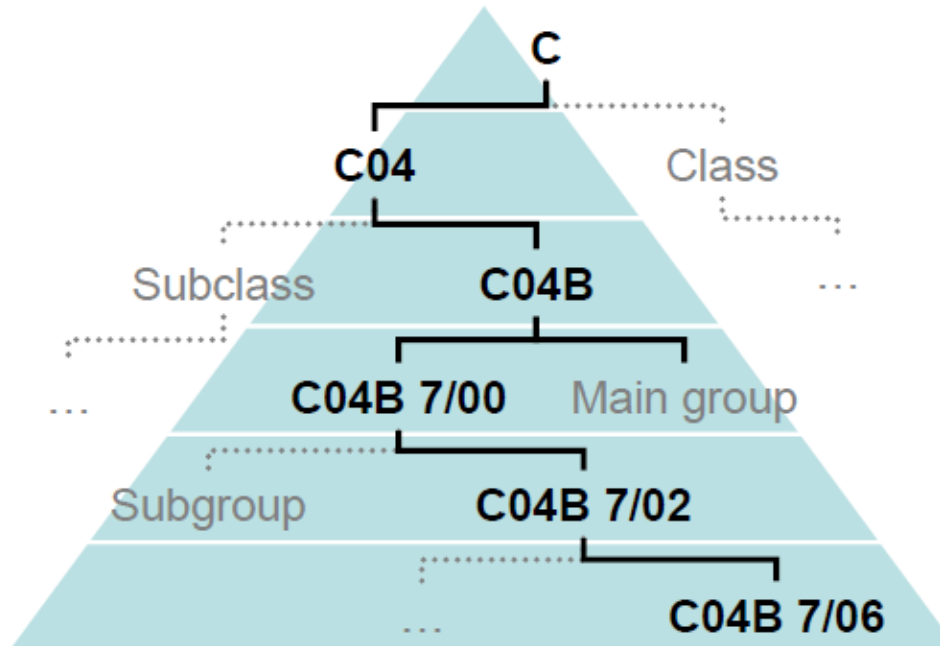
روش نظام مند



Systematic

طبقه بندی اختراع

روش نظام مند



Systematic

طبقه بندی اختراع

روش نظام مند

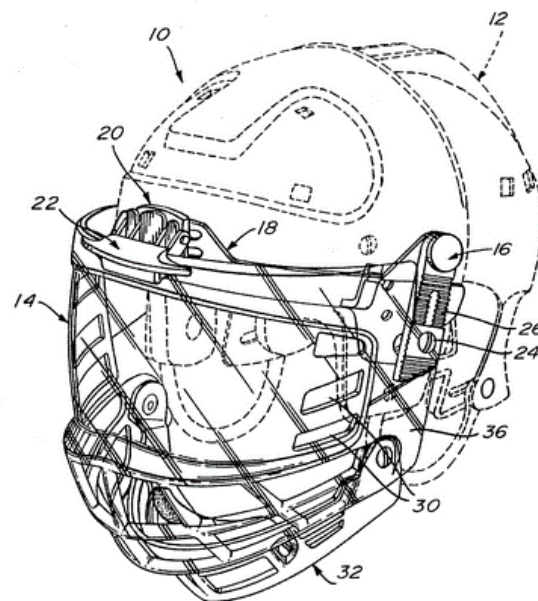


FIG. 1

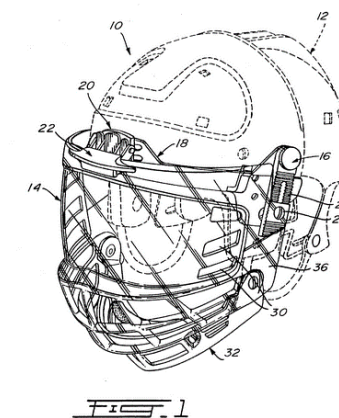


Systematic

طبقه بندی اختراع

روش نظام مند

	-	A	HUMAN NECESSITIES
			<u>PERSONAL OR DOMESTIC ARTICLES</u>
	-	A42	HEADWEAR
	-	A42B	HATS; HEAD COVERINGS (headbands A41D 20/00; head-scarves A41D 23/00)
D	-	A42B 3/00	Helmets; Helmet covers (defence protection helmets F41H 1/04) [2006.01]
	-	A42B 3/04	• Parts, details or accessories of helmets [2006.01]
		A42B 3/06	• • Impact-absorbing shells, e.g. of crash helmets [2006.01]
		A42B 3/08	• • Chin straps or similar retention devices [2006.01]
	+	A42B 3/10	• • Linings (A42B 3/16 takes precedence) [2006.01]
		A42B 3/16	• • Ear protection devices [2006.01]
	-	A42B 3/18	• • Face protection devices [2006.01]
		A42B 3/20	• • • Face guards, e.g. for ice hockey (A42B 3/22 takes precedence) [2006.01]
	+	A42B 3/22	• • • Visors [2006.01]
		A42B 3/28	• • Ventilating arrangements (A42B 3/24 takes precedence) [2006.01]
D		A42B 3/30	• • Mounting radio sets or communication systems [2006.01]



Systematic

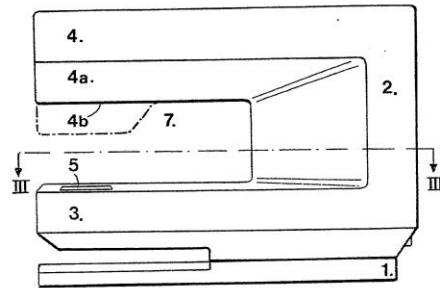
طبقه بندی اختراع

تمرین:

یک گروه اصلی برای بدنه چرخ خیاطی پیدا کنید.

چرخ خیاطی: Sewing Machine

CH 677 120 A5









Systematic

طبقه بندی اختراع

تمرین:

یک گروه اصلی برای بدنه چرخ خیاطی پیدا کنید.

چرخ خیاطی: Sewing Machine

Scheme	RCL	Compilation	Catchwords	Search
	D		TEXTILES; PAPER	
			<u>TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR</u>	
	D05		SEWING; EMBROIDERING; TUFTING	
		D05B	SEWING (appliances for the tailoring trade A41H; sewing tables A47B 29/00; sewing in bookbinding B42B 2/00; sewing machines modified for knitting D04B 39/08)	
		D05B 73/00	Casings for sewing machines [2006.01]	
		D05B 73/02	• Upper casings [2006.01]	
		D05B 73/04	• Lower casings [2006.01]	



Systematic

طبقه بندی اختراع

تمرین:

یک تکنولوژی که در طراحی یک پیانوی ایستاده به کار رفته را با چه کدی طبقه بندی می نمایید؟

	-	G	PHYSICS
	-	G10	MUSICAL INSTRUMENTS; ACOUSTICS
D	-	G10C	PIANOS, HARPSICHORDS, SPINETS OR SIMILAR STRINGED MUSICAL INSTRUMENTS WITH ONE OR MORE KEYBOARDS (automatic musical instruments G10F)
	-	G10C 1/00	General design of pianos, harpsichords, spinets or similar stringed musical instruments with one or more keyboards [2006.01]
		G10C 1/02	• of upright pianos [2006.01]



Systematic

طبقه بندی اختراع

تمرین:

یک تکنولوژی که در طراحی یک پیانوی ایستاده به کار رفته را با چه کدی طبقه بندی می نمایید؟

	—	G	PHYSICS
	—	G10	MUSICAL INSTRUMENTS; ACOUSTICS
D	—	G10C	PIANOS, HARPSICHORDS, SPINETTS OR SIMILAR STRINGED MUSICAL INSTRUMENTS WITH ONE OR MORE KEYBOARDS (automatic musical instruments G10F)
A	—	G10C 3/00	Details or accessories [2019.01]
A	—	G10C 3/16	• Actions [2019.01]
	—	G10C 3/161	• • specially adapted for upright pianos [2019.01]
		G10C 3/163	• • • the action being mounted in a plane below the keyboard [2019.01]



Systematic

طبقه بندی اختراع

روش نظام مند

مزایا و معایب

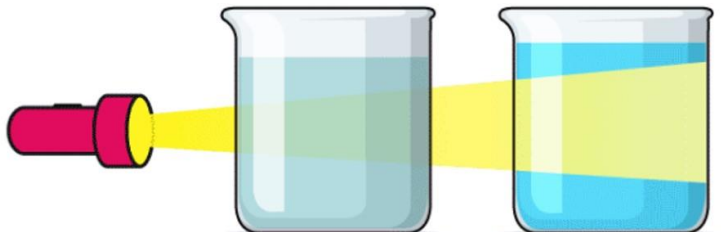


Pragmatic

طبقه بندی اختراع

روش عملگرایانه

- اختراعاتی که در متن اختراع به آنها ارجاع شده است
- اختراعاتی که قبلا از همین مخترع منتشر شده اند
- استفاده از ابزارهای پایگاه های داده



روش عملگراییانه

- استفاده از ابزارهای تحلیلی پایگاه PATENTSCOPE

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[Detailed coverage information](#)

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Field
Front Page

Search terms...
electrospinning



[Query Examples](#)



روش عملگرایانه

- استفاده از ابزارهای تحلیلی پایگاه PATENTSCOPE

FP:(electrospinning)

6,321 results Offices all Languages en Stemming true Single Family Member false Include NPL false

Sort: Relevance ▼ Per page: 10 ▼ View: All ▼ < 1 / 633 > Machine translation ▼

1. **1020150024034** CORE-SHELL FILLER AND MANUFACTURING METHOD THEREOF KR - 06.03.2015

Int.Class B22F 9/04 ⓘ Appl.No 1020130100956 Applicant 주식회사 동진세미켐 Inventor LEE, CHONG CHAN

Disclosed is a method for manufacturing a core-shell filler with a dual structure of a metallic core and a carbon fiber shell in an **electrospinning** device including a dual nozzle. The method for manufacturing a core-shell filler includes: [a] a step of manufacturing a polyacrylonitrile solution for **electrospinning**; [b] a step of manufacturing a metallic solution for **electrospinning**; [c] a step of injecting the polyacrylonitrile solution for **electrospinning** and the metallic solution for **electrospinning** into a dual nozzle of a **electrospinning** device; [d] a step of manufacturing a composite fiber with a core-shell structure by **electrospinning** the polyacrylonitrile solution for **electrospinning** and the metallic solution for **electrospinning** by **electrospinning**; and [e] a step of manufacturing a core-shell filler made of metal and carbon fiber by breaking the composite fiber with the core-shell structure. COPYRIGHT KIPO 2015

2. **1020170096787** 나노섬유 제조장치 및 나노섬유의 제조방법 KR - 25.08.2017



روش عملگرایانه

- استفاده از ابزارهای تحلیلی پایگاه PATENTSCOPE

ANALYSIS

Close

Filters Charts

Countries		Applicants		Inventors		IPC code		Publication Dates	
China	2,184	FINETEX ENE INC	172	PARK, JONG CHEOL	180	D01D	2,879	2013	297
Republic of Korea	1,137	AMOGREENTECH CO LTD	132	YU WENSHENG	39	D04H	1,895	2014	381
United States of America	945	NATIONAL DONG HWA UNIVERSITY	85	CHOI, YOUNG MIN	37	D01F	1,580	2015	374
PCT	788	KAO CO	81	WANG JINXIAN	37	A61L	894	2016	425
Japan	398	CORNELL UNIVERSITY	48	CHO, YOUNG JUN	38	H01M	842	2017	590
European Patent Office	353	INDUSTRIAL COOPERATION FOUNDATION CHONBUK NATIONAL UNIVERSITY	43	DONG XIANGTING	38	B01D	570	2018	754
India	133	QINGDAO UNIVERSITY	42	KIM, HAK YONG	38	A61K	407	2019	831
Australia	79	HYOSUNG CO	40	KIM, HYUN SOO	38	A61F	388	2020	529
Canada	68	KABUSHIKI KAISHA TOSHIBA	40	LEE, NA RI	38	D06M	332	2021	438
Russian Federation	38	KOREA INSTITUTE OF SCIENCE AND TECH	40	YOON, CHEOL SOO	38	B32B	320	2022	115



روش عملگرایانه

- استفاده از ابزارهای تحلیلی پایگاه PATENTSCOPE

—	D	TEXTILES; PAPER
		<u>TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR</u>
—	D01	NATURAL OR MAN-MADE THREADS OR FIBRES: SPINNING
⚠	—	D01D MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF MAN-MADE FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS (working or processing of metal wire B21F; fibres or filaments of softened glass, minerals or slag C03B 37/00)
+	D01D 1/00	Treatment of filament-forming or like material (working of plastics or substances in a plastic state, in general B29) [2006.01]
+	D01D 4/00	Spinnerette packs; Cleaning thereof (D01D 5/24, D01D 5/253, D01D 5/28 take precedence) [2006.01]
+	D01D 5/00	Formation of filaments, threads, or the like [2006.01]
+	D01D 7/00	Collecting the newly-spun products (collecting newly-spun products with the imparting of twist D01H) [2006.01]
+	D01D 10/00	Physical treatment of man-made filaments or the like during manufacture, i.e. during a continuous production process before the filaments have been collected (finishing D02J) [2006.01]
+	D01D 11/00	Other features of manufacture [2006.01]
+	D01D 13/00	Complete machines for producing man-made threads [2006.01]



روش عملگرایانه

- استفاده از ابزارهای تحلیلی پایگاه PATENTSCOPE

FIELD COMBINATION ▼

		Field Front Page	▼	Value	?
Operator AND	▼	Field English Title	▼	Value electrospinning	?
Operator AND	▼	Field Application Number	▼	Value	?
Operator AND	▼	Field Publication Date	▼	Value	?
Operator AND	▼	Field English Title	▼	Value	?



روش عملگراییانه

- استفاده از ابزارهای تحلیلی پایگاه PATENTSCOPE

1,685 results Offices all Languages en Stemming true Single Family Member false Include NPL false

Sort: Relevance ▼ Per page: 10 ▼ View: All ▼ 1 / 169 > Machine translation ▼

1. **202114031681** ELECTROSPINNING HEAD, ELECTROSPINNING APPARATUS, AND ELECTROSPINNING METHOD IN - 25.02.2022

Int.Class **D01D /** ?

Appl.No 202114031681 Applicant KABUSHIKI KAISHA TOSHIBA Inventor Masahiro Tokoh

According to an embodiment, an electrospinning head includes a head main body, a plurality of flow paths and an ejection unit. The head main body is made from a material having electrically insulating properties, and an inner hollow to which an electrified material liquid is supplied is formed inside of the head main body. Each flow path extends from the inner hollow toward an outer peripheral side. In each flow path, an ejection port capable of ejecting a material liquid is formed at an end opposite to the inner hollow. In the ejection unit, ejection ports of the flow paths are located, and the ejection unit is formed on an outer periphery of the head main body such that a single flat surface or a single curved surface extends across the ejection ports of the flow paths.

2. **2008179916** ELECTROSPINNING APPARATUS AND ELECTROSPINNING METHOD JP - 07.08.2008

Int.Class **D01D 5/04** ?

Appl.No 2007014693 Applicant TOYOTA BOSHOKU CORP Inventor FUJITO RIRI

23

2. JP2008179916 - ELECTROSPINNING APPARATUS AND ELECTROSPINNING METHOD

National Biblio. Data Full Text Documents

PermaLink Machine translation ▼

Office

Japan

Application Number

2007014693

Application Date

25.01.2007

Publication Number

2008179916

Publication Date

07.08.2008

Grant Number

4831350

Grant Date

30.09.2011

Publication Kind

B2

IPC

D01D 5/04

D04H 1/72

Title

[EN] ELECTROSPINNING APPARATUS AND ELECTROSPINNING METHOD

[JA] 電界紡糸方法

Abstract

[EN]

PROBLEM TO BE SOLVED: To provide an electrospinning method and an electrospinning apparatus capable of properly spinning an ultra-fine fiber even from a polymer solution containing a solvent having a high boiling point.

SOLUTION: A polymer solution 14 is ejected from a needle 15 at the end of a storage case 13 toward a collector 12 to perform the spinning of the polymer by the electric potential difference. The collector 12 is provided with a heater 18 to heat a collecting face of the spinning substrate 21 to a temperature not lower than the boiling point of the solvent of the polymer solution 14.

COPYRIGHT: [C]2008,JP0&INPIT

[JA]

【課題】高沸点溶媒を使用したポリマ溶液であっても、極細繊維を適切に紡糸できる電界紡糸方法及び電界紡糸装置を提供する。

【解決手段】貯留ケース13の先端のニードル15からコレクタ12に向かってポリマ溶液14を射出することにより、電位差に基づいて紡糸を行うように構成する。コレクタ12には、紡糸基材21の捕集面をポリマ溶液14の溶媒の沸点以上の温度に加熱するためのヒータ18を設ける。

【選択図】図1



Pragmatic

طبقه بندی اختراع

روش عملگرایانه

D01D 5/04

PDF

English version
French version
English/French

Path view
Full view
Hierarchic view
Maingroup view

Tree view
CPC FI
Deleted entries

—	D	TEXTILES; PAPER
<u>TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR</u>		
—	D01	NATURAL OR MAN-MADE THREADS OR FIBRES; SPINNING
—	D01D	MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF MAN-MADE FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS (working or processing of metal wire B21F; fibres or filaments of softened glass, minerals or slag C03B 37/00)
—	D01D 5/00	Formation of filaments, threads, or the like [2006.01]
	D01D 5/02	• Starting the formation [2006.01]
	D01D 5/04	• Dry spinning methods [2006.01]
	D01D 5/06	• Wet spinning methods [2006.01]
+	D01D 5/08	• Melt-spinning methods [2006.01]
	D01D 5/11	• Flash-spinning [2006.01]
+	D01D 5/12	• Stretch-spinning methods (finishing by stretching D02J 1/22) [2006.01]
	D01D 5/18	• by means of rotating spinnerets [2006.01]



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طبقه بندی اختراع

روش عملگرایانه

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2022.01 Version

type an IPC Symbol

D01D 5/04

PDF

English version
French version
English/French

Path view
Full view
Hierarchic view
Maingroup view

Tree view

☒ CPC ☐ FI

IPCUIR v9.3

—	D	TEXTILES; PAPER
		TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR
—	D01	NATURAL OR MAN-MADE THREADS OR FIBRES; SPINNING
⚠	—	D01D MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF MAN-MADE FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS (working or processing of metal wire B21F; fibres or filaments of softened glass, minerals or slag C03B 37/00)
—	C	D01D 5/00 Formation of filaments, threads, or the like [2006.01]
	D01D 5/0007	• Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)
	D01D 5/0015	• • characterised by the initial state of the material
	D01D 5/0023	• • • the material being a polymer melt
	D01D 5/003	• • • the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)
	D01D 5/0038	• • • • the fibre formed by solvent evaporation, i.e. dry electro-spinning
	D01D 5/0046	• • • • the fibre formed by coagulation, i.e. wet electro-spinning
	D01D 5/0053	• • • the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-assembly
	D01D 5/0061	• • characterised by the electro-spinning apparatus
	D01D 5/0069	• • • characterised by the spinning section, e.g. capillary tube, protrusion or pin
	D01D 5/0076	• • • characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid (D01D 5/0046 takes precedence)
	D01D 5/0084	• • • • Coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but remain integral with it, e.g. coating of prostheses
	D01D 5/0092	• • • characterised by the electrical field, e.g. combined with a magnetic fields, using biased or alternating fields



Systematic

طبقه بندی اختراع

روش عملگرایانه

مزایا و معایب

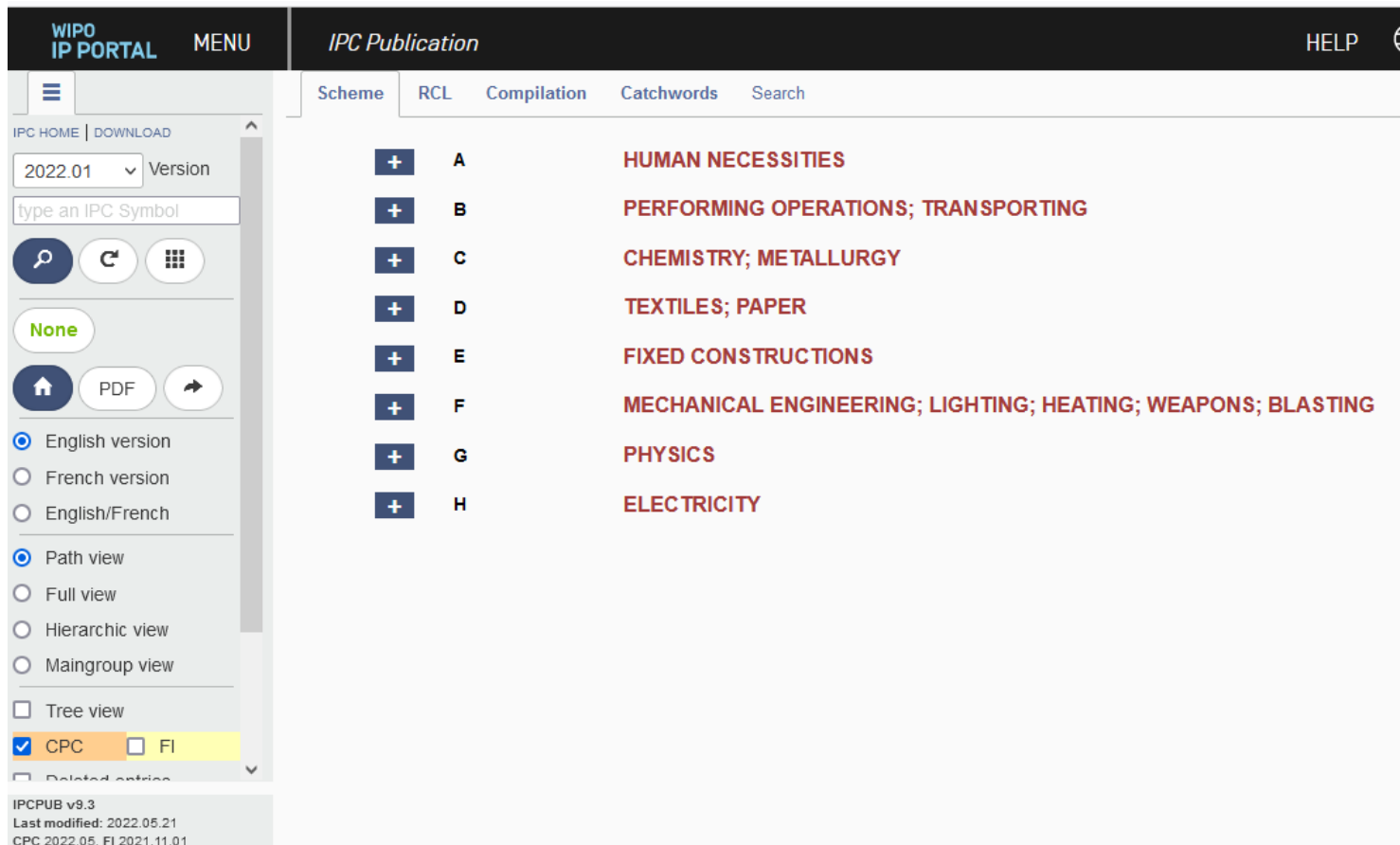


IPC (International Patent Classification)

طبقه بندی اختراع

<https://ipcpub.wipo.int>

استفاده از ابزارهای پرتال WIPO



The screenshot shows the WIPO IP Portal interface for IPC Publication. The top navigation bar includes 'WIPO IP PORTAL', 'MENU', 'IPC Publication', 'HELP', and a globe icon. Below the navigation bar, there are tabs for 'Scheme', 'RCL', 'Compilation', 'Catchwords', and 'Search'. The main content area displays a list of IPC classes (A through H) with their corresponding titles in red text. The left sidebar contains various filters and options, including a version selector (2022.01), a search bar, and radio buttons for language (English, French) and view (Path, Full, Hierarchic, Maingroup, Tree). At the bottom, there are checkboxes for 'CPC' (checked) and 'FI', and a footer with version information (IPCPUB v9.3, Last modified: 2022.05.21, CPC 2022.05, FI 2021.11.01).

Class	Title
A	HUMAN NECESSITIES
B	PERFORMING OPERATIONS; TRANSPORTING
C	CHEMISTRY; METALLURGY
D	TEXTILES; PAPER
E	FIXED CONSTRUCTIONS
F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	PHYSICS
H	ELECTRICITY

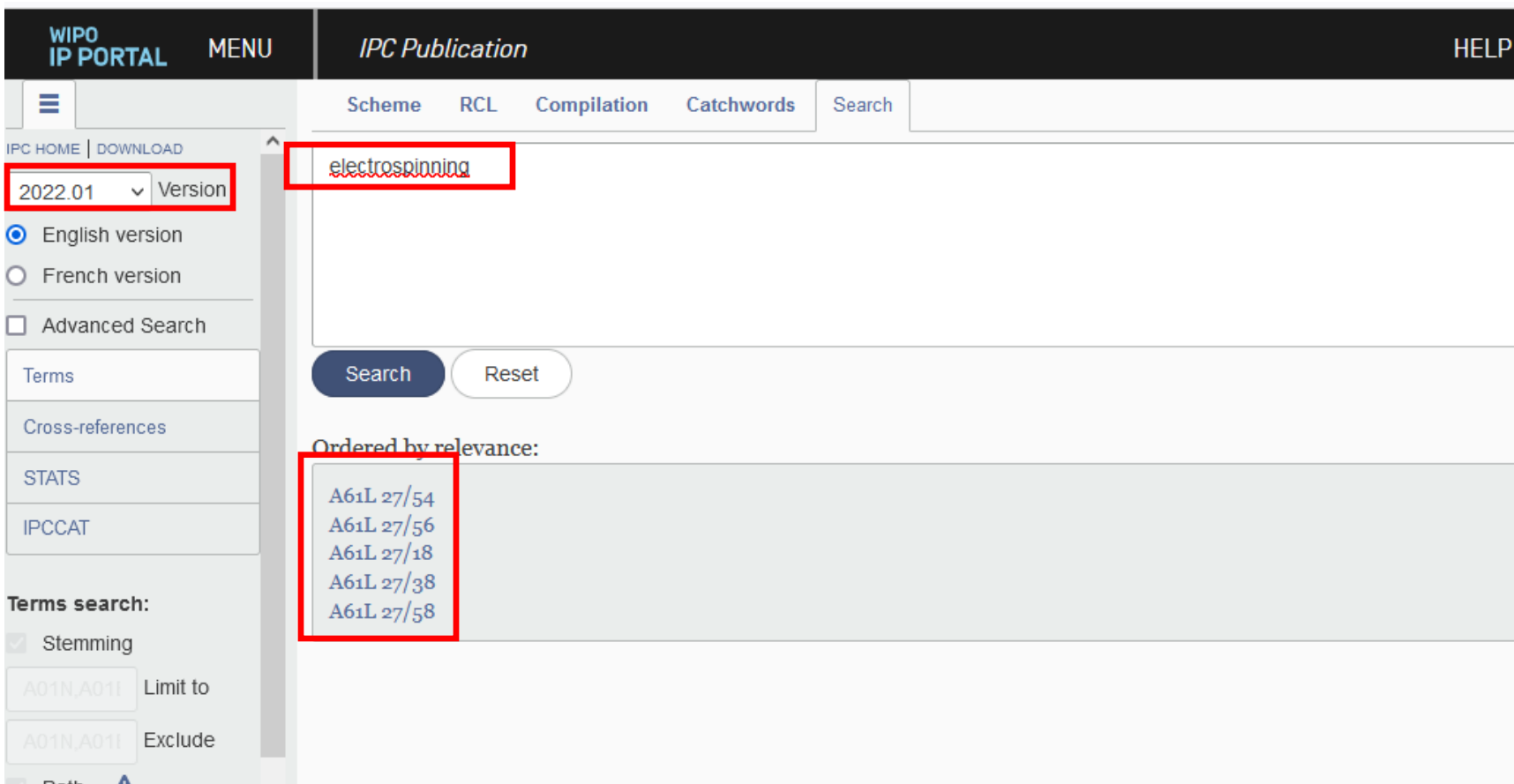


IPC (International Patent Classification)

طبقه بندی اختراع

<https://ipcpub.wipo.int>

استفاده از ابزارهای پرتال WIPO



The screenshot shows the WIPO IP Portal search interface. The top navigation bar includes 'WIPO IP PORTAL', 'MENU', 'IPC Publication', and 'HELP'. Below this, there are tabs for 'Scheme', 'RCL', 'Compilation', 'Catchwords', and 'Search'. The search input field contains the text 'electrospinning'. To the left of the search field, there is a dropdown menu for 'Version' set to '2022.01', and radio buttons for 'English version' (selected) and 'French version'. Below these are checkboxes for 'Advanced Search', 'Terms', 'Cross-references', 'STATS', and 'IPCCAT'. At the bottom left, there is a 'Terms search:' section with a checked 'Stemming' option and input fields for 'Limit to' and 'Exclude', both containing 'A01N,A01I'. The search results are displayed under the heading 'Ordered by relevance:' and list the following classifications: A61L 27/54, A61L 27/56, A61L 27/18, A61L 27/38, and A61L 27/58. Red boxes highlight the search input, the version dropdown, the search results list, and the 'Terms search:' section.

WIPO IP PORTAL MENU

IPC Publication HELP

Scheme RCL Compilation Catchwords Search

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2022.01 Version

☒ English version

☐ French version

☐ Advanced Search

Terms

Cross-references

STATS

IPCCAT

Terms search:

☒ Stemming

A01N,A01I Limit to

A01N,A01I Exclude

electrospinning

Search Reset

Ordered by relevance:

A61L 27/54

A61L 27/56

A61L 27/18

A61L 27/38

A61L 27/58



IPC (International Patent Classification)

طبقه بندی اختراع

—	A	HUMAN NECESSITIES
		<u>HEALTH; LIFE-SAVING; AMUSEMENT</u>
—	A61	MEDICAL OR VETERINARY SCIENCE; HYGIENE
D	—	A61L
		METHODS OR APPARATUS FOR STERILISING MATERIALS OR OBJECTS IN GENERAL; DISINFECTION, STERILISATION, OR DEODORISATION OF AIR; CHEMICAL ASPECTS OF BANDAGES, DRESSINGS, ABSORBENT PADS, OR SURGICAL ARTICLES; MATERIALS FOR BANDAGES, DRESSINGS, ABSORBENT PADS, OR SURGICAL ARTICLES (preservation of bodies or disinfecting characterised by the agent employed A01N; preserving, e.g. sterilising, food or foodstuffs A23; preparations for medical, dental or toilet purposes A61K) [4]
—	A61L 27/00	Materials for prostheses or for coating prostheses (dental prostheses A61C 13/00; shape or structure of prostheses A61F 2/00; use of preparations for artificial teeth A61K 6/80; artificial kidneys A61M 1/14) [2006.01]
—	C/F A61L 27/50	• Materials characterised by their function or physical properties [2006.01]
	A61L 27/502	• • Plasticizers
	A61L 27/505	• • Stabilizers
	A61L 27/507	• • for artificial blood vessels (apparatus for applying cells on a blood vessel prosthesis A61F 2/062)
	A61L 27/52	• • Hydrogels or hydrocolloids [2006.01]
	A61L 27/54	• • Biologically active materials, e.g. therapeutic substances [2006.01]
	A61L 27/56	• • Porous or cellular materials [2006.01]
	A61L 27/58	• • Materials at least partially resorbable by the body [2006.01]
	A61L 27/60	• • Materials for use in artificial skin [2006.01]



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Scheme RCL Compilation Catchwords Search

electrospinning

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17	A61L	+
16	D01D	+
15	A61F	+
11	D04H	+
10	A61K	+
10	D01F	+
8	B01D	+
7	H01M	+
6	A61B	+
5	B32B	+

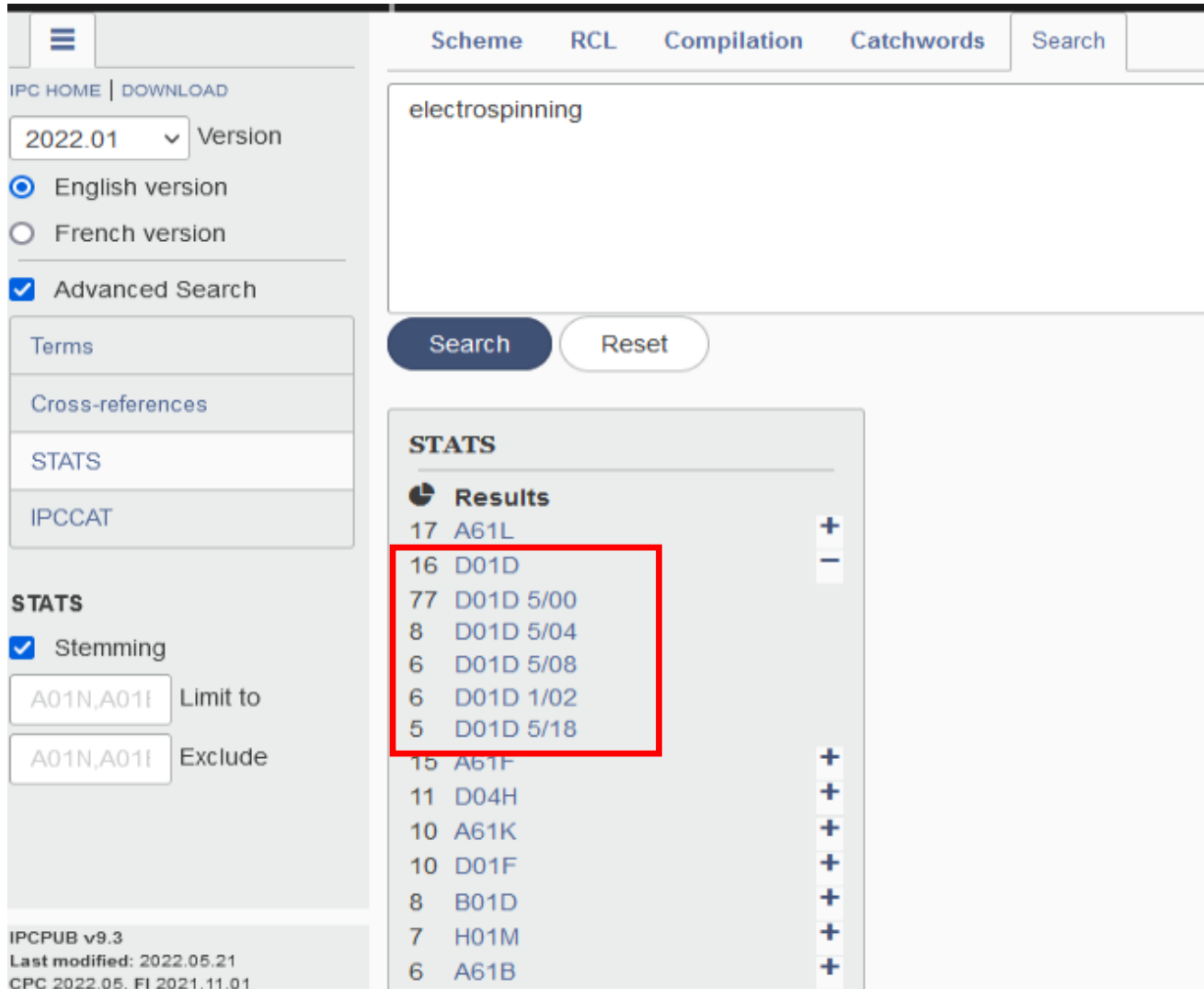
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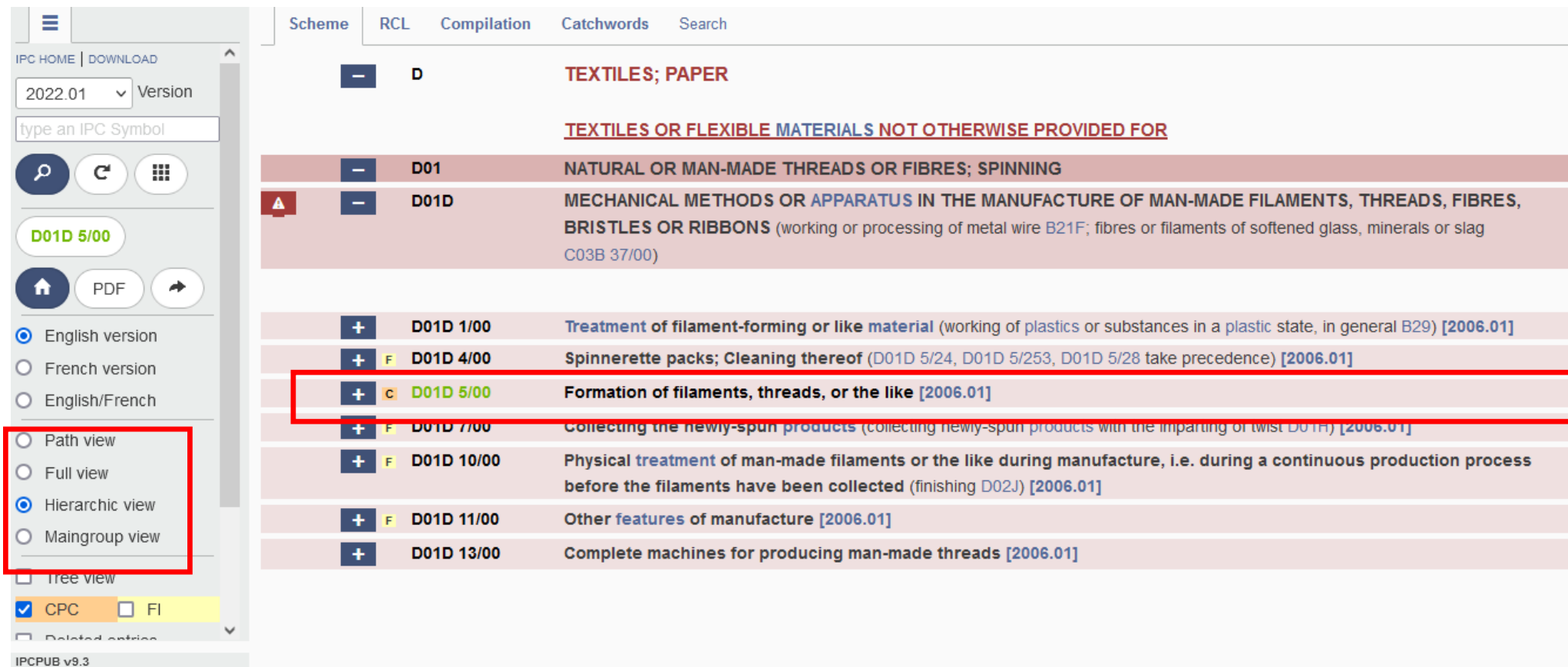
17	A61L	+
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77	D01D 5/00	
8	D01D 5/04	
6	D01D 5/08	
6	D01D 1/02	
5	D01D 5/18	
15	A61F	+
11	D04H	+
10	A61K	+
10	D01F	+
8	B01D	+
7	H01M	+
6	A61B	+



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Scheme RCL Compilation Catchwords Search

- D **TEXTILES; PAPER**
TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

- D01 NATURAL OR MAN-MADE THREADS OR FIBRES; SPINNING
 - D01D MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF MAN-MADE FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS (working or processing of metal wire B21F; fibres or filaments of softened glass, minerals or slag C03B 37/00)

+ D01D 1/00 Treatment of filament-forming or like material (working of plastics or substances in a plastic state, in general B29) [2006.01]
 + F D01D 4/00 Spinnerette packs; Cleaning thereof (D01D 5/24, D01D 5/253, D01D 5/28 take precedence) [2006.01]
 + C D01D 5/00 Formation of filaments, threads, or the like [2006.01]
 + F D01D 7/00 Collecting the newly-spun products (collecting newly-spun products with the imparting of twist D01H) [2006.01]
 + F D01D 10/00 Physical treatment of man-made filaments or the like during manufacture, i.e. during a continuous production process before the filaments have been collected (finishing D02J) [2006.01]
 + F D01D 11/00 Other features of manufacture [2006.01]
 + D01D 13/00 Complete machines for producing man-made threads [2006.01]



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TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

D01

NATURAL OR MAN-MADE THREADS OR FIBRES; SPINNING

D01D

MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF MAN-MADE FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS (working or processing of metal wire B21F; fibres or filaments of softened glass, minerals or slag C03B 37/00)

c D01D 5/00

Formation of filaments, threads, or the like [2006.01]

D01D 5/0007

• Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)

D01D 5/0015

• • characterised by the initial state of the material

D01D 5/0023

• • • the material being a polymer melt

D01D 5/003

• • • the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)

D01D 5/0038

• • • • the fibre formed by solvent evaporation, i.e. dry electro-spinning

D01D 5/0046

• • • • the fibre formed by coagulation, i.e. wet electro-spinning

D01D 5/0053

• • • the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-assembly

D01D 5/0061

• • characterised by the electro-spinning apparatus

D01D 5/0069

• • • characterised by the spinning section, e.g. capillary tube, protrusion or pin

D01D 5/0076

• • • characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid (D01D 5/0046 takes precedence)

D01D 5/0084

• • • • Coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but remain integral with it, e.g. coating of prostheses

D01D 5/0092

• • • characterised by the electrical field, e.g. combined with a magnetic fields, using biased or alternating fields



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☒ Notes

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Scheme	RCL	Compilation	Catchwords	Search
	c	D01D 5/00	Formation of filaments, threads, or the like [2006.01]	
		D01D 5/0007	• Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)	
		D01D 5/0015	• characterised by the initial state of the material	
		D01D 5/0023	• the material being a polymer melt	
		D01D 5/003	• the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)	
		D01D 5/0038	• the fibre formed by solvent evaporation, i.e. dry electro-spinning	
		D01D 5/0046	• the fibre formed by coagulation, i.e. wet electro-spinning	
		D01D 5/0053	• the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-as	
		D01D 5/0061	• characterised by the electro-spinning apparatus	
		D01D 5/0069	• characterised by the spinning section, e.g. capillary tube, protrusion or pin	
		D01D 5/0076	• characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid (D01D 5/0046 takes pr	
		D01D 5/0084	• Coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but re e.g. coating of prostheses	
		D01D 5/0092	• characterised by the electrical field, e.g. combined with a magnetic fields, using biased or alternating fields	
		D01D 5/02	• Starting the formation [2006.01]	
		D01D 5/04	• Dry spinning methods [2006.01]	
		D01D 5/06	• Wet spinning methods [2006.01]	
		D01D 5/08	• Melt-spinning methods [2006.01]	
		D01D 5/11	• Flash-spinning [2006.01]	
		D01D 5/12	• Stretch-spinning methods (finishing by stretching D02J 1/22) [2006.01]	
		D01D 5/14	• with flowing liquid stretching media [2006.01]	
		D01D 5/16	• using rollers, or like mechanical devices, e.g. snubbing pins [2006.01]	
		D01D 5/18	• by means of rotating spinnerets [2006.01]	
		D01D 5/20	• with spinning device along their length [2006.01]	



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SubGr ▾ Classification level

English ▾ Input language

A01N Start From

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electrospinning

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★ Predictions

5 D01D 5/00

5 D04H 1/728

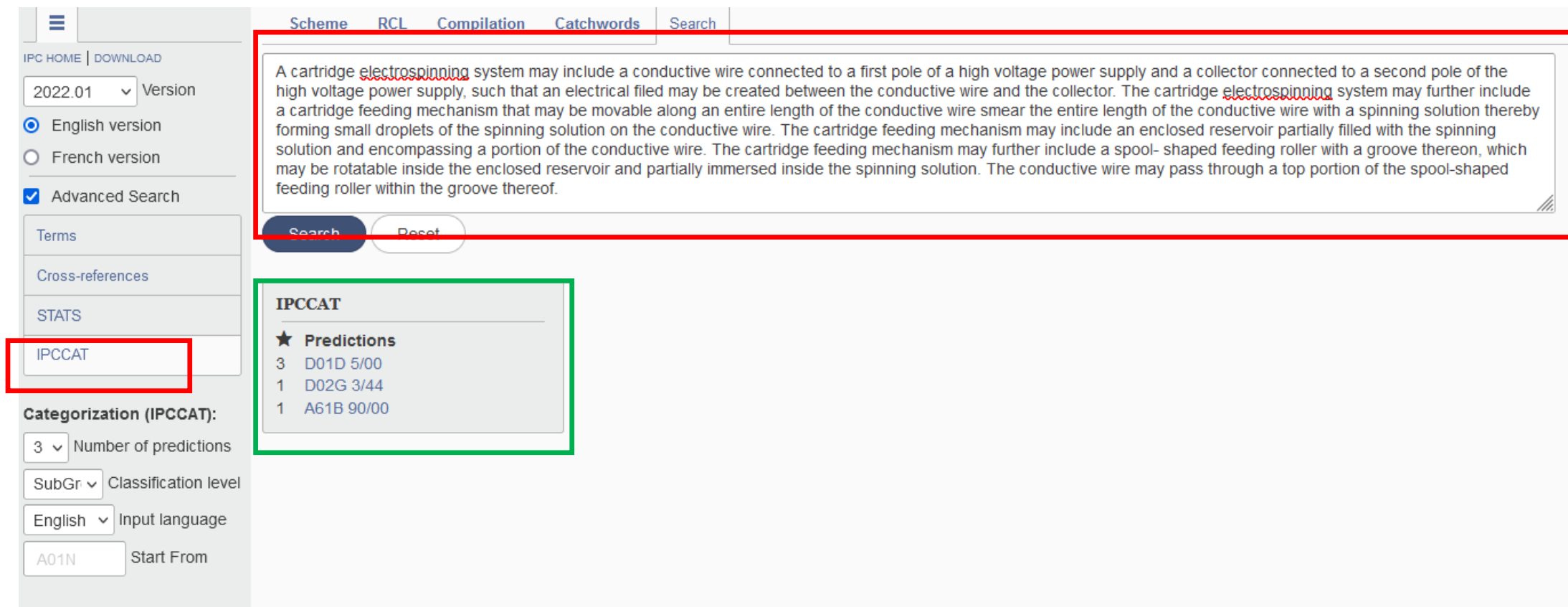
5 D01F 1/10



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3 Number of predictions

SubGr Classification level

English Input language

A01N Start From

Scheme RCL Compilation Catchwords Search

A cartridge electrospinning system may include a conductive wire connected to a first pole of a high voltage power supply and a collector connected to a second pole of the high voltage power supply, such that an electrical field may be created between the conductive wire and the collector. The cartridge electrospinning system may further include a cartridge feeding mechanism that may be movable along an entire length of the conductive wire smear the entire length of the conductive wire with a spinning solution thereby forming small droplets of the spinning solution on the conductive wire. The cartridge feeding mechanism may include an enclosed reservoir partially filled with the spinning solution and encompassing a portion of the conductive wire. The cartridge feeding mechanism may further include a spool-shaped feeding roller with a groove thereon, which may be rotatable inside the enclosed reservoir and partially immersed inside the spinning solution. The conductive wire may pass through a top portion of the spool-shaped feeding roller within the groove thereof.

IPCCAT

★ Predictions

3 D01D 5/00

1 D02G 3/44

1 A61B 90/00



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☐ Scheme references

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Scheme RCL Compilation Catchwords Search

cartridge

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Scheme terms

F42B 8/02

F41A 9/58

A61J 1/06

F02C 7/272

H01H 85/045

H01R 39/41

F42B 5/26

F42B 39/08

H01H 73/60

F42B 33/14

1/13

Prepare copy

Catchword terms

CARTRIDGES

FOZE(S) [for ammunition]

SPIKE(S)

INK(S)

TOBACCO

BOLT(S)

CASE(S)

BELT(S)

Definition terms

A61M 5/24

F02N 13/02

A61M 16/22

F41B 11/56

B60R 21/264

A63F 13/95

A63B 67/18

F41B 11/55

F41B 11/62

F41B 11/682

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Scheme RCL Compilation **Catchwords** Search

CARS

CARS [= vehicles]

see [VEHICLES](#)

control systems for lift CARS [B66B 1/00](#)

mining-hoist CARS [B66B 17/04](#)

CARTON(S)

see also [PAPER B65D 5/00](#)

making CARTON(S) of cardboard [B31B](#)

packaging articles, material or liquids in CARTON(S) [B65B](#), [B65D 5/00](#)

CARTRIDGES

ammunition [CARTRIDGES F42B](#)

[CARTRIDGES](#) containing fire extinguishing material [A62C 19/00](#)

[CARTRIDGES](#) for containing gases [F17C](#)

[CARTRIDGES](#) for impact tools [B25C 1/16](#)

[CARTRIDGES](#) for record carriers [G11B 23/00](#)

[CARTRIDGES](#) for respiratory apparatus [B62B 19/00](#)

film [CARTRIDGES](#) for cameras [G03B 17/26](#)

film [CARTRIDGES](#) for projectors [G03B 21/54](#)

ink [CARTRIDGES B43K 5/14](#), [B43K 7/02](#)

ink-ribbon [CARTRIDGES](#) for typewriters or printers [B41J 32/00](#)

tobacco [CARTRIDGES](#) for pipes [A24B](#), [A24D 1/14](#)

CARTS

hand CARTS



IPC (International Patent Classification)

طبقه بندی اختراع

Scheme	RCL	Compilation	Catchwords	Search
		A61M 5/168	• means for controlling media flow to the body or for metering media to the body, e.g. drip meters, counters [2006.01]	
		A61M 5/172	• • • electrical or electronic [2006.01]	
		A61M 5/175	• • • mechanical [2006.01]	
		A61M 5/178	• Syringes [2006.01]	
		A61M 5/19	• • having more than one chamber [2006.01]	
		A61M 5/20	• • Automatic syringes, e.g. with automatically actuated piston rod, with automatic needle injection, filling automatically (A61M 5/142 takes precedence) [2006.01]	
D		A61M 5/24	• • Ampoule syringes, i.e. syringes with needle for use in combination with replaceable ampoules or cartridges, e.g. automatic [2006.01]	
			Definitions	
			References	
			Informative references	
			Attention is drawn to the following places, which may be of interest for search:	
			Ampoules or cartridges	A61J 1/06
		A61M 5/28	• • Syringe ampoules or cartridges, i.e. ampoules or cartridges provided with a needle [2006.01]	
		A61M 5/30	• • Syringes for injection by jet action, without needle, e.g. for use with replaceable ampoules or cartridges [2006.01]	
		A61M 5/303	• • • Media expelled from injector by explosive charge [2006.01]	
		A61M 5/307	• • • Media expelled from injector by pressurised fluid [2006.01]	
		A61M 5/31	• • Details [2006.01]	



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☒ Include subgroups

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Scheme RCL Compilation Catchwords Search

D01D5/00

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Scheme cross-references

B01D 69/08
B65H
B65H 51/00
D01D
D01D 4/00
D01D 5/24
D01D 5/253
D01D 5/26

Catchword cross-references

CUTTING
FIBRILLATING
FILM(S)
FLASH
MELT SPINNING
STAPLE(S)
STRETCH

Definition cross-references

B01D
B29C 48/00
D03D 15/292
D04H

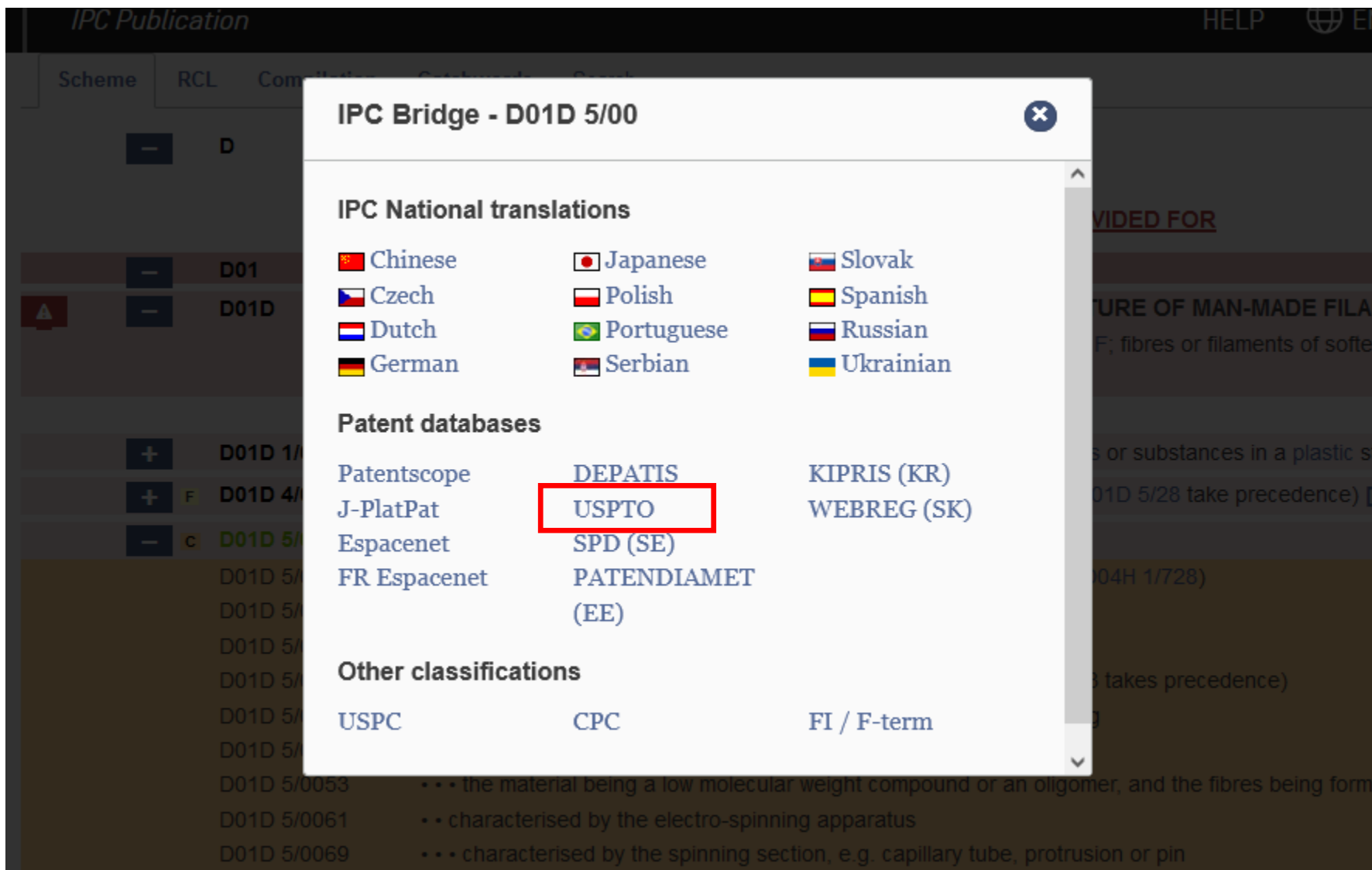
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Patent databases

Patentscope	DEPATIS	KIPRIS (KR)
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FR Espacenet	PATENDIAMET (EE)	

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Next 50 Hits






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PAT. NO.

Title

- 1 [11,345,727](#)  [Composite materials comprising synthetic dragline spider silk](#)
- 2 [11,344,652](#)  [Ionic liquids that sterilize and prevent biofilm formation in skin wound healing devices](#)
- 3 [11,339,503](#)  [Methods and systems for producing beaded polymeric fibers with advanced thermoregulating properties](#)
- 4 [11,337,705](#)  [Polymeric electrospun embolization device and methods of use](#)
- 5 [11,318,227](#)  [Aligned fiber and method of use thereof](#)



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Symbol	Classification and description	
<input type="checkbox"/> A	HUMAN NECESSITIES	
<input type="checkbox"/> B	PERFORMING OPERATIONS; TRANSPORTING	ⓘ
<input type="checkbox"/> C	CHEMISTRY; METALLURGY	ⓘ
<input type="checkbox"/> D	TEXTILES; PAPER	
<input type="checkbox"/> E	FIXED CONSTRUCTIONS	
<input type="checkbox"/> F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING	ⓘ
<input type="checkbox"/> G	PHYSICS	ⓘ
<input type="checkbox"/> H	ELECTRICITY	ⓘ
<input type="checkbox"/> Y	GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS; GENERAL TAGGING OF CROSS-SECTIONAL TECHNOLOGIES SPANNING OVER SEVERAL SECTIONS OF THE IPC; TECHNICAL SUBJECTS COVERED BY FORMER USPC CROSS-REFERENCE ART COLLECTIONS [XRACs] AND DIGESTS	ⓘ

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The screenshot shows the Espacenet Patent search website. At the top, there is a header with the Espacenet logo and navigation links for Deutsch, English, Français, and Contact. Below the header, there is a navigation bar with links for About Espacenet, Other EPO online services, Search, Result list, My patents list (0), Query history, Settings, and Help. The main content area is titled "Cooperative Patent Classification" and features a search bar with the text "electrospinning" entered. To the right of the search bar, there are links for View section, Index, A, B, C, D, E, F, G, H, and Y. Below the search bar, there is a row of icons for navigation and search options, including a back arrow, forward arrow, grid view, list view, a warning icon, an information icon, a CPC icon, a grid icon, a search icon, a zoom icon, and a 2000 icon. On the left side of the search bar, there are links for Smart search, Advanced search, and Classification search. On the bottom left, there is a Quick help link.



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« D01D4/00 D01D7/00 »

Symbol	Classification and description
<div> <input type="checkbox"/> D01D 5/00 </div>	<div> Formation of filaments, threads, or the like </div>
<div> <input type="checkbox"/> D01D 5/0007 </div>	<div> • {Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)} </div>
<div> <input type="checkbox"/> D01D 5/0015 </div>	<div> •• {characterised by the initial state of the material} </div>
<div> <input type="checkbox"/> D01D 5/0023 </div>	<div> ••• {the material being a polymer melt} </div>
<div> <input type="checkbox"/> D01D 5/003 </div>	<div> ••• {the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)} </div>
<div> <input type="checkbox"/> D01D 5/0038 </div>	<div> •••• {the fibre formed by solvent evaporation, i.e. dry electro-spinning} </div>
<div> <input type="checkbox"/> D01D 5/0046 </div>	<div> •••• {the fibre formed by coagulation, i.e. wet electro-spinning} </div>
<div> <input type="checkbox"/> D01D 5/0053 </div>	<div> ••• {the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-assembly} </div>
<div> <input type="checkbox"/> D01D 5/0061 </div>	<div> •• {characterised by the electro-spinning apparatus} </div>
<div> <input type="checkbox"/> D01D 5/0069 </div>	<div> ••• {characterised by the spinning section, e.g. capillary tube, protrusion or pin} </div>
<div> <input type="checkbox"/> D01D 5/0076 </div>	<div> ••• {characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid (D01D 5/0046 takes precedence)} </div>
<div> <input type="checkbox"/> D01D 5/0084 </div>	<div> •••• {Coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but remain integral with it, e.g. coating of prostheses} </div>
<div> <input type="checkbox"/> D01D 5/0092 </div>	<div> ••• {characterised by the electrical field, e.g. combined with a magnetic fields, using biased or alternating fields} </div>



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« D01D4/00 D01D7/00 »

Symbol	Classification and description	
<input type="checkbox"/> D	TEXTILES; PAPER	
TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR		
<input type="checkbox"/> D01	NATURAL OR MAN-MADE THREADS OR FIBRES; SPINNING	
<input type="checkbox"/> D01D	MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF ARTIFICIAL FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS	
<input type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like	
<input type="checkbox"/> D01D 5/0007	•{Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)}	
<input type="checkbox"/> D01D 5/0015	••{characterised by the initial state of the material}	
<input type="checkbox"/> D01D 5/0023	•••{the material being a polymer melt}	
<input type="checkbox"/> D01D 5/003	•••{the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)}	



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« B01D2221/00 B01D2247/00 »

Symbol	Classification and description
★★★★★ <input checked="" type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like
★★★★★ <input type="checkbox"/> D04H 1/00	Non-woven fabrics formed wholly or mainly of staple fibres or like relatively short fibres
★★★★★ <input type="checkbox"/> D01F 6/00	Monocomponent artificial filaments or the like of synthetic polymers; Manufacture thereof
★★★★★ <input type="checkbox"/> D01F 1/00	General methods for the manufacture of artificial filaments or the like
★★★★★ <input type="checkbox"/> A61L 27/00	Materials for {grafts or} prostheses or for coating {grafts or} prostheses (dental prostheses A61C 13/00 ; shape or structure of prostheses A61F 2/00 ; use of preparations for artificial teeth A61K 6/80 ; artificial kidneys A61M 1/14)
★★★★★ <input type="checkbox"/> H01M 4/00	Electrodes
★★★★★ <input type="checkbox"/> B01D 2239/00	Aspects relating to filtering material for liquid or gaseous fluids
★★★★★ <input type="checkbox"/> B01D 39/00	Filtering material for liquid or gaseous fluids
★★★★★ <input type="checkbox"/> A61L 2400/00	Materials characterised by their function or physical properties
★★★★★ <input type="checkbox"/> A61L 2430/00	Materials or treatment for tissue regeneration



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« B01D2221/00 B01D2247/00 »

Symbol	Classification and description
▼ ★★★★★ <input checked="" type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like
▼ ★★★★★ <input type="checkbox"/> D04H 1/00	Non-woven fabrics formed wholly or mainly of staple fibres or like relatively short fibres
▼ ★★★★★ <input type="checkbox"/> D01F 6/00	Monocomponent artificial filaments or the like of synthetic polymers; Manufacture thereof
▼ ★★★★★ <input type="checkbox"/> D01F 1/00	General methods for the manufacture of artificial filaments or the like
▼ ★★★★★ <input type="checkbox"/> A61L 27/00	Materials for {grafts or} prostheses or for coating {grafts or} prostheses (dental prostheses A61C 13/00 ; shape or structure of prostheses A61F 2/00 ; use of preparations for artificial teeth A61K 6/80 ; artificial kidneys A61M 1/14)
▼ ★★★★★ <input type="checkbox"/> H01M 4/00	Electrodes
▼ ★★★★★ <input type="checkbox"/> B01D 2239/00	Aspects relating to filtering material for liquid or gaseous fluids
▼ ★★★★★ <input type="checkbox"/> B01D 39/00	Filtering material for liquid or gaseous fluids
▼ ★★★★★ <input type="checkbox"/> A61L 2400/00	Materials characterised by their function or physical properties
▼ ★★★★★ <input type="checkbox"/> A61L 2430/00	Materials or treatment for tissue regeneration



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☐ 1. CONTROLLABLE ROTARY ELECTROSTATIC SPINNING DEVICE

★ Inventor: XU LAN [CN] XU HUANHUAN [CN]	Applicant: UNIV SOOCHOW [CN]	CPC: <u>D01D5/0069</u> <u>D01D5/0076</u>	IPC: D01D5/00	Publication info: WO2022110684 (A1) 2022-06-02	Priority date: 2020-11-24
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☐ 2. FUNCTIONAL POLYAMIDE 56 FILAMENT AND MANUFACTURING METHOD THEREFOR

★ Inventor: HAO XINMIN [CN] GUO YAFEI [CN] (+3)	Applicant: INSTITUTE OF QUARTERMASTER ENGINEERING & TECH SYSTEMS ENGINEERING INSTITUTE ACADEMY OF MILITARY SCIE [CN]	CPC: <u>D01D1/00</u> <u>D01D5/088</u> <u>D01D5/16</u> (+1)	IPC: D01D1/00 D01D5/088 D01D5/16 (+1)	Publication info: WO2022111040 (A1) 2022-06-02	Priority date: 2020-11-27
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« B01D2221/00 B01D2247/00 »

Symbol	Classification and description
★★★★★ <input checked="" type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like
★★★★★ <input type="checkbox"/> D04H 1/00	Non-woven fabrics formed wholly or mainly of staple fibres or like relatively short fibres
★★★★★ <input type="checkbox"/> D01F 6/00	Monocomponent artificial filaments or the like of synthetic polymers; Manufacture thereof
★★★★★ <input type="checkbox"/> D01F 1/00	General methods for the manufacture of artificial filaments or the like
★★★★★ <input type="checkbox"/> A61L 27/00	Materials for {grafts or} prostheses or for coating {grafts or} prostheses (dental prostheses A61C 13/00; shape or structure of prostheses A61F 2/00; use of preparations for artificial teeth A61K 6/80; artificial kidneys A61M 1/14)
★★★★★ <input type="checkbox"/> H01M 4/00	Electrodes
★★★★★ <input type="checkbox"/> B01D 2239/00	Aspects relating to filtering material for liquid or gaseous fluids
★★★★★ <input type="checkbox"/> B01D 39/00	Filtering material for liquid or gaseous fluids
★★★★★ <input type="checkbox"/> A61L 2400/00	Materials characterised by their function or physical properties
★★★★★ <input type="checkbox"/> A61L 2430/00	Materials or treatment for tissue regeneration



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Title or abstract: ⓘ hair

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Publication number: ⓘ WO2008014520

Application number: ⓘ DE201310112935

Priority number: ⓘ WO1995US15925

Enter one or more dates or date ranges

Publication date: ⓘ 2014-12-31 or 20141231

Enter name of one or more persons/organisations

Applicant(s): ⓘ Institut Pasteur

Inventor(s): ⓘ Smith

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D01D5/low

IPC ⓘ H03M1/12

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« D01D4/00 D01D7/00 »

Symbol	Classification and description
<input type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like
<input type="checkbox"/> D01D 5/0007	• {Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)}
<input type="checkbox"/> D01D 5/0015	•• {characterised by the initial state of the material}
<input type="checkbox"/> D01D 5/0023	••• {the material being a polymer melt}
<input type="checkbox"/> D01D 5/003	••• {the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)}
<input type="checkbox"/> D01D 5/0038	•••• {the fibre formed by solvent evaporation, i.e. dry electro-spinning}
<input type="checkbox"/> D01D 5/0046	•••• {the fibre formed by coagulation, i.e. wet electro-spinning}
<input type="checkbox"/> D01D 5/0053	••• {the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-assembly}
<input type="checkbox"/> D01D 5/0061	•• {characterised by the electro-spinning apparatus}
<input type="checkbox"/> D01D 5/0069	••• {characterised by the spinning section, e.g. capillary tube, protrusion or pin}
<input type="checkbox"/> D01D 5/0076	••• {characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid (D01D 5/0046 takes precedence)}
<input type="checkbox"/> D01D 5/0084	•••• {Coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but remain integral with it, e.g. coating of prostheses}
<input type="checkbox"/> D01D 5/0092	••• {characterised by the electrical field, e.g. combined with a magnetic fields, using biased or alternating fields}
<input type="checkbox"/> D01D 5/02	• Starting the formation
<input type="checkbox"/> D01D 5/04	• Dry spinning methods (D01D 5/0038 takes precedence)
<input type="checkbox"/> D01D 5/06	• Wet spinning methods (D01D 5/0046 takes precedence)
<input type="checkbox"/> D01D 5/08	• Melt spinning methods (D01D 5/0023 takes precedence)



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« D01D4/00 D01D7/00 »

Symbol	Classification and description
<input type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like
<input type="checkbox"/> D01D 5/0007	• {Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)}
<input type="checkbox"/> D01D 5/0015	•• {characterised by the initial state of the material}
<input type="checkbox"/> D01D 5/0023	••• {the material being a polymer melt}
<input type="checkbox"/> D01D 5/003	••• {the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)}
<input type="checkbox"/> D01D 5/0038	•••• {the fibre formed by solvent evaporation, i.e. dry electro-spinning}
<input type="checkbox"/> D01D 5/0046	•••• {the fibre formed by coagulation, i.e. wet electro-spinning}
<input type="checkbox"/> D01D 5/0053	••• {the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-assembly}
<input type="checkbox"/> D01D 5/0061	•• {characterised by the electro-spinning apparatus}
<input type="checkbox"/> D01D 5/0069	••• {characterised by the spinning section, e.g. capillary tube, protrusion or pin}
<input type="checkbox"/> D01D 5/0076	••• {characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid (D01D 5/0046 takes precedence)}
<input type="checkbox"/> D01D 5/0084	•••• Coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but remain integral with it, e.g. coating of prostheses}



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« D01D4/00 D01D7/00 »

Symbol	Classification and description
<input type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like
<input type="checkbox"/> D01D 5/0007	{Electro-spinning (non-woven fabrics produced by electro-spinning D04H 1/728)}
<input type="checkbox"/> D01D 5/0015	{characterised by the initial state of the material}
<input type="checkbox"/> D01D 5/0023	{the material being a polymer melt}
<input type="checkbox"/> D01D 5/003	{the material being a polymer solution or dispersion (D01D 5/0053 takes precedence)}
<input type="checkbox"/> D01D 5/0038	{the fibre formed by solvent evaporation, i.e. dry electro-spinning}
<input type="checkbox"/> D01D 5/0046	{the fibre formed by coagulation, i.e. wet electro-spinning}
<input type="checkbox"/> D01D 5/0053	{the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-assembly}
<input type="checkbox"/> D01D 5/0061	{characterised by the electro-spinning apparatus}
<input type="checkbox"/> D01D 5/0069	{characterised by the spinning section, e.g. capillary tube, protrusion or pin}
<input type="checkbox"/> D01D 5/0076	{characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid (D01D 5/0046 takes precedence)}
<input type="checkbox"/> D01D 5/0084	{coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but remain integral with it, e.g. coating of prostheses}
<input type="checkbox"/> D01D 5/0092	{characterised by the electrical field, e.g. combined with a magnetic fields, using biased or alternating fields}
<input type="checkbox"/> D01D 5/02	Starting the formation



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« D01D4/00 D01D7/00 »

Symbol	Classification and description	
▼ ★★★★★	<input type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like [2013-01]
▼ ★★★★★	<input type="checkbox"/> D04H 1/00	Non-woven fabrics formed wholly or mainly of staple fibres or like relatively short fibres [2013-01]
▼ ★★★★★	<input type="checkbox"/> D01F 6/00	Monocomponent artificial filaments or the like of synthetic polymers; Manufacture thereof [2013-01]
▼ ★★★★★	<input type="checkbox"/> D01F 1/00	General methods for the manufacture of artificial filaments or the like [2013-01]
▼ ★★★★★	<input type="checkbox"/> A61L 27/00	Materials for {grafts or} prostheses or for coating {grafts or} prostheses (dental prostheses A61C 13/00 ; shape or structure of prostheses A61F 2/00 ; use of preparations for artificial teeth A61K 6/80 ; artificial kidneys A61M 1/14) [2020-01]
▼ ★★★★★	<input type="checkbox"/> H01M 4/00	Electrodes [2019-01]
▼ ★★★★★	<input type="checkbox"/> B01D 2239/00	Aspects relating to filtering material for liquid or gaseous fluids [2013-01]
▼ ★★★★★	<input type="checkbox"/> B01D 39/00	Filtering material for liquid or gaseous fluids [2013-01]
▼ ★★★★★	<input type="checkbox"/> A61L 2400/00	Materials characterised by their function or physical properties [2013-01]
▼ ★★★★★	<input type="checkbox"/> A61L 2430/00	Materials or treatment for tissue regeneration [2013-01]



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« D01D4/00 D01D7/00 »

Symbol	Classification and description
▼ ★★★★★ <input type="checkbox"/> B01D 39/00	Filtering material for liquid or gaseous fluids [2013-01]
▼ ★★★★★ <input type="checkbox"/> D04H 1/00	Non-woven fabrics formed wholly or mainly of staple fibres or like relatively short fibres [2013-01]
▼ ★★★★★ <input type="checkbox"/> D01D 5/00	Formation of filaments, threads, or the like [2013-01]
▼ ★★★★★ <input type="checkbox"/> B01D 2239/00	Aspects relating to filtering material for liquid or gaseous fluids [2013-01]
▼ ★★★★★ <input type="checkbox"/> D04H 3/00	Non-woven fabrics formed wholly or mainly of yarns or like filamentary material of substantial length [2013-01]
▼ ★★★★★ <input type="checkbox"/> B32B 5/00	Layered products characterised by the non- homogeneity or physical structure {, i.e. comprising a fibrous, filamentary, particulate or foam layer; Layered products characterised by having a layer differing constitutionally or physically in different parts} [2013-01]
▼ ★★★★★ <input type="checkbox"/> B32B 2262/00	Composition or structural features of fibres which form a fibrous or filamentary layer or



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« B01D2221/00 B01D2247/00 »

Symbol	Classification and description
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SEPARATING; MIXING [2013-01]

☐ B01

PHYSICAL OR CHEMICAL PROCESSES OR APPARATUS IN GENERAL [2019-05]

☐ B01D

SEPARATION (separating solids from solids by wet methods [B03B](#), [B03D](#); by pneumatic jigs or tables [B03B](#); by other dry methods [B07](#); magnetic or electrostatic separation of solid materials from solid materials or fluids, separation by high-voltage electric fields [B03C](#); centrifuges, vortex apparatus [B04](#); presses per se for squeezing-out liquid from liquid-containing material [B30B 9/02](#); treatment of water [C02F](#), e.g. softening by ion-exchange [C02F 1/42](#); {arrangements of air intake cleaners in gas turbine plants [F02C 7/05](#)}; arrangements or mounting of filters in air-conditioning, air-humidification or ventilation [F24F 13/28](#)) [2021-08]



Definitions



Definition statement

This place covers:

Processes and apparatus for evaporation, distillation, sublimation, crystallisation, solvent extraction, chromatography, sedimentation, filtration, dust precipitation, gas cleaning, absorption, adsorption, separation of isotopes.

Cold traps, cold baffles.

Treating liquids by displacement, adsorption, separation or degasification.

Treating gases or vapours by separation, recovering, chemical or biological purification of waste gases.



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✓ نحوه نمایش در پرتال **espacenet**

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<input type="checkbox"/> F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING [2019-02]		
	LIGHTING; HEATING [2013-01]		
<input type="checkbox"/> F21	LIGHTING [2019-05]		
<input type="checkbox"/> F21Y	INDEXING SCHEME ASSOCIATED WITH SUBCLASSES F21K , F21L , F21S and F21V , RELATING TO THE FORM OR THE KIND OF THE LIGHT SOURCES OR OF THE COLOUR OF THE LIGHT EMITTED [2016-08]		
<input type="checkbox"/> F21Y 2101/00	Point-like light sources [2021-08]		
▼ <input type="checkbox"/> F21Y 2103/00	Elongate light sources, e.g. fluorescent tubes [2021-08]		
▼ <input type="checkbox"/> F21Y 2105/00	Planar light sources [2021-08]		
▼ <input type="checkbox"/> F21Y 2107/00	Light sources with three-dimensionally disposed light-generating elements [2021-08]		
<input type="checkbox"/> F21Y 2109/00	Light sources with light-generating elements disposed on transparent or translucent supports or substrates [2021-08]		
<input type="checkbox"/> F21Y 2111/00	Light sources of a form not covered by groups F21Y 2101/00-F21Y 2107/00 [2021-08]		
▼ <input type="checkbox"/> F21Y 2113/00	Combination of light sources [2013-01]		
▼ <input type="checkbox"/> F21Y 2115/00	Light-generating elements of semiconductor light sources [2021-08]		



Indexing Code

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D

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F21K

NON-ELECTRIC LIGHT SOURCES USING LUMINESCENCE; LIGHT SOURCES USING ELECTROCHEMILUMINESCENCE; LIGHT SOURCES USING CHARGES OF COMBUSTIBLE MATERIAL; LIGHT SOURCES USING SEMICONDUCTOR DEVICES AS LIGHT-GENERATING ELEMENTS; LIGHT SOURCES NOT OTHERWISE PROVIDED FOR

Note(s) [2016.01]

In this subclass, it is desirable to add the indexing codes of subclasses F21W and F21Y.



Combination sets (C-sets)

- ❑ ترکیب برخی کدهای طبقه بندی و اختصاص یک کد طبقه بندی به آن
- ❑ این اتفاق تنها در برخی از subclassها دیده می شود.

Example:

C-Set B28B5/00, H04H20/10, F04C2/00; B29K2019/00, B29C66/71, B29K2021/00



Combination sets (C-sets)

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US2012312195 (A1)

Bibliographic data

Description

Claims

Mosaics

Original document

Cited documents

Citing documents

INPADOC legal status

INPADOC patent family

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LOW MOLAR, HOMOGENEOUSLY SUBSTITUTED HEC FOR USE IN CEMENT-BASED SYSTEMS

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