



(11) **EP 2 700 737 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
27.05.2015 Bulletin 2015/22

(51) Int Cl.:
C25D 5/02 (2006.01) **C25D 17/00 (2006.01)**
C25D 17/02 (2006.01) **C25D 17/12 (2006.01)**
C25D 13/22 (2006.01)

(43) Date of publication A2:
26.02.2014 Bulletin 2014/09

(21) Application number: **13181003.8**

(22) Date of filing: **20.08.2013**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

- **Yamakawa, Kazuyoshi**
Osaka-shi,, Osaka 542-8502 (JP)
- **Suzuki, Masahiro**
Osaka-shi,, Osaka 542-8502 (JP)
- **Matsuo, Kazuaki**
Osaka-shi,, Osaka 542-8502 (JP)

(30) Priority: **22.08.2012 JP 2012183261**

(74) Representative: **Winter, Brandl, Fürniss, Hübner, Röss, Kaiser, Polte - Partnerschaft mbB**
Patent- und Rechtsanwaltskanzlei
Bavariaring 10
80336 München (DE)

(71) Applicant: **JTEKT CORPORATION**
Osaka-shi
Osaka 542-8502 (JP)

(72) Inventors:
• **Stoimenov, Boyko**
Osaka-shi,, Osaka 542-8502 (JP)

(54) **Pattern forming device and pattern forming method**

(57) A pattern forming device includes a plurality of tanks, and a power supply device. Each of the tanks has an open end having the same shape as a profile shape of a corresponding one of regions of a surface of a workpiece, in which different types of films are to be formed, and stores a corresponding one of electrodeposition so-

lutions used to form the different types of films in a state where the open end is in contact with the surface. The power supply device applies a predetermined voltage to between the workpiece that serves as a first electrode, and each one of second electrodes in the tanks.

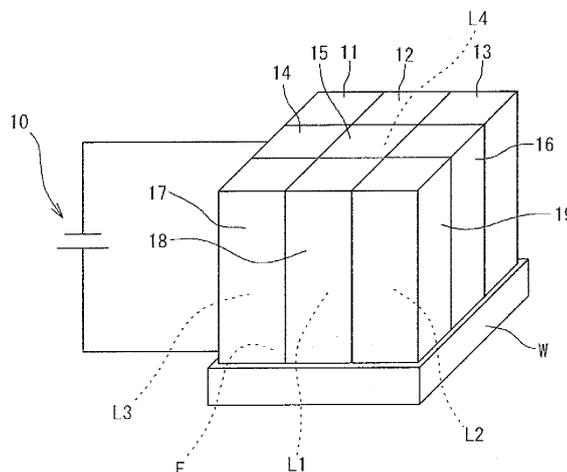


FIG.1

EP 2 700 737 A3



EUROPEAN SEARCH REPORT

Application Number
EP 13 18 1003

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2007/029189 A1 (ZACH MICHAEL P [US]) 8 February 2007 (2007-02-08) * paragraphs [0034] - [0065] * * figures 1,2A,5A,8A *	1-5	INV. C25D5/02 C25D17/00 C25D17/02 C25D17/12 C25D13/22
X	US 2003/070917 A1 (GIAQUINTA DANIEL M [US] ET AL) 17 April 2003 (2003-04-17) * paragraphs [0010] - [0050] * * figures 1,2,4,5 *	1-5	
X	US 4 315 809 A (PHILLIPS JAMES G) 16 February 1982 (1982-02-16) * column 2, line 4 - column 4, line 2 *	1-5	
X	US 4 348 267 A (SHIMAMURA KOUICHI) 7 September 1982 (1982-09-07) * column 9, line 1 - line 68 * * figures 12-14 *	1-5	
A	US 2004/168925 A1 (LANDAU UZIEL [US]) 2 September 2004 (2004-09-02) * the whole document *	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
			C25D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 8 April 2015	Examiner Le Hervet, Morgan
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04001)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 13 18 1003

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

10

08-04-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007029189 A1	08-02-2007	NONE	

US 2003070917 A1	17-04-2003	NONE	

US 4315809 A	16-02-1982	NONE	

US 4348267 A	07-09-1982	JP S5740918 B2	31-08-1982
		JP S56102590 A	17-08-1981
		US 4287029 A	01-09-1981
		US 4348267 A	07-09-1982

US 2004168925 A1	02-09-2004	US 2004168925 A1	02-09-2004
		US 2004262152 A1	30-12-2004

15

20

25

30

35

40

45

50

55

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82