(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 1 568 803 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
02.04.2008 Bulletin 2008/14

(43) Date of publication A2:
31.08.2005 Bulletin 2005/35

(21) Application number: **05075356.5**

(22) Date of filing: **10.02.2005**

(51) Int Cl.:
C25D 1/08 *(2006.01)*

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR LV MK YU

(30) Priority: **26.02.2004 NL 1025582**

(71) Applicant: **STORK VECO B.V.**
6961 LB Eerbeek (NL)

(72) Inventors:
- **Knol, Harm Gerrit**
  7274 DZ Geesteren (NL)
- **Harbiye, Ahmad Dawud**
  1215 CH Hilversum (NL)

(74) Representative: **Volmer, Johannes Cornelis**
Exter Polak & Charlouis B.V.
P.O. Box 3241
2280 GE Rijswijk (NL)

(54) **Electroforming method for producing objects with a high degree of accuracy**

(57) The present invention provides a method for producing, by electroplating, a metal object which has at least one continuous opening, which opening is delimited by metal dykes (16). Instead of applying complete islands of electrically insulating material to the electroforming die (10), only a boundary (20) of electrically insulating material is applied, this boundary corresponding to the periphery of the opening that is to be formed in the product. Therefore, a part (22) of the electroforming die is also uncovered within the boundary (20). During the deposition of metal from an electroplating bath on the uncovered electrically conductive parts (14, 22) of the die, metal overgrowth takes place over the boundary (22), with the result that the periphery of the opening that is to be formed is accurately defined. The metal growth (24) which has grown from the central region (22) is removed from the semi-finished product in order to produce the finished product with a continuous opening.

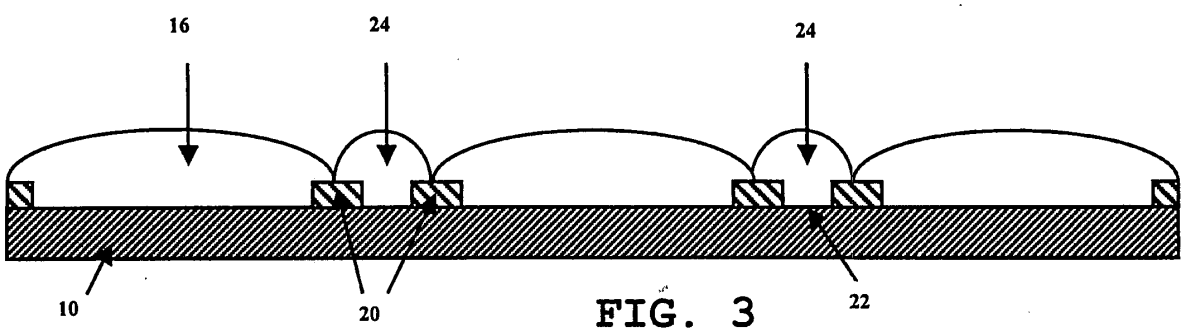

FIG. 3

EP 1 568 803 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 07 5356

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	JP 02 267293 A (SEIKO EPSON CORP) 1 November 1990 (1990-11-01) * abstract; figures 1,2 *	1-3	INV. C25D1/08
Y	JP 09 260241 A (TOKYO SHIBAURA ELECTRIC CO) 3 October 1997 (1997-10-03) * abstract; figures 1,2 *	1-3	
A	US 5 167 776 A (BHASKAR ELDURKAR [US] ET AL) 1 December 1992 (1992-12-01) * column 5, line 14 - column 6, line 43 * * column 7, line 18 - line 28 * * figures 1,2 *	1-3	
			TECHNICAL FIELDS SEARCHED (IPC)
			C25D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	22 February 2008	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 (P04C01)

12

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 05 07 5356

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.

22-02-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2267293 A	01-11-1990	NONE	
JP 9260241 A	03-10-1997	JP 3532691 B2	31-05-2004
US 5167776 A	01-12-1992	CA 2060617 A1	17-10-1992
		DE 69210673 D1	20-06-1996
		DE 69210673 T2	26-09-1996
		EP 0509669 A2	21-10-1992
		JP 3270108 B2	02-04-2002
		JP 5261931 A	12-10-1993
		JP 3302355 B2	15-07-2002
		JP 2002144583 A	21-05-2002

EPO FORM P0459

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