

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
26 October 2006 (26.10.2006)

PCT

(10) International Publication Number
WO 2006/112711 A3

(51) International Patent Classification:

H01L 21/68 (2006.01) *H05K 13/04* (2006.01)
H05K 13/02 (2006.01) *H05K 13/00* (2006.01)

(21) International Application Number:

PCT/NL2006/050084

(22) International Filing Date: 13 April 2006 (13.04.2006)

(25) Filing Language: Dutch

(26) Publication Language: English

(30) Priority Data:

1028224 20 April 2005 (20.04.2005) NL

(71) Applicant (*for all designated States except US*): **FICO B.V.** [NL/NL]; Ratio 6, NL-6921 RW Duiven (NL).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **HARMSSEN, Wilhelmus, Hendrikus, Johannes** [NL/NL]; Akkerstraat 8, NL-7031 AM Wehl (NL).

(74) Agent: **VAN DEN HEUVEL, Henricus, Theodorus**; Patentwerk B.V., P.O. Box 1514, NL-5200 BN 's-hertogenbosch (NL).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

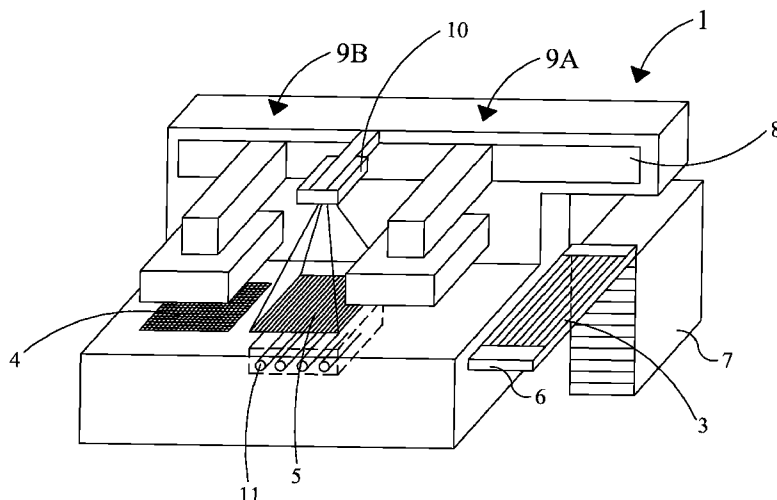
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

[Continued on next page]

(54) Title: METHOD AND DEVICE FOR DISPLACING ELECTRONIC COMPONENTS ORDERED IN A RECTANGULAR STRUCTURE



(57) Abstract: The invention relates to a method and a device for placing on a flat carrier electronic components ordered in a rectangular structure, comprising of picking up a number of components ordered in a matrix structure and placing the components on the flat carrier, wherein the components are placed initially on a positioning table after being picked up, and the products placed on the positioning table are subsequently picked up again before they are placed on the flat carrier. This is applicable in the production of semiconductors which are processed in different processing stations and transported between these processing stations. However, the processing stations usually deliver the batches of electronic components in a rectangular structure, but in incorrect numbers, with incorrect pitch or in incorrect orientation for further transport. Numbers of components, their pitch or orientation can be modified by displacing the groups of electronic components in two steps.

WO 2006/112711 A3



(88) Date of publication of the international search report:

8 March 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.