

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 July 2006 (13.07.2006)

PCT

(10) International Publication Number
WO 2006/072859 A3

(51) International Patent Classification:

G11B 7/26 (2006.01) **B41M 5/36** (2006.01)

(21) International Application Number:

PCT/IB2005/054378

(22) International Filing Date:

22 December 2005 (22.12.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

05100051.1 6 January 2005 (06.01.2005) EP

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MEINDERS, Erwin, R.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **MULLER, Joost** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agents: **UITTENBOGAARD, Frank** et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (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:

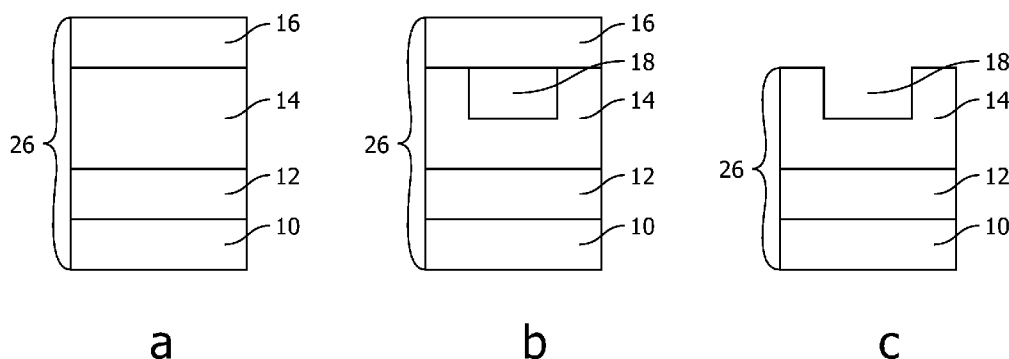
— with international search report

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

5 October 2006

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.

(54) Title: MASTERING BASED ON HEAT-INDUCED SHRINKAGE OF ORGANIC DYES



(57) Abstract: The present invention relates to a method for providing a high-density relief structure in a recording stack of a master substrate, particularly a master substrate for making a stamper for the mass-fabrication of optical discs or a master substrate for making a stamp for micro contact printing. Furthermore, the present invention relates to a master substrate for creating a high-density relief structure, particularly a master substrate for making a stamper for the mass-fabrication of optical discs or a master substrate for making a stamp for micro contact printing. The invention also relates to a special use of a master substrate that comprises a dye layer, as well as to a master substrate comprising a high-density relief structure. Furthermore, the present invention relates to a stamper for the mass-fabrication of optical discs, an optical disc, and a microprint. In accordance with all aspects of the present invention a high-density relief structure required for all of the above applications is directly or indirectly formed by laser pulse induced shrinkage of dye layer material.

WO 2006/072859 A3