

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number
WO 2005/043585 A2

(51) International Patent Classification⁷: **H01L**

(21) International Application Number:
PCT/US2004/032645

(22) International Filing Date: 1 October 2004 (01.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/690,148 21 October 2003 (21.10.2003) US

(71) Applicant (for all designated States except US): **CORNING INCORPORATED** [US/US]; 1 Riverfront Plaza, Corning, New York 14831 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **COUILLARD, James, G** [US/US]; 266 Westwood Knoll, Ithaca, New York 14850 (US).

(74) Agent: **ABLE, Kevin, M**; Corning Incorporated, Patent Department, SP-TI-3-1, Corning, New York 14831 (US).

(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, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

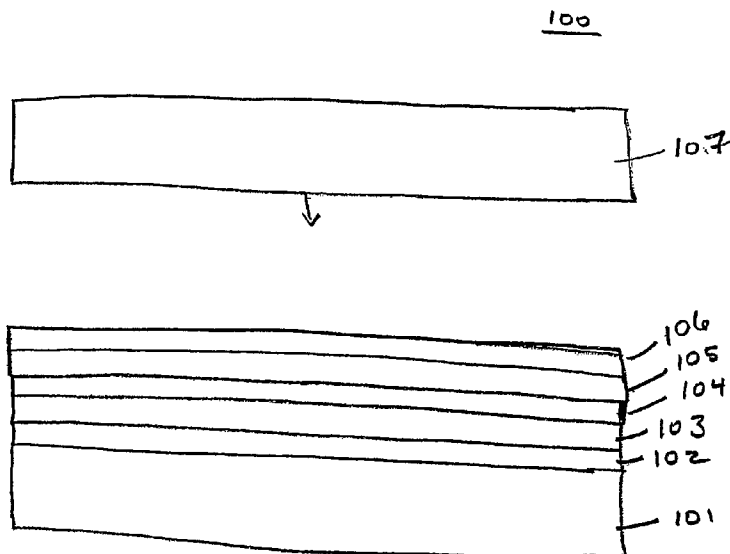
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, 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).

Published:

— without international search report and to be republished upon receipt of that report

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: **OLED STRUCTURES WITH BARRIER LAYER AND STRAIN RELIEF**



(57) Abstract: An OLED structure includes a substantially flexible substrate, and at least one barrier layer disposed between the substrate and the OLED structure. The barrier layer substantially prevents contaminants from permeating a layer of organic material or the OLED structure. The barrier layer includes a glass layer that has certain components added or removed to improve its flexibility. The OLED structure may also include a substantially flexible substrate and at least one barrier layer disposed between the substrate and the OLED structure. The barrier layer includes a strain relief material. The strain relief material advantageously has at least one axis of orientation. Photonic or electronic components, or both could be substituted for the OLED.



WO 2005/043585 A2