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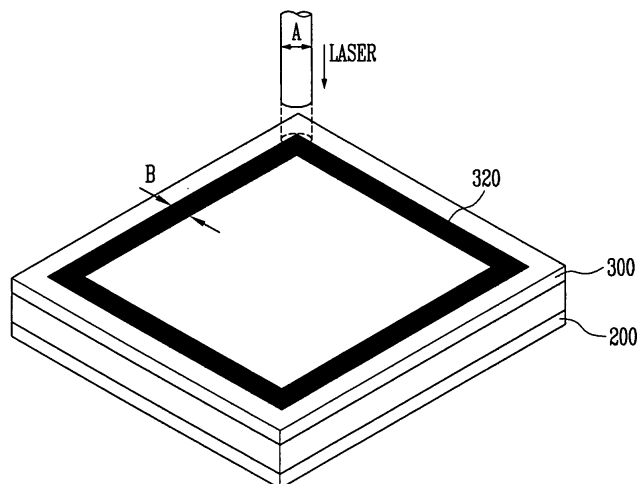
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(54) **Organic light emitting display device and manufacturing**

(57) A manufacturing method of an organic light emitting display device, which allows a frit (320) to be sufficiently fused by illuminating a laser beam such that a width of the laser beam may be above a width of the frit by adjusting power of the laser beam. The method comprises the steps of: a) forming an organic light emitting element comprising a first electrode, an organic thin film and a second electrode on a pixel region of a first substrate (200) divided into the pixel region and a non-pixel region; b) forming a frit (320) along a surrounding of a second substrate (300) corresponding to the non-pixel region; c) arranging the second substrate (300) on an upper side of the first substrate (200) to be superposed to a part of the pixel region and the non-pixel region; and d) attaching the first substrate and the second substrate by illuminating laser beam with a width above a width of the frit from a back surface of the second substrate.

FIG. 4A



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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
E	WO 2007/067420 A2 (CORNING INC [US]; BECKEN KEITH J [US]; LOGUNOV STEPHAN L [US]) 14 June 2007 (2007-06-14) * paragraph [0020] - paragraph [0030]; figures *	1-5, 10-15, 19	INV. H01L51/56 H01L51/52
X	US 2004/207314 A1 (AITKEN BRUCE G [US] ET AL AITKEN BRUCE G [US] ET AL) 21 October 2004 (2004-10-21) * paragraphs [0007], [0 40], [0 41], [0 52]; tables 1-4 *	1-5, 10-15	
Y	US 2005/248270 A1 (GHOSH AMALKUMAR P [US] ET AL) 10 November 2005 (2005-11-10) * paragraph [0077] *	6-9, 16-20	
Y	JP 2004 172048 A (FUJIKURA LTD) 17 June 2004 (2004-06-17) * paragraph [0024] *	19,20	
Y	US 6 109 994 A (CHO STEVEN T [US] ET AL) 29 August 2000 (2000-08-29) * column 27, line 66 - column 28, line 5 *	6-9, 16-18	TECHNICAL FIELDS SEARCHED (IPC) H01L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 31 January 2011	Examiner De Laere, Ann
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	

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

EP 07 25 0317

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
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31-01-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2007067420 A2	14-06-2007	CN 101536133 A	16-09-2009
		EP 1958228 A2	20-08-2008
		JP 2008532207 T	14-08-2008
		KR 20070088671 A	29-08-2007
		US 2007128967 A1	07-06-2007

US 2004207314 A1	21-10-2004	CA 2522425 A1	04-11-2004
		CN 1798710 A	05-07-2006
		CN 101312234 A	26-11-2008
		EP 1620369 A2	01-02-2006
		JP 4540669 B2	08-09-2010
		JP 2006524419 T	26-10-2006
		KR 20060005369 A	17-01-2006
		US 2006009109 A1	12-01-2006
		US 2005001545 A1	06-01-2005
WO 2004095597 A2	04-11-2004		

US 2005248270 A1	10-11-2005	WO 2005119803 A2	15-12-2005

JP 2004172048 A	17-06-2004	JP 4467879 B2	26-05-2010

US 6109994 A	29-08-2000	US 6416375 B1	09-07-2002

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外部链接	Espacenet		

摘要(译)

一种有机发光显示装置的制造方法，其通过照射激光束使得玻璃料 (320) 充分熔合，使得激光束的宽度可以通过调节激光束的功率而高于玻璃料的宽度。该方法包括以下步骤：a) 在分成像素区域和非像素区域的第一基板 (200) 的像素区域上形成包括第一电极，有机薄膜和第二电极的有机发光元件；b) 沿着对应于非像素区域的第二基板 (300) 的周围形成玻璃料 (320)；c) 将第二基板 (300) 布置在第一基板 (200) 的上侧，以与像素区域和非像素区域的一部分重叠；d) 通过从第二基板的后表面照射宽度大于玻璃料宽度的激光束来附着第一基板和第二基板。

