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(54) **Method and apparatus for ink transfer printing.**

(57) An ink transfer printing device in which ink transfer is controlled by a viscosity change in ink includes an ink reservoir (2) for retaining ink held under pressure. The ink reservoir (2) is associated with an ink transfer surface (4) which has a plurality of perforations (6). Under ambient conditions, the viscosity of the ink prevents flow of the ink through the perforations (6). The ink transfer printing device also includes a viscosity control unit (8, 20, 25, 26, 32, 38, 42, 46) for inducing a change in the viscosity of the ink near certain perforations thereby enabling a controlled amount of the ink near each of these certain perforations (6) to flow through these certain perforations to an outer surface of the ink transfer surface (4). Techniques for controlling the ink dot size using concentric regions (72, 74, 76, 78, 80, 82) about each of the perforations (6) are disclosed. The ink which has flowed onto the outer surface can then be transferred to an intermediate surface (54) or a printing media (10). A method for viscosity-driven ink transfer printing is also disclosed. The present invention enables a printer, a copier, or the like to provide low cost, high speed, high resolution printed images.

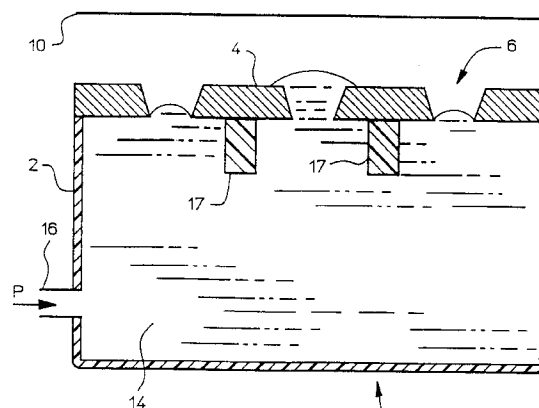


FIG 5A



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 93 30 9555

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	US-A-4 561 789 (SAITO) * the whole document *	1-4,7-14	B41J2/005
A	US-A-4 550 324 (TAMARU ET AL.) * claims 1-20 *	1-14	
A	PATENT ABSTRACTS OF JAPAN vol. 11, no. 310 (M-630) (2757) 9 October 1987 & JP-A-62 097 866 (SEIKOSHA CO LTD) 7 May 1987 * abstract *	1-14	
A	PATENT ABSTRACTS OF JAPAN vol. 12, no. 78 (M-675) (2925) 11 March 1988 & JP-A-62 218 148 (CANON INC) 25 September 1987 * abstract *	1-14	
A	PATENT ABSTRACTS OF JAPAN vol. 13, no. 48 (M-793) (3396) 3 February 1989 & JP-A-63 254 067 (CANON INC) 20 October 1988 * abstract *	1-14	TECHNICAL FIELDS SEARCHED (Int.Cl.5) B41J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 June 1994	Examiner Joosting, T
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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