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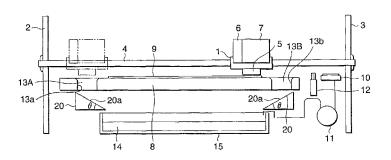
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(54) Flushing position controller incorporated in ink-jet recording apparatus and flushing method used for the same

(57) Flushing regions (13A,13B) for receiving ink droplets to be ejected when flushing signal is supplied to a recording head (5) are provided in both of non-print regions situated at both sides of print region in order to prevent throughput during the flushing operation from deteriorating. A guide member (20A) having a slant surface is disposed between the recording head and an ink absorbing member (14) to which the ink landed on the slant surface flows in order to reduce in size of the ink absorb-

ing member. A porous sheet member closely faced to nozzle orifices of the recording head for receiving the ink droplets ejected therefrom is provided in order to prevent undesired mist of fine ink droplets from generating. A plurality of plate members closely faced to the nozzle orifices are provided at a predetermined angle with respect to the flight direction of the ink droplets in order to prevent the undesired mist from generating. The flushing operation is performed so as to prevent solidification of the ejected ink.

FIG.3



EP 1 982 836 A3



EUROPEAN SEARCH REPORT

Application Number EP 08 16 1992

	DOCUMENTS CONSID	ERED TO BE R	ELEVANT		
Category	Citation of document with ir of relevant passa		oriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Х	US 5 428 380 A (EBI 27 June 1995 (1995-	06-27)		1,2,4-6	INV. B41J2/165
Y A	* column 11, line 3 12,16,17 *	- line 68; f	igures	3,10-12, 14,16, 17,22 7-9	
Y	EP 0 822 086 A (CAN 4 February 1998 (19			10-12, 14,16,	
A	* column 8, line 16	- line 31; f	igure 2 *	17,22 1,13,15	
Υ	EP 0 585 923 A (CAN 9 March 1994 (1994- * column 25, line 8 figures 15-17 *	03-09)	line 51;	3,10	
A	EP 0 744 294 A (SEI 27 November 1996 (1 * column 6, line 5	996-11-27)	•	1,4	
	*		gu. 00 0 0		TECHNICAL FIELDS SEARCHED (IPC)
					B41J
	The present search report has l	•			
	Place of search The Hague	•	etion of the search ember 2008	De	Groot, Ronald
X : part Y : part docu A : tech O : non	ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone icularly relevant if combined with another ment of the same category inological background written disclosure mediate document	er [: theory or principle : earlier patent door after the filing date): document cited in : document cited for k: member of the sar document	underlying the in ument, but publis the application rother reasons	nvention shed on, or

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

EP 08 16 1992

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-12-2008

DE 69717203 T2 1 US 6095637 A 6 EP 0585923 A 09-03-1994 AT 174268 T 1 DE 69322459 D1 2 DE 69322459 T2 6 HK 1011652 A1 1 EP 0744294 A 27-11-1996 DE 69604615 D1 1	02-01-20 10-07-20 01-08-20
DE 69717203 T2 1 US 6095637 A 6 EP 0585923 A 09-03-1994 AT 174268 T 1 DE 69322459 D1 2 DE 69322459 T2 6 HK 1011652 A1 1 EP 0744294 A 27-11-1996 DE 69604615 D1 1	10-07-20 01-08-20 15-12-19
DE 69322459 D1 2 DE 69322459 T2 6 HK 1011652 A1 1 EP 0744294 A 27-11-1996 DE 69604615 D1 1	
EP 0744294 A 27-11-1996 DE 69604615 D1 1	21-01-19 02-06-19 17-08-20
DE 69623500 D1 1 DE 69623500 T2 2 JP 3467716 B2 1	18-11-19 08-06-20 10-10-20 27-02-20 17-11-20 10-02-19

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