



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



Publication number: **0 390 548 A3**

12

## EUROPEAN PATENT APPLICATION

21 Application number: **90303345.4**

51 Int. Cl.<sup>5</sup>: **B41J 2/05**

22 Date of filing: **29.03.90**

30 Priority: **31.03.89 JP 82303/89**

71 Applicant: **CANON KABUSHIKI KAISHA**  
**30-2, 3-chome, Shimomaruko, Ohta-ku**  
**Tokyo(JP)**

43 Date of publication of application:  
**03.10.90 Bulletin 90/40**

72 Inventor: **Osada, Torachika**  
**c/o Canon Kabushiki Kaisha, 3-30-2**  
**Shimomaruko**  
**Ohta-ku, Tokyo(JP)**

84 Designated Contracting States:  
**AT BE CH DE DK ES FR GB GR IT LI LU NL SE**

88 Date of deferred publication of the search report:  
**27.03.91 Bulletin 91/13**

74 Representative: **Beresford, Keith Denis Lewis**  
**et al**  
**BERESFORD & Co. 2-5 Warwick Court High**  
**Holborn**  
**London WC1R 5DJ(GB)**

54 Recording head and substrates therefor having pads.

57 A recording head substrate (1) includes a plurality of electrothermal transducers (4) for generating thermal energy used for the recording; electric lines (40) for electrically connecting the plural electrothermal transducers and a driver circuit (30) for driving the electrothermal transducers; bonding pads (45) connectable with the driving circuit; and additional pads (46) electrically connected to the electric lines, disposed at positions not influential to driving current for the electrothermal transducers.

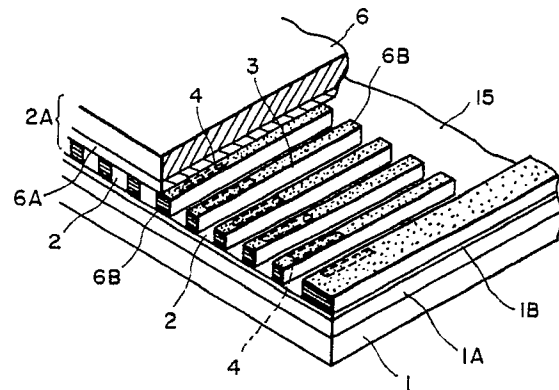


FIG. 2

EP 0 390 548 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 90303345.4
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
1	<u>US - A - 4 719 477</u> (HESS)  -----		B 41 J 2/05
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 41 J H 01 L H 05 K
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
VIENNA	10-12-1990	MEISTERLE	
CATEGORY OF CITED DOCUMENTS		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	
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			

EPO FORM 1503 03.82 (10/81)