

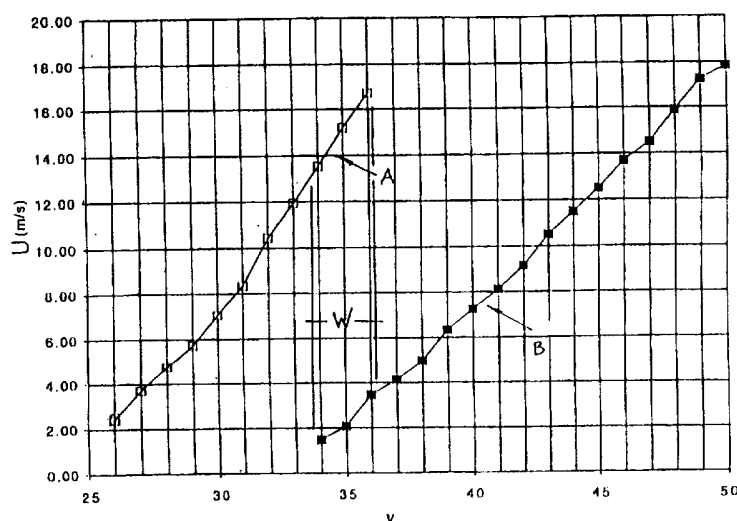
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/GB97/00733 (22) International Filing Date: 17 March 1997 (17.03.97) (30) Priority Data: 9605547.0 15 March 1996 (15.03.96) GB (71) Applicant (for all designated States except US): XAAR LIMITED [GB/GB]; 2 Science Park, Milton Road, Cambridge CB4 4FD (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): PULMAN, Robert, Mark [GB/GB]; Elmbrooke Cottage, Arkesden, Saffron Walden, Essex CB11 4EZ (GB). TEMPLE, Stephen [GB/GB]; 66 Girton Road, Cambridge CB3 0LN (GB). (74) Agent: MOIR, Michael, Christopher; Mathys & Squire, 100 Gray's Inn Road, London WC1X 8AL (GB).		(81) Designated States: BR, CA, CN, CZ, IL, JP, KR, MX, RU, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 4 December 1997 (04.12.97)	

(54) Title: OPERATION OF DROPLET DEPOSITION APPARATUS



(57) Abstract

In droplet deposition apparatus comprising one or more independently actuatable ink ejection chambers, electrical signals are applied to reduce variation in the temperature of the droplet fluid between chambers and with variations in droplet ejection input data. Short potential difference pulses, suitable for influencing the temperature of the droplet fluid in a chamber, can be generated by application of longer duration voltages to ink chamber actuation means.

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INTERNATIONAL SEARCH REPORT

Intern: 1 Application No
PCT/GB 97/00733

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 B41J2/045 B41J2/05

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 B41J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 627 313 A (CANON KK.) 7 December 1994 see column 1 - column 10 see column 8, line 20 - line 29 ---	1-8,10, 14,16, 26-29, 33-35, 51,52
X	EP 0 390 202 A (CANON KK.) 3 October 1990 see column 3, line 5 - column 15, line 36 see column 15, line 26 - line 36 --- -/--	1-10,14, 16, 26-29, 33-35, 51,52

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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- *Z* document member of the same patent family

Date of the actual completion of the international search

1 October 1997

Date of mailing of the international search report

20. 10. 97

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INTERNATIONAL SEARCH REPORT

Intern: Application No
PCT/GB 97/00733

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 511 602 A (HEWLETT-PACKARD COMP.) 4 November 1992 see column 1 - column 9 ---	1,5,6, 8-10, 24-26, 33-35, 51,52
X	PATENT ABSTRACTS OF JAPAN vol. 017, no. 483 (M-1472), 2 September 1993 & JP 05 116283 A (FUJI ELECTRIC CO LTD), 14 May 1993, see abstract ---	5,6,51, 52
X	EP 0 271 905 A (CANON KK.) 22 June 1988 see column 1 - column 3 ---	5,6,51, 52
X	US 5 477 243 A (CANON KK.) 19 December 1995 see column 3, line 44 - line 53 see column 5, line 12 - column 9, line 2 see column 20, line 57 - column 21, line 3 -----	37-40, 51,52

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 97/ 00733

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-35, 51 and 52 defined in relation to 1-35
Claims 36-50, 51 and 52 defined in relation to 36-50

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 97/00733

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