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(71) Applicant (for all designated States except US): **FU-JIFILM DIMATIX, INC.** [US/US]; 109 Etna Road, Lebanon, New Hampshire 03766 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ROSENBLUM, Robert** [US/US]; 32 Melview Ridge, Norwich, Vermont 05055-9420 (US). **BIGGS, MeMn L.** [US/US]; 39 Church Street, Norwich, Vermont 05055 (US). **MOYNIHAN, Edward R.** [US/US]; 449 River Road, Plainfield, New Hampshire 03781 (US).

(74) Agent: **GOREN, David J.**; Fish & Richardson PC, P.O. Box 1022, Minneapolis, Minnesota 55440-1022 (US).

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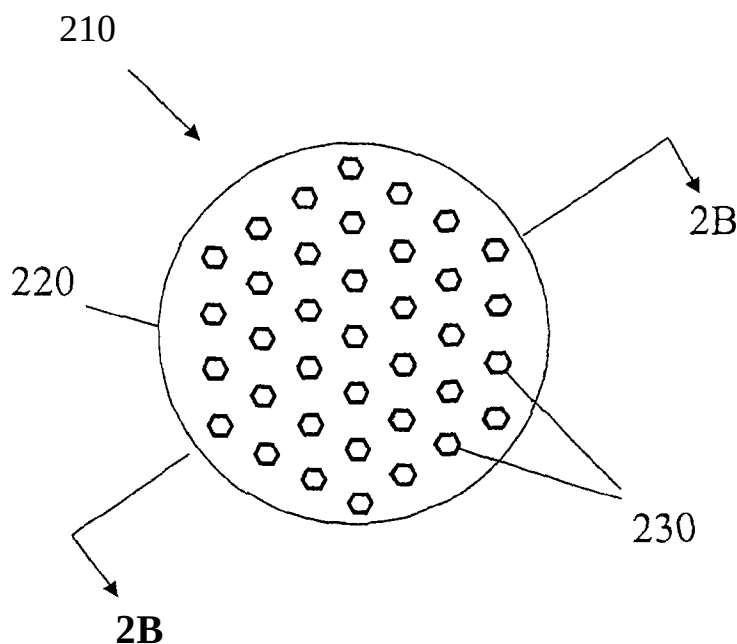
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(54) Title: SYSTEM AND METHODS FOR FLUID DROP EJECTION



(57) Abstract: A drop ejection device includes three or more orifices disposed in a two-dimensional pattern in a nozzle plate, a fluid conduit coupled to the three or more orifice, and an actuator configured to actuate the fluid in the fluid conduit to eject separate fluid drops out of the three or more orifices, the fluid drops remaining separate in flight.

WO 2007/140276 A3

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/69688

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B41J 2/1 75 (2007.1 0)

**USPC - 347/85**

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(8): B<sub>4</sub> U 2/175 (2007 10); USPC: 347/85Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC: 347/84-92 (keyword limited -- see keywords below)Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
PubWEST (PGPB,USPT,EPAB,JPAB); GOOGLE SCHOLAR: orifice, pattern, drop, hexagonal, ejection, array, size, inkjet, two dimensional, nozzle

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category*                  | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                     | Relevant to claim No                                               |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>X</b><br>--<br><b>Y</b> | US 6,474,786 B2 (PERCIN et al) 05 November 2002 (05.11.2002), entire document; Abstract; col 2, ln 37-42; Fig 1-3; col 3, ln 4-8; col 4, ln 43-47; col 3, ln 56-63; Fig 4; col 4, ln 48-51; col 3, ln 20-33; Fig 6A-B; col 2, ln 52-54; col 4, ln 4-8. | 1-2, 4-6, 10-12, 14-15 and 17<br>-----<br>3, 7-9, 13, 16 and 18-24 |
| <b>Y</b>                   | US 6,592,203 B1 (BATES et al.) 15 July 2003 (15.07.2003), entire document; Abstract; col 5, ln 36-43; col 5, ln 28-35; Fig 3; col 4, ln 37-42; Fig 2.                                                                                                  | 3, 7-9, 16 and 18-24                                               |
| <b>Y</b>                   | US 5,757,391 A (HOISINGTON) 26 May 1998 (26.05.1998), entire document; Abstract; col 3, ln 20-32; col 4, ln 15-18; col 1, ln 45-58.                                                                                                                    | 13                                                                 |
| <b>Y</b>                   | US 5,757,400 A (HOISINGTON) 26 May 1998 (26.05.1998), entire document; col 3, ln 30-59; Fig 3; col 2, ln 12-31.                                                                                                                                        | 8-9 and 18-24                                                      |

☐ Further documents are listed in the continuation of Box C.

## D

\* Special categories of cited documents

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

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Facsimile No. 571-273-3201

Authorized officer

Lee W. Young

PCT Helpdesk- 571-272-4300

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