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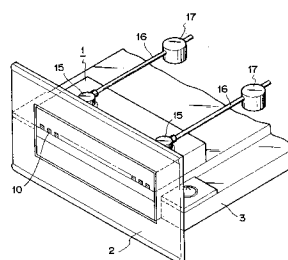
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(54) **Ink jet apparatus provided with an improved recovery mechanism.**

(57) An ink jet recording apparatus comprises a recording head (1) having a plurality of discharging ports (10) to discharge a recording liquid; capping means (8) capable of being mounted on the recording head; pressure means (7) to enable the recording liquid to flow under pressure in the ink supply passages to the recording head, and pressurize the interior of the recording head when the capping means is mounted; a first ink supply tube (8A) to conductively connect the pressure means and the recording head; a second ink supply tube (9B) to conductively connect the recording head (1) and a recording liquid reservoiring container (6); a conductive tube to conductively connect the first ink supply tube and the second ink supply tube; and control means to control the flow in the conductive tube, hence making it possible to remove air bubbles in

the ink supply systems and ink passages easily and effectively by providing a conductive tube for the conventional ink supply systems.

FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 93 11 3981

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-5 128 690 (NOZAWA) 7 July 1992 * column 4, line 67 - column 6, line 46; figures 6-8 *	1-5	B41J2/165 B41J2/175
A	* column 5, line 21; figure 7 *	7	
X	PATENT ABSTRACTS OF JAPAN vol. 16, no. 103 (M-1221) 13 March 1992 & JP-A-03 277 556 (CANON INC) 9 December 1991 * abstract *	2	
A	WO-A-88 08370 (SIEMENS A.G.) * abstract; figures 1,3,5 *	6	
A	EP-A-0 500 068 (CANON K.K.) * page 4, line 39 - page 5, line 42; figure 1 *	7	
A	US-A-4 864 329 (KNEEZEL ET AL.) * column 3, line 50 - column 7, line 43; figures *	7	
A	US-A-4 153 902 (KANAYAMA) * column 2, line 25 - column 3, line 34; figures 1-3 *	7,8	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 6 February 1995	Examiner De Groot, R
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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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet -B-

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-3 : Bypass with controlled flow for high pressure discharging during print head cleaning.
2. Claims 4-6 : Capping means for print head cleaning by means of suction.
3. Claims 7-9 : Filters in a inkflow system.