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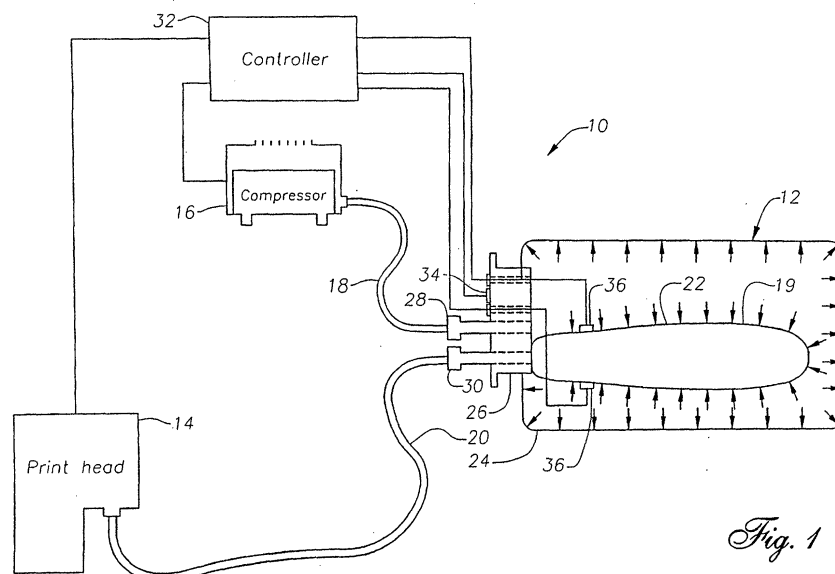
- **Bullock, Michael L.**  
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(54) **Ink delivery system adapter**

(57) A large variety of ink delivery systems for an existing ink-jet printing system are provided. The ink delivery systems include ink reservoirs of varying configuration and size which are capable of accommodating a variety of ink use rates. Each ink delivery system also

has an electrical connector and an information storage device which are suitable for the various ink use rates. The information storage device may be a memory device circuit that provides enabling information to the printing system.



*Fig. 1*



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 02 07 9822

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
Y	EP 0 610 965 A (CANON KK) 17 August 1994 (1994-08-17) * page 13, line 55 - page 14, line 33 * * figures 10,11 * * page 11, line 1 - line 29 * * page 13, line 55 - page 14, line 34 * * figures 5,10,11 * ---	1,3-7	B41J2/175
Y	US 5 500 664 A (SUZUKI ETSUROU ET AL) 19 March 1996 (1996-03-19) * column 4, line 28 - column 6, line 17 * * column 8, line 14 - line 38 * * figures 1,7 * ---	1,3-7	
A	EP 0 440 261 A (CANON KK) 7 August 1991 (1991-08-07) * abstract * * column 3, line 16 - column 4, line 50 * * column 5, line 25 - column 11, line 12 * * claims; figures 4-6,8 * ---	1	
A	US 4 568 954 A (ROSBACK MARTIN D) 4 February 1986 (1986-02-04) * the whole document * ---	2	TECHNICAL FIELDS SEARCHED (Int.CI.7) B41J G01F
A	EP 0 739 740 A (HEWLETT PACKARD CO) 30 October 1996 (1996-10-30) * column 8, line 12 - column 9, line 46 * * figure 4 * -----	1	
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>9 April 2003</b>	Examiner <b>Didenot, B</b>
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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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 02 07 9822

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.

09-04-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0610965	A	17-08-1994	JP 3213349 A	18-09-1991
			JP 3020963 B2	15-03-2000
			JP 3067657 A	22-03-1991
			JP 3197052 A	28-08-1991
			JP 2790347 B2	27-08-1998
			JP 3193458 A	23-08-1991
			JP 3193459 A	23-08-1991
			DE 9018060 U1	15-09-1994
			EP 0610965 A1	17-08-1994
			EP 0729836 A1	04-09-1996
			EP 0872347 A1	21-10-1998
			EP 0997296 A1	03-05-2000
			AT 173677 T	15-12-1998
			AT 187126 T	15-12-1999
			AT 227649 T	15-11-2002
			AT 213999 T	15-03-2002
			AU 648985 B2	12-05-1994
			AU 6024190 A	07-02-1991
			CA 2022756 A1	06-02-1991
			CN 1051011 A ,B	01-05-1991
			CN 1141241 A ,B	29-01-1997
			DE 69032780 D1	07-01-1999
			DE 69032780 T2	02-06-1999
			DE 69033377 D1	05-01-2000
			DE 69033377 T2	29-06-2000
			DE 69033928 D1	11-04-2002
			DE 69033928 T2	18-07-2002
			DE 69034019 D1	19-12-2002
			EP 1234675 A2	28-08-2002
			EP 0412459 A2	13-02-1991
			ES 2124212 T3	01-02-1999
			HK 1011647 A1	01-09-2000
			HK 1011655 A1	24-03-2000
			KR 9600542 Y1	17-01-1996
			KR 9511532 B1	06-10-1995
			SG 54174 A1	16-11-1998
			SG 85110 A1	19-12-2001
			US 5506611 A	09-04-1996
			US 6312084 B1	06-11-2001
			US 6062667 A	16-05-2000
			SG 74554 A1	22-08-2000
US 5500664	A	19-03-1996	JP 4247961 A	03-09-1992
			AT 136501 T	15-04-1996
			AT 156423 T	15-08-1997
			DE 69209677 D1	15-05-1996

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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

EP 02 07 9822

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.

09-04-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5500664	A		DE 69209677 T2	05-09-1996
			DE 69221339 D1	11-09-1997
			DE 69221339 T2	20-11-1997
			EP 0496620 A1	29-07-1992
			EP 0496642 A2	29-07-1992
			JP 2942004 B2	30-08-1999
			JP 5050609 A	02-03-1993
			US 5270739 A	14-12-1993
			JP 3165710 B2	14-05-2001
			JP 4288239 A	13-10-1992
			JP 4288240 A	13-10-1992
	JP 4288238 A	13-10-1992		
EP 0440261	A	07-08-1991	JP 3222454 B2	29-10-2001
			JP 3227650 A	08-10-1991
			AT 105781 T	15-06-1994
			AU 649429 B2	26-05-1994
			AU 7015191 A	08-08-1991
			AU 679764 B2	10-07-1997
			AU 7149894 A	27-10-1994
			CA 2035090 A1	03-08-1991
			CN 1054741 A ,B	25-09-1991
			DE 69101979 D1	23-06-1994
			DE 69101979 T2	22-09-1994
			EP 0440261 A2	07-08-1991
			GB 2241201 A ,B	28-08-1991
			KR 9608963 Y1	11-10-1996
US 5138344 A	11-08-1992			
US RE36279 E	24-08-1999			
US 4568954	A	04-02-1986	CA 1238240 A1	21-06-1988
			EP 0184456 A2	11-06-1986
			JP 1691715 C	27-08-1992
			JP 3055313 B	22-08-1991
			JP 61148063 A	05-07-1986
EP 0739740	A	30-10-1996	US 5825387 A	20-10-1998
			CN 1134886 A ,B	06-11-1996
			DE 69507596 D1	11-03-1999
			DE 69507596 T2	17-06-1999
			EP 0739740 A1	30-10-1996
			JP 2766251 B2	18-06-1998
			JP 9150524 A	10-06-1997
			US 2002036680 A1	28-03-2002
			US 6130695 A	10-10-2000
US 6015209 A	18-01-2000			

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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

EP 02 07 9822

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.

09-04-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0739740      A		US 2001013886 A1	16-08-2001
		US 6137513 A	24-10-2000
		US 6183077 B1	06-02-2001
		US 6322207 B1	27-11-2001
		US 2001015738 A1	23-08-2001
		US 5900896 A	04-05-1999
		US 5734401 A	31-03-1998
		US 5856840 A	05-01-1999
		US 6386692 B1	14-05-2002
		US 5852459 A	22-12-1998
		US 6033064 A	07-03-2000
		US 6364472 B1	02-04-2002
		US 6142617 A	07-11-2000
		US 5854646 A	29-12-1998
		US 6017118 A	25-01-2000

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