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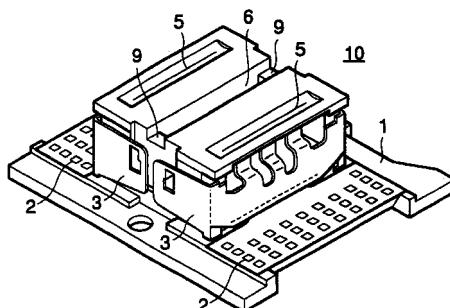
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(54) Ink jet recording head and ink jet recording apparatus having such head

(57) The present invention provides an ink jet recording head comprising a top plate (1) in which two groups of ink passage grooves for forming ink passages, two ink chamber frames, ink introduction passages, two rows of ink discharge ports are formed, two substrates on which a plurality of resistive heat generating elements for discharging ink are formed in correspondence to the two rows of ink discharge ports (5), and two elastic members (3) for contacting under pressure and securing the substrates and the top plate for each said substrate, and wherein the junction between the substrates and the top plate forms the ink passages and the ink chambers therebetween, and further wherein a groove (6) for isolating the ink discharge port rows from each other is formed between the ink discharge port rows and a depth of the groove is greater than depths of the ink discharge ports and the ink passages.

FIG.1



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EUROPEAN SEARCH REPORT

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
X	US 4 803 499 A (HAYAMIZU MAMORU) 7 February 1989 * column 2, line 35 - line 38; figures 12,2,20 * * column 2, line 47 - line 60 *	1,4	B41J2/14 B41J2/165						
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Y	EP 0 694 400 A (CANON KK) 31 January 1996 * column 5, line 34 - line 49; figures 5,8 *	3,13,14							
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)						
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 33%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>13 January 1999</td> <td>Bardet, M</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	13 January 1999	Bardet, M
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THE HAGUE	13 January 1999	Bardet, M							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">CATEGORY OF CITED DOCUMENTS</td> <td style="width: 50%;">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</td> </tr> <tr> <td>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</td> <td></td> </tr> </table>				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			
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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