



⑫

EUROPEAN PATENT APPLICATION

㉑ Application number: 94109195.1

㉑ Int. Cl. 6: B41J 2/045, B41J 2/015

㉒ Date of filing: 15.06.94

㉓ Priority: 16.06.93 JP 145212/93

3-5, Owa 3-chome

Suwa-shi,

Nagano-ken 391 (JP)

Inventor: Koeda, Hiroshi, c/o Seiko Epson Corporation

㉔ Date of publication of application:
21.12.94 Bulletin 94/51

3-5, Owa 3-chome

Suwa-shi,

Nagano-ken 391 (JP)

Inventor: Kobayashi, Naoki, c/o Seiko Epson Corporation

㉕ Designated Contracting States:

3-5, Owa 3-chome

DE FR GB IT

Suwa-shi,

㉖ Date of deferred publication of the search report:
16.08.95 Bulletin 95/33

Nagano-ken 391 (JP)

Inventor: Oguchi, Asahiro, c/o Seiko Epson Corporation

㉗ Applicant: SEIKO EPSON CORPORATION

3-5, Owa 3-chome

4-1, Nishishinjuku 2-chome

Suwa-shi,

Shinjuku-ku

Nagano-ken 391 (JP)

Tokyo 163 (JP)

Inventor: Fujii, Masahiro, c/o Seiko Epson Corporation

㉘ Inventor: Fujii, Masahiro, c/o Seiko Epson Corporation

3-5, Owa 3-chome

3-5, Owa 3-chome

Suwa-shi,

Suwa-shi,

Nagano-ken 391 (JP)

Nagano-ken 391 (JP)

Inventor: Miyashita, Ikuhiro, c/o Seiko Epson Corporation

Inventor: Miyashita, Ikuhiro, c/o Seiko Epson Corporation

Corporation

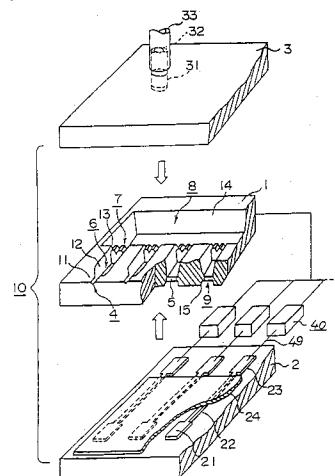
Corporation

㉙ Representative: Hoffmann, Eckart, Dipl.-Ing.
Patentanwalt
Bahnhofstrasse 103
D-82166 Gräfelfing (DE)

㉚ Inkjet recording apparatus having electrostatic actuating means and method of controlling it.

㉛ An inkjet recording apparatus is provided with an inkjet head having a nozzle (4), an ink passage (6, 7, 8) that is connected to the nozzle, and an electrostatic actuator composed of a diaphragm (5) that is provided in a part of the ink passage and an electrode (21) placed outside of the ink passage opposite to the diaphragm. Recording is performed by moving the diaphragm by means of an electrostatic force generated by applying a voltage to the actuator thereby ejecting ink droplets from the nozzle. A drive circuit for the actuator comprises a timing pulse generator, a charge circuit and a discharge circuit. The drive circuit controls an amount of charge to be supplied to the actuator as well as the charge rate, preferably corresponding to environmental operating conditions of the recording apparatus. Thus a durably stable and precise ink ejection can be realized.

FIG. 1





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 10 9195

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.5)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
Y	EP-A-0 479 441 (SEIKO EPSON CORPORATION) * the whole document * ---	1, 2, 5-7, 16, 17	B41J2/045 B41J2/015						
Y	US-A-4 398 204 (DIETRICH ET AL.) * the whole document * ---	1, 2, 5-7, 16, 17							
A	US-A-4 275 402 (KERN) * the whole document * ---	11							
A	US-A-4 282 535 (KERN ET AL.) * the whole document * -----	1							
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)						
			B41J						
<p>The present search report has been drawn up for all claims</p> <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: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>13 June 1995</td> <td>Meulemans, J-P</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	13 June 1995	Meulemans, J-P
Place of search	Date of completion of the search	Examiner							
THE HAGUE	13 June 1995	Meulemans, J-P							
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									