



(11) Publication number : **0 502 720 A3**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **92301870.9**

(51) Int. Cl.⁵ : **B41J 2/295**

(22) Date of filing : **04.03.92**

(30) Priority : **04.03.91 JP 19196/91**

(43) Date of publication of application :
09.09.92 Bulletin 92/37

(84) Designated Contracting States :
DE GB

(88) Date of deferred publication of search report :
09.12.92 Bulletin 92/50

(71) Applicant : **BROTHER KOGYO KABUSHIKI KAISHA**
No. 15-1, Naeshiro-cho, Mizuho-ku
Nagoya-shi, Aichi-ken 467 (JP)

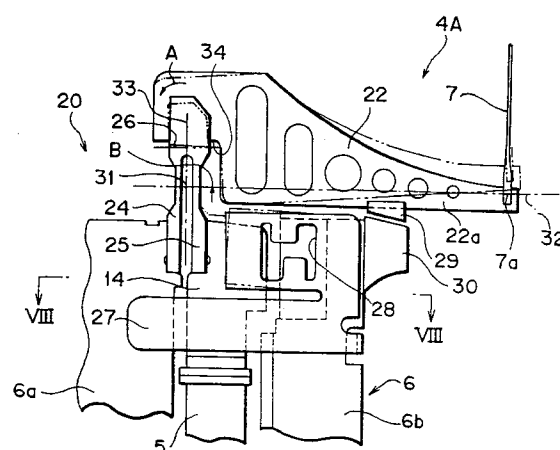
(72) Inventor : **Ikezaki, Yoshiyuki, c/o Brother Kogyo K. K.**
No. 15-1, Naeshiro-cho, Mizuho-ku
Nagayo-shi, Aichi-ken (JP)

(74) Representative : **Senior, Alan Murray et al**
J.A. KEMP & CO., 14 South Square Gray's Inn
London WC1R 5LX (GB)

(54) **Dot matrix impact print head device.**

(57) A dot matrix impact print head device having a plurality of print units. In each of the print units, an end of a support leaf spring (24) supported on a print head body and an end of a drive leaf spring (25) whose another end is connected to a piezoelectric element (5) are joined parallel to each other by a rigid joint (26). The joint is fixed to a proximal end of an arm (22). When the support and drive leaf springs are resiliently deformed, the arm is angularly moved about a pivotal center axis (31) defined by these leaf springs. A line (32) interconnecting the axis (31) and the proximal end of the print wire (7a) extends substantially perpendicularly across the direction of back-and-forth movement of the print wire. When a piezo-electric element (5) is displaced in response to the application of a voltage, an arm (32) is angularly moved through the two leaf springs (25, 26) to move a print wire (7) mounted on the distal end of the arm (22) back and forth.

FIG. 1





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 30 1870

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	EP-A-0 333 595 (FUJITSU) * figure 7 *	1,2,3	B41J2/295
Y	---	4,5,7	
Y	EP-A-0 352 075 (BROTHER KOGYO K.K.) * column 9, line 48 - line 60 * * figures 1-23 *	4,5,7	
P,A	EP-A-0 452 502 (OKI ELECTRICAL INDUSTRY COMPANY) * column 5, line 45 - line 47; figure 3 * -----	1-4,6	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B41J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 09 OCTOBER 1992	Examiner G. v/d MEERSCHAUT
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

EPO FORM 1503 (3.1.92) (P0401)