

Title (en)
INK JET PRINTER AND METHOD FOR FABRICATING A NOZZLE MEMBER

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Application
EP 85306956 A 19850930

Priority
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• JP 19629085 A 19850905
• JP 20340684 A 19840928

Abstract (en)
[origin: EP0355862A1] In an ink jet printer, a print head (1) comprises a front nozzle member (2) having a front channel (3), a housing (4) secured to the front nozzle member, and a rear nozzle member (7) which defines with the housing a liquid chamber (5) and further defines with the front nozzle member a laminar airflow chamber (10a). The rear nozzle member has a forwardly projecting nozzle (8) and a rear channel (9) extending from the liquid chamber through the projecting nozzle in axial alignment with the front channel (3) to form a meniscus at the front end. The airflow chamber is connected to an air supply for directing air to a point between the front and rear channels (3, 9) so that it creates a sharp pressure gradient along a path therebetween. A dead air region is created in a location adjacent the exit end of the rear channel to cause the meniscus to take a dome-like shape which is stabilized against vibrations and transients. An electric field gradient is established between the front channel and the meniscus to cause the latter to extend toward the front channel and expelled through the front channel. A portion (2a) of the front nozzle member is liquid-repellant to prevent the field distribution from being seriously disturbed by an ink layer formed on it by stray ink particles.

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Citation (search report)
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• [A] EP 0054999 A1 19820630 - PHILIPS PATENTVERWALTUNG [DE], et al
• [A] IBM TECHNICAL DISCLOSURE BULLETIN, vol. 26, no. 3A, August 1983, page 1041, Armonk, New York, US; G.J. RATCHFORD: "Nozzle plate"
• [XP] PATENTS ABSTRACTS OF JAPAN, vol. 9, no. 57 (M-363)[1780], 13th March 1985; & JP-A-59 192 576 (MATSUSHITA DENKI SANGYO K.K.) 31-10-1984

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EP 0355862 A1 19900228; **EP 0355862 B1 19930113**; DE 3583275 D1 19910725; DE 3586998 D1 19930225; DE 3586998 T2 19930722;
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