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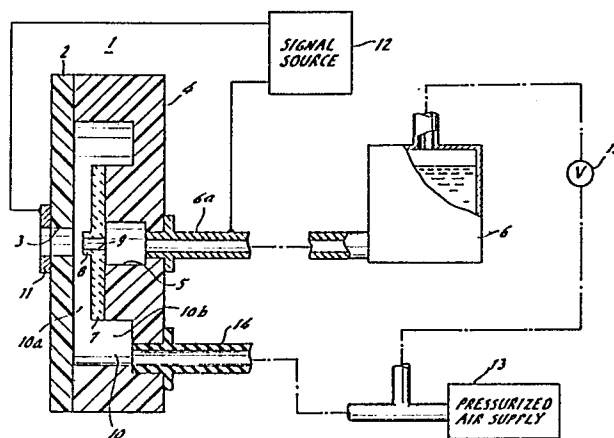
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⑤④ **Ink jet printer and method for fabricating a nozzle member.**

⑤⑦ 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.





| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
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| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl.4) |
| A,D | US-A-4 403 234 (M. MIURA et al.) * Figure 1; column 2, line 30 - column 4, line 10 * | 1 | B 41 J 3/04 |
| A | EP-A-0 054 999 (H. BENTIN) * Figures 2-3; page 7, lines 1-26 * | 1 | |
| A | IBM TECHNICAL DISCLOSURE BULLETIN, vol. 26, no. 3A, August 1983, page 1041, Armonk, New York, US; G.J. RATCHFORD: "Nozzle plate" | 5,6 | |
| X,P | 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 | 1,4 | TECHNICAL FIELDS SEARCHED (Int. Cl.4) B 41 J G 01 D |
| The present search report has been drawn up for all claims | | | |
| Place of search THE HAGUE | | Date of completion of the search 26-02-1987 | Examiner HERBELET J.C. |
| <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> | | | |