

Title (en)
Ink jet printer.

Title (de)
Tintenstrahldrucker.

Title (fr)
Imprimante à jet d'encre.

Publication
EP 0355862 A1 19900228 (EN)

Application
EP 89117232 A 19850930

Priority
• JP 16240385 A 19850723
• JP 17791185 A 19850813
• JP 19629085 A 19850905
• JP 20340684 A 19840928

Abstract (en)
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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B41J 2/045; B41J 2/16

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Citation (search report)
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• [A] PATENT ABSTRACTS OF JAPAN, vol. 6, no. 201 (M-163)[1079], 13th October 1982; & JP-A-57 107 848 (RICOH K.K.) 05-07-1982

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