

Title (en)

Liquid discharge head, recording apparatus, and method for manufacturing liquid discharge heads

Title (de)

Flüssigkeitsausstosskopf , Aufzeichnungsgerät und Flüssigkeitsausstosskopfenherstellungsverfahren

Title (fr)

Tête d'éjection de liquide, appareil d'enregistrement et methode de fabrication de têtes d'éjection de liquide

Publication

EP 0921004 A2 19990609 (EN)

Application

EP 98123168 A 19981204

Priority

- JP 33605597 A 19971205
- JP 33605797 A 19971205
- JP 33605897 A 19971205
- JP 33610397 A 19971205
- JP 6299798 U 19980416
- JP 30451098 A 19981026
- JP 34607698 A 19981204

Abstract (en)

A liquid discharge head comprises a pair of substrates mutually fixed in lamination, a plurality of liquid flow paths arranged on the bonded faces of the substrates, the leading end of the plural liquid flow paths being communicated with a plurality of discharge ports, a plurality of heat generating members arranged on at least one of the substrates corresponding to each of the liquid flow paths and a movable member having in the liquid flow path the free end thereof on the discharge port side, and a region between the heat generating member and the movable member, where liquid exists. In the liquid discharge head, a bubble is created by enabling thermal energy generated by the heat generating members to act upon the liquid, and the bubble is controlled by the movable member to discharge liquid in the liquid flow paths from the discharge ports to the outside. Further, all of the movable members, members becoming side walls of liquid flow paths, members supporting the movable members, and members supporting the walls of liquid flow paths are formed by materials containing silicon and the side walls of liquid flow paths are formed by patterning the material containing silicon formed on the surface of one of the pair of substrates in the liquid discharge head. <IMAGE>

IPC 1-7

B41J 2/16; **B41J 2/14**

IPC 8 full level

B41J 2/14 (2006.01); **B41J 2/16** (2006.01)

CPC (source: EP)

B41J 2/14048 (2013.01); **B41J 2/14056** (2013.01); **B41J 2/14072** (2013.01); **B41J 2/14129** (2013.01); **B41J 2/1604** (2013.01); **B41J 2/1623** (2013.01); **B41J 2/1628** (2013.01); **B41J 2/1629** (2013.01); **B41J 2/1631** (2013.01); **B41J 2/1634** (2013.01); **B41J 2/1642** (2013.01); **B41J 2/1645** (2013.01); **B41J 2/1646** (2013.01); **B41J 2202/13** (2013.01); **B41J 2202/20** (2013.01)

Citation (applicant)

US 4723129 A 19880202 - ENDO ICHIRO [JP], et al

Cited by

EP1065059A2; US6569343B1

Designated contracting state (EPC)

CH DE ES FR GB IT LI NL SE

DOCDB simple family (publication)

EP 0921004 A2 19990609; **EP 0921004 A3 20000426**

DOCDB simple family (application)

EP 98123168 A 19981204