

Title (en)
Ink jet printer head and printer apparatus

Title (de)
Tintenstrahldruckkopf und Druckvorrichtung

Title (fr)
Tête d'imprimante à jet d'encre et imprimante

Publication
EP 1013429 A3 20010314 (EN)

Application
EP 99305770 A 19990721

Priority
JP 37103398 A 19981225

Abstract (en)
[origin: EP1013429A2] A piezo-electric reinforcing member surrounding a plurality of pressure generating units is formed in a thin vibrating chromium film membrane. The reinforcing member is not discrete but continuous with respect to a region of the membrane enclosing the pressure generating units. Within the membrane, thermal stress as well as stress caused by differences in the crystal structure of the piezo-electric member and the chromium film arise. The mechanical strength of the reinforcing member itself restrains the shrinkage of the vibrating membrane caused by the internal stress, thereby preventing cracks from occurring in the vibrating membrane. Likewise, the ends of the pressure generating components as well as the individual electrodes are shaped so as to make it difficult for stress to accumulate thereat, thereby also preventing cracks from occurring in the vibrating membrane. <IMAGE>

IPC 1-7
B41J 2/14

IPC 8 full level
B41J 2/045 (2006.01); **B41J 2/055** (2006.01); **B41J 2/14** (2006.01); **H10N 30/20** (2023.01)

CPC (source: EP)
B41J 2/14233 (2013.01); **B41J 2/161** (2013.01); **B41J 2/1626** (2013.01); **B41J 2/1631** (2013.01); **B41J 2/1635** (2013.01); **B41J 2002/14491** (2013.01)

Citation (search report)
• [XY] EP 0855273 A2 19980729 - SEIKO EPSON CORP [JP]
• [E] EP 0943437 A1 19990922 - SEIKO EPSON CORP [JP]
• [Y] EP 0573055 A2 19931208 - SEIKO EPSON CORP [JP]
• [A] EP 0609080 A2 19940803 - BROTHER IND LTD [JP]
• [A] EP 0835756 A2 19980415 - SEIKO EPSON CORP [JP], et al
• [PX] EP 0893259 A2 19990127 - SEIKO EPSON CORP [JP]

Designated contracting state (EPC)
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EP 99305770 A 19990721; CN 99118344 A 19990831; JP 37103398 A 19981225