

Title (en)
Ink-jet pen with capillarity gradient

Title (de)
Tintenstrahlschreiber mit einem Kapillaritätsgradient

Title (fr)
Dispositif d'écriture à jet d'encre à gradient capillaire

Publication
EP 0709210 B1 19990324 (EN)

Application
EP 95306684 A 19950921

Priority
US 33184794 A 19941031

Abstract (en)
[origin: EP0709210A1] Disclosed is a novel ink jet pen (22,24,276,296) in which polyurethane foam (130,132,134,284,302) is used for ink containment and backpressure. The disclosed pen has a gradually increasing compression of the foam from the bottom of the ink chamber (22,24,276,296) to the top. The increasing compression of the foam results in increased capillarity, which tends to offset the pressure, or gravity head, due to the column of ink when the pen is full. As ink is depleted from the foam during printing, the gravity head is reduced, but so is the effect of the increased capillarity of the foam near the top of the pen, since the ink is no longer in this region. The pen has a more even level of backpressure over the life of the pen, resulting in more uniform droplet size and a corresponding improvement in print quality. <IMAGE>

IPC 1-7
B41J 2/175

IPC 8 full level
B41J 2/175 (2006.01)

CPC (source: EP)
B41J 2/17513 (2013.01); **B41J 2/1752** (2013.01)

Cited by
KR100572780B1; DE10043244A1; EP0860286A3; EP1295723A1; EP2316651A1; CN112265365A; CN114761244A; EP4076963A4; US6796642B2; US6986569B2; US6513920B1; EP1273450A2; US6682186B2; US6293660B1; US6471346B2; EP1273450B1

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
EP 0709210 A1 19960501; EP 0709210 B1 19990324; DE 69508519 D1 19990429; DE 69508519 T2 19990708; JP H08207302 A 19960813

DOCDB simple family (application)
EP 95306684 A 19950921; DE 69508519 T 19950921; JP 28157595 A 19951030