

Title (en)
DROPLET EJECTORS

Publication
EP 0234718 A3 19881221 (EN)

Application
EP 87300507 A 19870121

Priority
US 82004586 A 19860121

Abstract (en)
[origin: EP0234718A2] A nozzleless droplet ejector for ejecting droplets from a free surface (16) of a pool of liquid (17), such as a pool of ink, comprises a selectively-energizeable droplet-emission controller (21) for generating a freely-propagating capillary wave on the surface of the pool to provide on/off timing control and/or ejection trajectory angle control for the ejector. The controller comprises a conductor (22) and a counter-electrode (23). The conductor is immersed in the pool, whereby a capillary surface wave is generated when a periodic voltage is applied across the conductor and the counter-electrode. In one embodiment, a ultrasonic pressure wave is focused on the free surface of the pool, and the capillary wave supplied by the controller coherently interacts with that pressure wave to provide the desired control. <??>Separate controllers may be provided for independently controlling the ejectors of multiple ejector arrays.
[origin: EP0234718A2] The droplet ejector has a pool of liquid with a free surface and a source producing a pressure wave in the pool. A capillary wave emission controller for the injector includes a conductor and a counter electrode. The conductor is adjacent the surface of the liquid, near the focus of the pressure wave. A source is coupled across the conductor and the counter electrode to apply a periodic voltage across it. This causes a freely propagating capillary surface to radiate from the conductor.

IPC 1-7
B41J 3/04

IPC 8 full level
B41J 2/01 (2006.01); **B41J 2/015** (2006.01); **B41J 2/14** (2006.01)

CPC (source: EP)
B41J 2/14008 (2013.01); **B41J 2002/14322** (2013.01)

Citation (search report)
[AD] US 4308547 A 19811229 - LOVELADY KENNETH T, et al

Cited by
EP0375433A3; EP1016534A1

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 0234718 A2 19870902; **EP 0234718 A3 19881221**; **EP 0234718 B1 19920311**; DE 3777211 D1 19920416; JP H078562 B2 19950201; JP S62264962 A 19871117

DOCDB simple family (application)
EP 87300507 A 19870121; DE 3777211 T 19870121; JP 888087 A 19870116