

Title (en)

Cleaning of printhead nozzles using vibration

Title (de)

Reinigen von Druckerdüsen unter Verwendung von Vibrationen

Title (fr)

Nettoyage de buses d'imprimantes utilisant des vibrations

Publication

**EP 0911171 A1 19990428 (EN)**

Application

**EP 98307675 A 19980922**

Priority

US 95593697 A 19971022

Abstract (en)

An invention for removing an agglomeration (82, 98) from an orifice (80, 100) of a printhead (54, 56, 102) used in a printing device (20) is disclosed. The invention may also be used to help prevent formation of agglomerations in printhead orifices. An embodiment of the invention is an apparatus that includes a source (36) that supplies a signal and a transducer (62, 88) coupled to the source (36) and configured to convert the signal from the source (36) into a vibrational waveform (84, 94, 134, 136) selected to remove the agglomeration (82, 98) from the orifice (80, 100) of the printhead (54, 56, 102). An embodiment of a method (150) in accordance with the present invention includes the steps of supplying a signal to a transducer coupled to the agglomeration (154), converting the signal into a vibrational waveform (154), and transmitting the vibrational waveform to the agglomeration to change a state of the agglomeration from a solid to a fluid to remove the agglomeration from the orifice of the printhead (154).  
<IMAGE>

IPC 1-7

**B41J 2/165**

IPC 8 full level

**B41J 2/165** (2006.01)

CPC (source: EP)

**B41J 2/16517** (2013.01); **B41J 2002/16567** (2013.01)

Citation (search report)

- [YA] US 4609925 A 19860902 - NOZU TAKETO [JP], et al
- [Y] US 4563688 A 19860107 - BRAUN HILARION [US]
- [XA] EP 0664218 A2 19950726 - IRIS GRAPHICS INC [US]
- [XY] PATENT ABSTRACTS OF JAPAN vol. 002, no. 086 (E - 043) 14 July 1978 (1978-07-14) & JP S5350834 A 19780509 - RICOH KK
- [XY] PATENT ABSTRACTS OF JAPAN vol. 011, no. 330 (M - 636) 28 October 1987 (1987-10-28)
- [XA] PATENT ABSTRACTS OF JAPAN vol. 011, no. 050 (M - 562) 17 February 1987 (1987-02-17)
- [XA] PATENT ABSTRACTS OF JAPAN vol. 096, no. 004 30 April 1996 (1996-04-30)

Cited by

EP2783837A1; EP1944166A1; GB2529511A; GB2529511B; CN109963715A; US7775623B2; US8128196B2; WO2014154641A1

Designated contracting state (EPC)

DE GB

DOCDB simple family (publication)

**EP 0911171 A1 19990428**

DOCDB simple family (application)

**EP 98307675 A 19980922**