

Title (en)  
ELECTROSTATIC PRINTING AND COPYING

Publication  
**EP 0266823 A3 19881123 (EN)**

Application  
**EP 87201989 A 19810817**

Priority  
• US 18021880 A 19800821  
• US 19464980 A 19801006  
• US 22282981 A 19810105  
• US 22283081 A 19810105

Abstract (en)  
[origin: WO8200723A1] An electrostatic printing device in which an electrostatic latent image is formed on an imaging or dielectric roller (25), toned, and transferred by pressure to plain paper (35). A problem which is typically encountered in transferring a toner image solely by use of pressure is the existence of a residual toner image on the dielectric member after image transfer, due to inefficiencies in toner transfer. The residual toner particles require scraper blades or other removal devices, and accumulate over time at the various process stations associated with the dielectric member, including the apparatus for forming the latent electrostatic image. These toner accumulations decrease the reliability of the apparatus, necessitating service at intervals. Furthermore, inefficiencies in toner transfer may lead to mottling of the images formed on the image receptor sheets. These problems have not been overcome in the prior art through the use of extremely high pressures at the transfer nip. Toner transfer efficiency is improved in the device of the present invention by skewing dielectric roller (25) and pressure roller (37). In the printer, the latent image is formed by an ion generator (100) using two electrodes (102-1, 102-2) that are separated by a solid dielectric (101). A varying high frequency potential (103) is used to create an air gap breakdown in a region at a junction of one of the electrodes and the solid dielectric (101). The ion generator (100) is fabricated by laminating a metal foil (174, 175) to mica (171) using pressure sensitive adhesive (172, 173), and etching the foil to form electrodes. An alternative ion generator is formed using a dielectric-coated wire (197) and a series of transverse conductors (184, 186). A preferred method of fabricating the dielectric roller involves anodizing an aluminum cylinder (25), and impregnating the surface pores with a metallic salt of a fatty acid while maintaining the pores in a substantially moisture-free state.

IPC 1-7  
**G03G 15/16**; **G03G 15/20**

IPC 8 full level  
**B41J 2/385** (2006.01); **G01D 15/06** (2006.01); **G03G 15/05** (2006.01); **G03G 15/00** (2006.01); **G03G 15/16** (2006.01); **G03G 15/18** (2006.01); **G03G 15/20** (2006.01); **G03G 15/22** (2006.01); **G03G 15/32** (2006.01)

CPC (source: EP)  
**G03G 15/167** (2013.01); **G03G 15/18** (2013.01); **G03G 15/2092** (2013.01); **G03G 15/22** (2013.01); **G03G 15/323** (2013.01)

Citation (search report)  
• [A] US 4188109 A 19800212 - IDENAWA HIROYUKI [JP], et al  
• [A] GB 2007157 A 19790516 - DENNISON MFG CO  
• [AD] US 4192229 A 19800311 - KUBOTA ATSUSHI [JP], et al  
• [E] US 4380385 A 19830419 - OZAKI YOSHIHIRO [JP], et al  
• [E] US 4448872 A 19840515 - VANDERVALK CASEY S [US]

Designated contracting state (EPC)  
AT CH DE FR GB LI NL SE

DOCDB simple family (publication)  
**WO 8200723 A1 19820304**; AU 4092589 A 19891207; AU 554695 B2 19860828; AU 590297 B2 19891102; AU 6017186 A 19861211; AU 7580481 A 19820317; BR 8108750 A 19820706; CA 1170117 A 19840703; DE 3177224 D1 19901122; EP 0058182 A1 19820825; EP 0058182 A4 19830406; EP 0058182 B1 19870304; EP 0140399 A1 19850508; EP 0140399 B1 19881221; EP 0166494 A1 19860102; EP 0166494 B1 19901017; EP 0265994 A2 19880504; EP 0265994 A3 19881123; EP 0266823 A2 19880511; EP 0266823 A3 19881123; ES 504840 A0 19821201; ES 8301037 A1 19821201; IL 63583 A0 19811130; IT 1139412 B 19860924; IT 8123593 A0 19810821; JP H0415953 B2 19920319; JP S57501348 A 19820729; MX 151040 A 19840917; MX 159260 A 19890509; NZ 198031 A 19881129; PT 73549 A 19810901; PT 73549 B 19821105

DOCDB simple family (application)  
**US 8101092 W 19810817**; AU 4092589 A 19890830; AU 6017186 A 19860715; AU 7580481 A 19810817; BR 8108750 A 19810817; CA 384368 A 19810821; DE 3177224 T 19810817; EP 81902352 A 19810817; EP 84201142 A 19810817; EP 85201056 A 19810817; EP 87201989 A 19810817; EP 87201990 A 19810817; ES 504840 A 19810820; IL 6358381 A 19810814; IT 2359381 A 19810821; JP 50284381 A 19810817; MX 18884681 A 19810821; MX 20237381 A 19810821; NZ 19803181 A 19810813; PT 7354981 A 19810820