

Title (en)  
CORONA CHARGING APPARATUS

Publication  
**EP 0072862 B1 19890621 (EN)**

Application  
**EP 82901078 A 19820223**

Priority  
• US 23755981 A 19810224  
• US 24483381 A 19810317

Abstract (en)  
[origin: WO8202983A1] A corona charging device including a dielectric-coated elongate conductor (11) contacting or closely spaced from a control electrode. In the first version of this device, the control electrode comprises a conductive grid (17), which is mounted against an insulating support (15). In a second version, the control electrode consists of a slotted conductor (94), with the dielectric-coated elongate conductor (11) embedded in the slot (96). A high voltage varying potential (25) between the elongate conductor (11) and control electrode induces a glow discharge in an air region in proximity to the two conductors. The control electrode may act as a grounding member to provide a corona discharge device with respect to a proximate surface (20). Alternatively, the control electrode may be maintained at a desired potential (27) to provide a charging device with an automatically limited voltage. The corona charging devices of the invention are characterized by a linear relationship between output ion currents and a direct current extraction potential. In further versions of the second corona device, the slotted conductor and dielectric-coated conductor may be replaced with alternative structures which provide an equivalent enclosure.

IPC 1-7  
**H01T 19/04**

IPC 8 full level  
**G03G 15/02** (2006.01); **H01T 19/00** (2006.01); **H01T 19/04** (2006.01)

CPC (source: EP)  
**G03G 15/0291** (2013.01); **H01T 19/00** (2013.01)

Cited by  
US7651553B2; WO2007038778A3

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

DOCDB simple family (publication)  
**WO 8202983 A1 19820902**; AU 586531 B2 19890713; AU 6793587 A 19870507; AU 8273282 A 19820914; CA 1176695 A 19841023; DE 3279781 D1 19890727; EP 0072862 A1 19830302; EP 0072862 A4 19830704; EP 0072862 B1 19890621; ES 510454 A0 19830601; ES 8306289 A1 19830601; IL 65099 A0 19820430; IT 1195781 B 19881027; IT 8219826 A0 19820224; MX 151414 A 19841114; NZ 199827 A 19851213; PT 74473 A 19820301; PT 74473 B 19841119

DOCDB simple family (application)  
**US 8200222 W 19820223**; AU 6793587 A 19870122; AU 8273282 A 19820223; CA 397002 A 19820224; DE 3279781 T 19820223; EP 82901078 A 19820223; ES 510454 A 19820224; IL 6509982 A 19820224; IT 1982682 A 19820224; MX 19155882 A 19820224; NZ 19982782 A 19820224; PT 7447382 A 19820224