

Title (en)
Electron collector for an electron tube.

Title (de)
Elektronenkollektor für eine Elektronenröhre.

Title (fr)
Collecteur d'électrons pour tube électronique.

Publication
EP 0324667 A1 19890719 (FR)

Application
EP 89400031 A 19890105

Priority
FR 8800299 A 19880113

Abstract (en)
[origin: JPH01294330A] PURPOSE: To decrease the power consumption density per unit length on the surface of the wall of a collector by causing an axial magnetic field, somewhat diverged along the track of electrons, periodically varied in intensity and changed with a time, in an area encircled by the wall of the collector. CONSTITUTION: A coil winding of a coil 36 generates a magnetic field to be somewhat weaker as a distance from an electron gun along the axis of a tube is longer. So, the line of magnetic force 37 is somewhat diverged to the direction of transferring electron beam. In other directions, the line of magnetic force is combined with the line of magnetic force of a main coil winding 32. Under such conditions, electrons in the electron beam 38 are moved along a spiral track around the line of magnetic force. The electron beam is somewhat diverged and collides with a collector wall 23 at a grazing angle, namely, in almost tangent direction. In this way, an impact area 40 is enlarged and the power density of a collector is decreased.

Abstract (fr)
Selon l'invention, la paroi conductrice (23) chargée de collecter les électrons est entourée d'un enroulement (36) créant un champ magnétique (37) lentement divergent. Les trajectoires électroniques sont couchées et la zone d'impact (40) se trouve étalée le long du collecteur. Application à la réalisation de tubes de forte puissance ou de tubes à collecteurs de dimensions réduites.

IPC 1-7
H01J 23/027

IPC 8 full level
H01J 23/027 (2006.01); **H01J 25/00** (2006.01); **H01J 37/244** (2006.01)

CPC (source: EP US)
H01J 23/027 (2013.01 - EP US)

Citation (search report)

- [X] FR 1404711 A 19650702 - VARIAN ASSOCIATES
- [Y] FR 1105382 A 19551130
- [Y] US 3538366 A 19701103 - GLIEN HANS, et al
- [X] US 4668894 A 19870526 - BARNETT LARRY R [US], et al
- [A] FR 991127 A 19511001 - CSF
- [A] GB 819682 A 19590909 - ENGLISH ELECTRIC VALVE CO LTD
- [A] FR 2568057 A1 19860124 - VARIAN ASSOCIATES [US]
- [A] US 2869018 A 19590113 - BREWER GEORGE R, et al
- [A] FR 56298 E 19520922 - CSF

Cited by
FR2659492A1; US8004197B2; WO2008135064A1

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
EP 0324667 A1 19890719; EP 0324667 B1 19940921; DE 68918295 D1 19941027; DE 68918295 T2 19950202; DE 68918295 T4 19951019; FR 2625836 A1 19890713; FR 2625836 B1 19960126; JP 2895083 B2 19990524; JP H01294330 A 19891128; US 4933594 A 19900612

DOCDB simple family (application)
EP 89400031 A 19890105; DE 68918295 A 19890105; DE 68918295 T 19890105; FR 8800299 A 19880113; JP 584489 A 19890112; US 29429289 A 19890106