

Title (en)

Fusing roller assembly including a resistance coil for heating wound around a heat pipe roller for electrophotographic image forming apparatus

Title (de)

Fixierrolleranordnung eines elektrophotographischen Bilderzeugungsgeräts mit Heizspule um eine Wärmeübertragungswalze

Title (fr)

Ensemble de fixation avec la bobine de chauffage autour d'un tube de chauffe d'un appareil électrophotographique de formation d'images

Publication

EP 1496407 A3 20050119 (EN)

Application

EP 04017021 A 20011219

Priority

- EP 01310591 A 20011219
- KR 20010013451 A 20010315
- KR 20010024378 A 20010504
- US 25711800 P 20001222
- US 94765701 A 20010907

Abstract (en)

[origin: EP1496407A2] A structurally improved fusing roller assembly (200) based on the heat pipe principle is provided. The fusing roller assembly includes a fusing roller (212) and a heat pipe (262) coaxially mounted inside the fusing roller (212). A resistance coil (213) is helically wound around the exterior cylindrical surface of the heat pipe, and rests between the inner cylindrical surface of the fusing roller and the exterior cylindrical surface of the heat pipe. During manufacture, the heat pipe (262) is hermetically sealed to allow a production step of inflating the sealed heat pipe with a high pressure inert gas to radially expand the cylindrical shell of the heat pipe (262) until the coil windings make simultaneously tight contact with both the inner surface of the fusing roller and the outer surface of the heat pipe. <??>The surface of fusing roller (212) can be instantaneously heated up to a target fusing temperature. The fusing roller assembly (200) can be heated up to a target fusing temperature within a shorter period of time without need for warm-up and stand-by period, so that power consumption decreases. <IMAGE>

IPC 1-7

G03G 15/20; **H05B 3/00**

IPC 8 full level

G03G 15/20 (2006.01); **H05B 3/00** (2006.01)

CPC (source: EP)

G03G 15/2053 (2013.01); **H05B 3/0095** (2013.01)

Citation (search report)

- [X] US 6122479 A 20000919 - FUJITA TAKASHI [JP], et al
- [X] US 5420392 A 19950530 - SAKATA YOSHIO [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 0185, no. 13 (P - 1805) 27 September 1994 (1994-09-27)
- [DA] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 11 28 November 1997 (1997-11-28)

Cited by

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Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 1496407 A2 20050112; **EP 1496407 A3 20050119**; **EP 1496407 B1 20060510**

DOCDB simple family (application)

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