

Title (en)

Fusing roller assembly including a working fluid within a heat pipe roller for electrophotographic image forming apparatus

Title (de)

Fixierrolleranordnung eines elektrophotographischen Bilderzeugungsgeräts mit Arbeitsflüssigkeit in der Heizwalze

Title (fr)

Ensemble de fixation avec un fluide de travail dans le rouleau chauffant d'un appareil électrophotographique de formation d'images

Publication

EP 1220054 A1 20020703 (EN)

Application

EP 01309414 A 20011106

Priority

- KR 20010013451 A 20010315
- US 25711800 P 20001222

Abstract (en)

A structurally improved fusing roller assembly based on the heat pipe principle is provided. The fusing roller assembly includes a fusing roller (312) having the structure of a heat pipe, and a resistance heater (313) and/or a halogen lamp (313a) inside the fusing roller (312), so that the surface of fusing roller (311) can be instantaneously heated up to a target fusing temperature. By containing a working fluid (214) inside the fusing roller (312) and in contact with the resistance heater (313) the fusing roller assembly 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

IPC 8 full level

F16C 13/00 (2006.01); **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] EP 0772100 A2 19970507 - XEROX CORP [US]
- [A] US 5659866 A 19970819 - KIM SUNG-GI [KR]
- [A] US 5752150 A 19980512 - KATO TAKESHI [JP], et al
- [X] PATENT ABSTRACTS OF JAPAN vol. 016, no. 201 (P - 1352) 14 May 1992 (1992-05-14)

Cited by

EP1998597A3

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 1220054 A1 20020703; **EP 1220054 B1 20040804**; CN 1209688 C 20050706; CN 1360231 A 20020724; DE 60104640 D1 20040909; DE 60104640 T2 20050105; JP 2002304076 A 20021018; JP 3680995 B2 20050810

DOCDB simple family (application)

EP 01309414 A 20011106; CN 01137402 A 20011113; DE 60104640 T 20011106; JP 2001391955 A 20011225