



(11) Publication number : **0 642 064 A3**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **94306493.1**

(51) Int. Cl.⁶ : **G03G 15/20**

(22) Date of filing : **02.09.94**

(30) Priority : **03.09.93 JP 220022/93**

(43) Date of publication of application :
08.03.95 Bulletin 95/10

(84) Designated Contracting States :
DE FR GB IT

(88) Date of deferred publication of search report :
06.09.95 Bulletin 95/36

(71) Applicant : **MITA INDUSTRIAL CO., LTD.**
2-28, 1-chome, Tamatsukuri
Chuo-ku
Osaka 540 (JP)

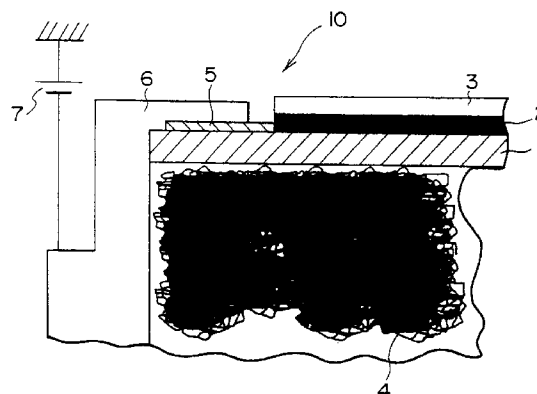
(72) Inventor : **Matsuda, Tomiyasu, c/o Mita Industrial Co., Ltd.**
2-28, Tamatsukuri, 1-chome
Chuo-ku, Osaka 540 (JP)
Inventor : **Ohira, Naruhisa, c/o Mita Industrial Co., Ltd.**
2-28, Tamatsukuri, 1-chome
Chuo-ku, Osaka 540 (JP)
Inventor : **Iwagawa, Isao, c/o Mita Industrial Co., Ltd.**
2-28, Tamatsukuri, 1-chome
Chuo-ku, Osaka 540 (JP)
Inventor : **Ohashi, Takashi, c/o Mita Industrial Co., Ltd.**
2-28, Tamatsukuri, 1-chome
Chuo-ku, Osaka 540 (JP)

(74) Representative : **Barlow, Roy James**
J.A. KEMP & CO.
14, South Square
Gray's Inn
London WC1R 5LX (GB)

(54) **Heat fixing apparatus.**

(57) A heat-fixing apparatus for use in an electrophotographic apparatus such as a copying machine. It comprises a substrate roller formed of a material having a heat conductivity of 0.7 kcal/mhk or less, a resistant heat-generating layer provided on the surface of the roller, and a surface coat layer provided on the resistance heat-generating layer. This heat-fixing apparatus has a very high heat efficiency, and can perform heat-fixing of a toner at a low consumption of electric power. In addition, since the heating is carried out rapidly, the rising time is markedly shortened, and it is not necessary to perform pre-heating. In this respect, too, the electric power to be consumed is decreased. Furthermore, since it is a roller-type fixing method, it can effectively cope with high-speed copying. Moreover, because the apparatus has a large strength, the apparatus can be effectively made light in weight.

FIG 1





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 30 6493

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	PATENT ABSTRACTS OF JAPAN vol. 013 no. 316 (P-900) ,18 July 1989 & JP-A-01 086185 (OKI ELECTRIC IND CO LTD) 30 March 1989, * abstract *	1-3	G03G15/20
A	--- PATENT ABSTRACTS OF JAPAN vol. 017 no. 611 (P-1641) ,10 November 1993 & JP-A-05 188809 (ALPS ELECTRIC CO LTD) 30 July 1993, * abstract *	1-3	
A,P	--- PATENT ABSTRACTS OF JAPAN vol. 018 no. 546 (P-1814) ,18 October 1994 & JP-A-06 194978 (KYOCERA CORP) 15 July 1994, * abstract *	1-3,5-7	
A,P	--- PATENT ABSTRACTS OF JAPAN vol. 018 no. 387 (P-1773) ,20 July 1994 & JP-A-06 110348 (KYOCERA CORP) 22 April 1994, * abstract *	1-3	TECHNICAL FIELDS SEARCHED (Int.Cl.6) G03G
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 19 June 1995	Examiner Manntz, W
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ***** & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 (02.82) (P04C01)