



(11) Publication number : **0 631 207 A3**

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number : **94401449.7**

(51) Int. Cl.<sup>5</sup> : **G03G 15/08**

(22) Date of filing : **27.06.94**

(30) Priority : **25.06.93 JP 155376/93**  
**19.01.94 JP 4057/94**

(43) Date of publication of application :  
**28.12.94 Bulletin 94/52**

(84) Designated Contracting States :  
**CH DE FR GB IT LI**

(88) Date of deferred publication of search report :  
**05.07.95 Bulletin 95/27**

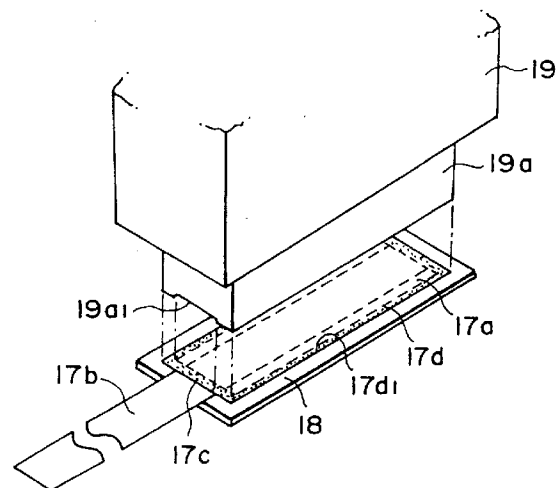
(71) Applicant : **CANON KABUSHIKI KAISHA**  
**30-2, 3-chome, Shimomaruko,**  
**Ohta-ku**  
**Tokyo (JP)**

(72) Inventor : **Fujiwara, Yasuo, c/o Canon**  
**Kabushiki Kaisha**  
**30-2, 3-chome Shimomaruko**  
**Ohta-ku, Tokyo (JP)**  
 Inventor : **Kobayashi, Hiroo, c/o Canon**  
**Kabushiki Kaisha**  
**30-2, 3-chome, Shimomaruko**  
**Ohta-ku, Tokyo (JP)**

(74) Representative : **Rinuy, Santarelli**  
**14, avenue de la Grande Armée**  
**F-75017 Paris (FR)**

(54) **Developing apparatus, process cartridge and image forming apparatus.**

(57) A developing apparatus for developing a latent image formed on an image bearing member includes a first frame (19a) having a developer container (19) for containing a developer; a second frame (18) having a developer carrying member for carrying the developer supplied from the developer container (19) to supply the developer to the latent image; a sealing member (17) for sealing an opening for supplying the developer from the developer container (19) to the developer carrying member; wherein the sealing member (17) is pulled between the first frame (19a) and the second frame (18) along a pulling path in a pulling direction, whereby the opening is opened; projections, disposed at both sides of the pulling path downstream of the opening in the pulling direction, for limiting the pulling direction of a sealing member.



**FIG. 12**



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 94 40 1449

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.5)
X	EP-A-0 330 225 (CANON KK) 30 August 1989  * page 6, line 15 - line 52; figures 1A, 2 *	1, 2, 10-13, 21-25, 33-35, 43, 44, 63	G03G15/08
Y		45, 54, 75-77, 80-82, 97, 98	
X	EP-A-0 371 520 (MITA INDUSTRIAL CO LTD) 6 June 1990 * column 8, line 39 - column 9, line 27; figures. 1, 3, 7 *	1, 12	
Y		45, 54	
X	EP-A-0 387 986 (CANON KK) 19 September 1990 * column 6, line 28 - line 44; figures 3, 4 *	1, 12	TECHNICAL FIELDS SEARCHED (Int.Cl.5)
X	EP-A-0 102 002 (KONISHIROKU PHOTO IND) 7 March 1984  * page 14, line 11 - line 15; figures 10, 13 *	64-66, 69-71, 85, 96, 99	G03G
Y		75-77, 80-82, 86-88, 90-93, 97, 98	
Y	EP-A-0 429 152 (BEROLINA SCHRIFTBILD) 29 May 1991  * column 2, line 18 - line 47; figure 2 *	86-88, 90-93, 97, 98	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 18 April 1995	Examiner Trepp, E
<p><b>CATEGORY OF CITED DOCUMENTS</b></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 ----- &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)



European Patent

Office

### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet -B-

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respects of which search fees have been paid, namely claims:
- ☐ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



European Patent  
Office

EP 94 40 1449 -B-

#### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-63 : Projections at both sides of pulling path of sealing member to avoid oblique pulling direction.
2. Claims 64-99 : End seal and a projection upstream of said end seal with respect to the sealing member pulling direction to avoid that the end seal is peeled off.