

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

**EP 1 003 084 A3**

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
**28.11.2001 Bulletin 2001/48**

(51) Int Cl.7: **G03G 15/20**

(43) Date of publication A2:  
**24.05.2000 Bulletin 2000/21**

(21) Application number: **99309198.2**

(22) Date of filing: **18.11.1999**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**  
Designated Extension States:  
**AL LT LV MK RO SI**

- **Lebold, Alan**  
**Niagara Falls, NY 14304 (US)**
- **Palazzo, Jason**  
**Niagara Falls, NY 14304 (US)**
- **Parry, Steve**  
**Clitheroe, Lancashire, BB7 2NY (GB)**

(30) Priority: **19.11.1998 GB 9825343**

(71) Applicant: **BMP Europe Ltd.**  
**Accrington BB5 5YH (GB)**

(74) Representative: **Downey, William Gerrard et al**  
**Wilson, Gunn, M'Caw,**  
**41-51 Royal Exchange,**  
**Cross Street**  
**Manchester M2 7BD (GB)**

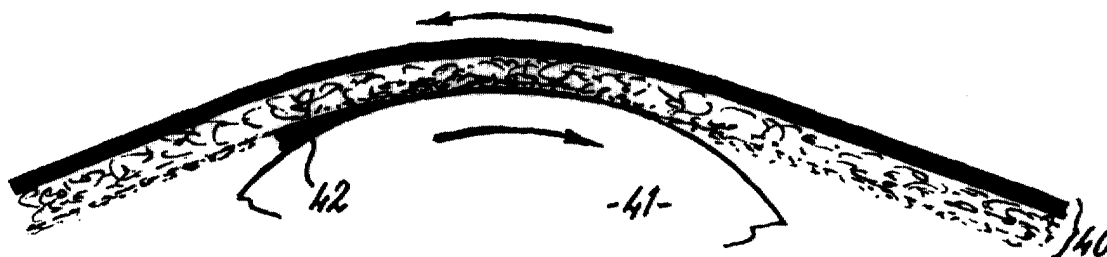
(72) Inventors:

- **Dugdale, Neil Graham**  
**Evans, Georgia 30809 (US)**

(54) **Cleaning web**

(57) A cleaning web 40 for use in electrostatic reproduction equipment including fibres the cross-section of each of which having a peripheral dimension and an area, wherein the ratio of the peripheral dimension and cross-sectional area is greater than the said ratio for a

fibre of circular or substantially circular and equal area of cross-section, for instance tri-lobal or multi-lobal fibres. One side of the cleaning web may be substantially impermeable. A cleaning web having one substantially impermeable side may be produced with conventional fibres.



***FIE 4***

**EP 1 003 084 A3**



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 99 30 9198

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.7)
X	EP 0 758 765 A (JAPAN VILENE CO LTD) 19 February 1997 (1997-02-19) * page 3, line 27 - page 5, line 9; figure 1 *	1-11	G03G15/20
A	---	12	
X	EP 0 493 652 A (MITSUBISHI MATERIALS CORP ;KANAI JUYO KOGYO KK (JP)) 8 July 1992 (1992-07-08) * page 3, line 33 - page 4, line 12; figures 4,5 *	1	
X	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 02, 29 February 1996 (1996-02-29) & JP 07 287496 A (TEIJIN LTD), 31 October 1995 (1995-10-31) * abstract *	1	
A	WO 98 36331 A (BMP EUROP LTD ;PARRY STEVE (GB)) 20 August 1998 (1998-08-20) * page 9, line 12-16; figure 3 *	1	<div>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</div> <div>G03G</div>
<div>The present search report has been drawn up for all claims</div>			
Place of search		Date of completion of the search	Examiner
THE HAGUE		9 July 2001	De Vries, A
<div>CATEGORY OF CITED DOCUMENTS</div> <div> 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  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 </div>			

EPO FORM 1503 03/82 (P04C01)



European Patent  
Office

Application Number

EP 99 30 9198

### CLAIMS INCURRING FEES

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

- ☐ Only part of the claims 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 claim(s):
- ☐ 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 requirements 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.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ 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 respect of which search fees have been paid, namely claims:
- ☒ None 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 invention first mentioned in the claims, namely claims:

1-18, 26 (as dependent on any claims 12-18)



European Patent  
Office

**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 99 30 9198

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

1. Claims: 1-18, 26 (as dependent on any of claims 12-18)

a cleaning web comprising fibres having a cross-section such that the ratio of peripheral dimension of the cross-section to the area of the cross-section is larger than that ratio for a fibre having a substantially circular cross-section of equal area

2. Claims: 19-25, 26 (as dependent on any of these claims)

a cleaning web of which the non-cleaning side is substantially or completely impermeable

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 30 9198

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-07-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0758765 A	19-02-1997	JP 9054514 A	25-02-1997
		US 5649130 A	15-07-1997
EP 0493652 A	08-07-1992	CA 2053577 A	30-06-1992
		DE 69115007 D	11-01-1996
		DE 69115007 T	18-04-1996
		JP 2888684 B	10-05-1999
		JP 5035143 A	12-02-1993
		US 5343278 A	30-08-1994
		US 5218410 A	08-06-1993
JP 07287496 A	31-10-1995	NONE	
WO 9836331 A	20-08-1998	EP 0960358 A	01-12-1999