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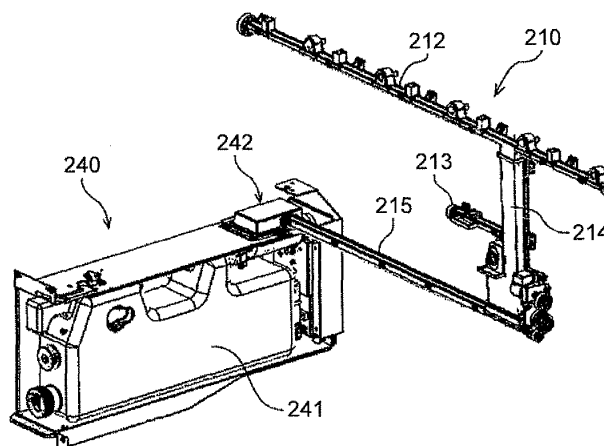
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(54) **Image forming apparatus**

(57) An image forming apparatus (1) includes an image carrier, a cleaning device (2) that collects a waste toner attached to the surface of the image carrier using a cleaning member, a waste container (241) that is removable from an image forming apparatus body, a temporary storage unit (242) that is provided in the image forming apparatus body to temporarily store a waste in-

cluding the waste toner collected in the cleaning device before the waste is transported to the waste container, and a waste transport unit (215) that transports the waste to the temporary storage unit, wherein a discharge speed of the waste from the temporary storage unit by the waste discharge unit is higher than a transport speed of the waste to the temporary storage unit by the waste transport unit.

**FIG.2**





## EUROPEAN SEARCH REPORT

Application Number  
EP 11 19 5209

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X,D	US 2005/169649 A1 (ONODERA SHINICHI [JP] ET AL) 4 August 2005 (2005-08-04)	1,10	INV. G03G21/10
Y	* abstract; figures 1-4,11 *	8,9	
A	* paragraphs [0036] - [0046], [0061], [0067] - [0069], [0098], [0100] *	2	
A	US 2010/080578 A1 (ICHIKAWA TOMOYA [JP]) 1 April 2010 (2010-04-01) * abstract; figure 1 *	2	
A	US 2003/068167 A1 (CORIALE MATTHEW CHRISTOPHER [US] ET AL) 10 April 2003 (2003-04-10) * abstract * * paragraphs [0004], [0007], [0008], [0022] *	2	
Y	US 6 181 886 B1 (HOCKEY DAVID E [US] ET AL) 30 January 2001 (2001-01-30) * abstract; claims 1,2; figure 3 *	8,9	TECHNICAL FIELDS SEARCHED (IPC)
			G03G
<del>The present search report has been drawn up for all claims</del>			
Place of search The Hague		Date of completion of the search 31 January 2012	Examiner Fernandes, Paulo
CATEGORY OF CITED DOCUMENTS 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 ..... & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.02 (P04C01)



Application Number

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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due 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 those claims for which no payment was due.

**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:  
1-5, 8-10, 12-14
- ☐ The present supplementary 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 (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION**  
**SHEET B**

Application Number

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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: 1-5, 8-10, 12-14

Image forming apparatus comprising a cleaning device, waste container, temporary storage unit and a container insertion/removal detection unit wherein the amount of toner removed from the temporary storage unit after insertion of the container is estimated by subtracting the estimated transport amount (from cleaning device to temporary storage) from the estimated discharge amount (from temporary storage to container).

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2. claim: 6

Image forming apparatus comprising a cleaning device, waste container, temporary storage unit and a container insertion/removal detection unit wherein the estimated transport amount of toner (from cleaning device to temporary storage) is periodically stored in a non-volatile memory.

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3. claims: 7, 15

Image forming apparatus comprising a cleaning device, waste container, temporary storage unit and a container insertion/removal detection unit wherein toner waste transport to temporary storage unit is halted if container is removed and image forming operation ends.

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4. claim: 11

Image forming apparatus comprising a cleaning device, waste container, temporary storage unit and a container insertion/removal detection unit wherein a main body door is provided.

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

EP 11 19 5209

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  
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31-01-2012

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