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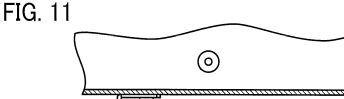
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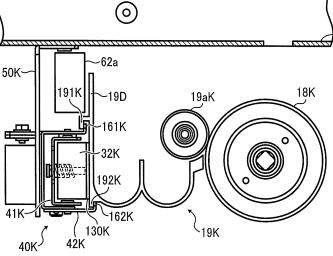
(54) Image forming apparatus

(57) An image forming apparatus (100) includes a latent image bearer (18K), a development device (19K) removably installable in an apparatus body in an installation direction (Z), the development device (19K), a cooling device (30) including a heat receiver (32K) containing coolant to cool the development device (19K), a pressing means (142) to press the heat receiver (32K) of the cooling device (19K) against the development device (19K),

an engaging and disengaging unit (40) for engaging and disengaging the heat receiver (32K) from the development device (19) by moving the heat receiver (32K) in the installation direction (Z), and a shifting means (191K, 41fK) that contacts the development device (19K) and moves the heat receiver (32K) together with the development device (19K) in the installation direction (Z) when the development device (19K) is installed in the apparatus body.

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EUROPEAN SEARCH REPORT

Application Number

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	DOCUMENTS CONSID	ERED TO BE RELEVANT				
Category	Citation of document with i of relevant pass	ndication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)		
Х	ET AL) 22 July 2010	FUJIYA HIROMITSU [JP] 0 (2010-07-22) - paragraph [0131] *	1-11	INV. G03G15/08 G03G21/20		
Х	JP 2005 164927 A (0 23 June 2005 (2005 * abstract *	CANON KK) -06-23)	1-4			
				TECHNICAL FIELDS		
				SEARCHED (IPC)		
	The present search report has		L			
Place of search		Date of completion of the search	Cö+	Examiner Götsch Stefan		
Munich 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		E : earlier patent doc after the filing dat her D : document cited in L : document cited fo 	18 October 2013 Götsch, Stefan T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document oited in the application L: document oited for other reasons 8: member of the same patent family, corresponding document			

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18-10-2013

Pa cited	Patent document cited in search report		Publication date	Publication Patent family date member(s)			Publication date
US 2	2010183323	A1	22-07-2010	JP US	2011018008 2010183323	A A1	27-01-201 22-07-201
JP 2	2005164927	Α	23-06-2005	NONE			
more detai	ls about this annex	: see Of	fficial Journal of the Euro	oean Pat	ent Office, No. 12/8	2	