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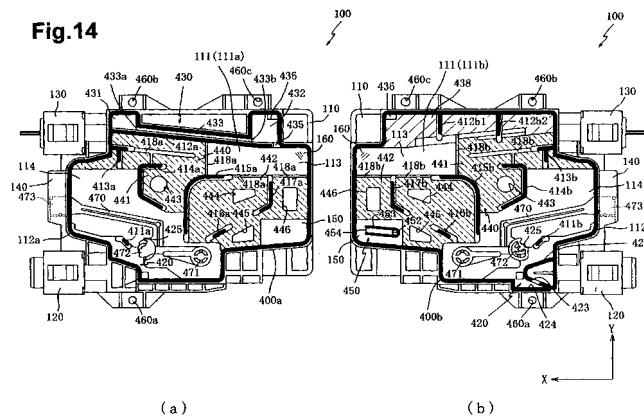
(54) Ink cartridge

(57) An ink cartridge comprising:
an ink storing member defining therein an ink storing chamber for storing ink; and
a movable member which is provided in the ink storing chamber and is configured to be moved as an amount of the ink in the ink chamber decreases,

wherein the movable member includes a light shutting member which is movable in response to the motion of the movable member,
wherein the ink storing member includes a detected por-

tion and the detected portion includes therein a passage in which the light shutting member is movably positioned and the passage is formed by a pair of walls that are substantially parallel to a moving plane on which the moving member moves,
the ink cartridge being characterized in that:
a pair of first spaces is provided between the light shutting member and the pair of walls, the detected portion includes at least one second space below the light shutting member, which is connected to the pair of the first spaces, and in that the second space is narrower than one of the first spaces.

Fig.14





DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	JP 08 281966 A (MATSUSHITA ELECTRIC IND CO LTD) 29 October 1996 (1996-10-29) * abstract; figures 2,3 *	1,13,15	INV. B41J2/175
A	US 6 390 590 B1 (HANSBURG EDWARD MICHAEL [US]) 21 May 2002 (2002-05-21) * column 5, line 23 - column 6, line 55; figures 1,3,6 *	1,13,15	
P,A	US 2006/033789 A1 (SASAKI TOYONORI [JP] ET AL) 16 February 2006 (2006-02-16) * paragraph [0153] - paragraph [0154]; figures 14,15 *	1,13,15	
			TECHNICAL FIELDS SEARCHED (IPC)
			B41J
<p>2 The present search report has been drawn up for all claims</p>			
Place of search		Date of completion of the search	Examiner
The Hague		21 March 2007	De Groot, Ronald
CATEGORY OF CITED DOCUMENTS		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	
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			

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

EP 06 01 3005

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.

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 8281966	A	29-10-1996	NONE	
US 6390590	B1	21-05-2002	NONE	
US 2006033789	A1	16-02-2006	NONE	