(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: **04.07.2012 Bulletin 2012/27**

(51) Int Cl.: **B41J 2/175** (2006.01)

(43) Date of publication A2: 28.03.2012 Bulletin 2012/13

(21) Application number: 11190790.3

(22) Date of filing: 28.02.2008

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC: 09179890.0 / 2 161 134 08003699.9 / 2 045 079

(71) Applicant: Brother Kogyo Kabushiki Kaisha Nagoya-shi, Aichi 467-8561 (JP) (72) Inventors:

 Hattori, Shingo Nagoya, Aichi 467-8562 (JP)

Nakamura, Hirotake
 Nagoya, Aichi 467-8562 (JP)

(74) Representative: Prüfer & Partner GbR European Patent Attorneys Sohnckestrasse 12 81479 München (DE)

(54) Ink cartridge, set of ink cartridges, and ink cartridge determination system

(57) An ink cartridge includes a first signal blocking portion, a second signal blocking portion, and a third signal blocking portion. The first signal blocking portion is configured to either prevent a first signal from passing therethrough or to alter a path of the first signal when the first signal blocking portion receives the first signal, the second signal blocking portion is configured to either prevent a second signal from passing therethrough or to alter a path of the second signal when the second signal blocking portion receives the second signal, and the third signal blocking portion is configured to either prevent the second signal from passing therethrough or to alter a path of the second signal when the third signal blocking portion receives the second signal.

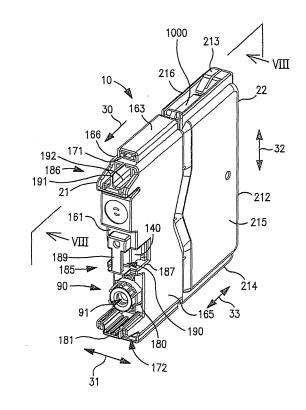
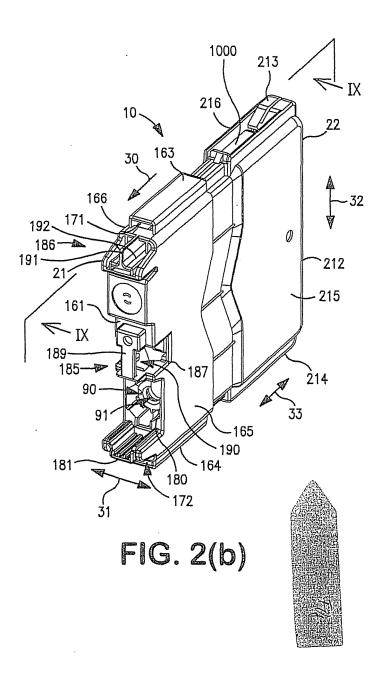


FIG. 2(a)





EUROPEAN SEARCH REPORT

Application Number

EP 11 19 0790

| | DOCUMENTS CONSID | ERED TO BE RELEVAN | Τ | | | |
|---|--|--|--|---|---|--|
| Category | Citation of document with ir of relevant passa | ndication, where appropriate, ages | | lelevant o claim | CLASSIFICATION OF THE APPLICATION (IPC) INV. B41J2/175 | |
| Х | 29 August 2007 (200 | OTHER IND LTD [JP]) 7-08-29) figures 3,4,9b,11 * | | 21 | | |
| Х | EP 1 234 675 A2 (CA 28 August 2002 (200 * figure 15 * | | 1- | 21 | | |
| Х | 30 May 2007 (2007-0 | | , 1- | 21 | | |
| X | * paragraph [0251] | -04-11) | | 21 | | |
| X | US 7 188 939 B1 (SA 13 March 2007 (2007 * the whole documen | SAKI TOYONORI [JP]) -03-13) t * | I [JP]) 1-21 | | TECHNICAL FIELDS SEARCHED (IPC) | |
| X | figure 3 * | | 1- | 21 | | |
| x | EP 1 839 873 A (BRC 3 October 2007 (200 * abstract; figure | 7-10-03) | 1- | 21 | | |
| | The present search report has l | · | | | | |
| | Place of search | Date of completion of the sear | ch | | Examiner | |
| | The Hague | 22 May 2012 | | Ada | m, Emmanuel | |
| X : part Y : part docu A : tech O : non | ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone icularly relevant if combined with anotiment of the same category inological background written disclosure rmediate document | L : document o | ent documer ng date cited in the a cited for othe | nt, but publis application er reasons | | |



EUROPEAN SEARCH REPORT

Application Number EP 11 19 0790

| ategory | Citation of document with indicatio | n, where appropriate, | Relevant | CLASSIFICATION OF THE |
|----------|---|---|-------------------|------------------------------------|
| alegory | of relevant passages | | to claim | APPLICATION (IPC) |
| Χ | EP 1 792 736 A (BROTHER | | 1-21 | |
| | 6 June 2007 (2007-06-06 | | | |
| | * abstract; figures 14, | | | |
| X | US 2007/229615 A1 (HATT AL) 4 October 2007 (200 * paragraph [0030] - pa figure 1 * | ORI SHINGO [JP] ET 7-10-04) ragraph [0032]; | 1-21 | |
| | | | | |
| | | | | |
| | | | | TECHNICAL FIELDS SEARCHED (IPC) |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | The present search report has been dr | awn up for all claims | | |
| | Place of search | Date of completion of the search | | Examiner |
| | The Hague | 22 May 2012 | Ada | m, Emmanuel |
| C | ATEGORY OF CITED DOCUMENTS | T : theory or principle | underlying the in | nvention |
| X : part | icularly relevant if taken alone icularly relevant if combined with another | E : earlier patent door after the filing date D : document cited in | , | ned on, or |
| docu | iment of the same category Inclogical background | L : document cited for | r other reasons | |
| O : non | -written disclosure | & : member of the sar | | |

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

EP 11 19 0790

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.

22-05-2012

| Patent document cited in search report | | Publication date | Patent family member(s) | | Publication date |
|---|----|---------------------|--|---|--|
| EP 1826009 | A2 | 29-08-2007 | AT 365108 AT 405429 AT 454270 CN 1663801 DE 202005021209 DE 202005021768 DE 202005021805 DE 602005001410 DK 1826009 EP 1570994 EP 1780026 EP 1826009 EP 2177364 EP 2218583 ES 2287825 ES 2312147 ES 2339058 US 2005195225 | T T A U1 U1 T2 T3 A1 A2 A2 A2 A1 T3 T3 | 15-07-200 15-09-200 15-01-201 07-09-200 21-06-200 12-11-200 04-03-201 07-02-200 26-04-201 07-09-200 02-05-200 29-08-200 21-04-201 18-08-201 16-12-200 14-05-201 08-09-200 |
| EP 1234675 | A2 | 28-08-2002 | AT 173677 AT 187126 AT 213999 AT 227649 AT 311985 AT 361838 AU 648985 CA 2022756 CN 1051011 CN 1141241 CN 1491798 DE 9018060 DE 69032780 DE 69032780 DE 6903377 DE 69033928 DE 69033928 DE 69034019 DE 69034019 DE 69034019 DE 69034212 DE 69034212 DE 69034240 DK 0997296 EP 0412459 EP 0610965 EP 0729836 EP 0872347 | T T T T B2 A1 A A A U1 D1 T2 D1 T2 D1 T2 T2 T2 T2 T3 A2 A1 A1 | 15-12-199; 15-12-199; 15-03-200; 15-11-200; 15-12-200; 15-06-200; 12-05-199; 06-02-199; 01-05-199; 29-01-199; 28-04-200; 15-09-199; 07-01-199; 02-06-199; 05-01-200; 11-04-200; 18-07-200; 19-12-200; 09-10-200; 13-07-200; |

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

EP 11 19 0790

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.

22-05-2012

| | Patent document ed in search report | : | Publication date | | Patent family member(s) | | Publication date |
|-----|--|----|------------------|--|---|--|--|
| | | | | EP ES ES HK HK KR SG | 0997296 1234675 2124212 2185722 2252908 1011647 1011655 1047910 960000542 54174 85110 | A2 T3 T3 T3 A1 A1 A1 Y1 | 03-05-2 28-08-2 01-02-1 01-05-2 16-05-2 01-09-2 24-03-2 14-09-2 17-01-1 16-11-1 |
| EP | 1790480 | A1 | 30-05-2007 | DE | 408514 101132927 202006020420 202006020615 202006020616 1790480 2313507 1117105 2007060789 | A U1 U1 U1 A1 T3 A1 | 15-10-2 27-02-2 19-06-2 28-05-2 28-05-2 30-05-2 01-03-2 19-11-2 31-05-2 |
| EP | 1772270 | Α | 11-04-2007 | DE EP US WO | 602006000459 1772270 2007070146 2007037536 | A1 | 08-01-2 11-04-2 29-03-2 05-04-2 |
| US | 7188939 | B1 | 13-03-2007 | US US US | 7188939 7226155 2007229616 | B1 | 13-03-2 05-06-2 04-10-2 |
| EP | 1839871 | A | 03-10-2007 | AT CN EP JP JP WO | 420770 101258034 1839871 4400590 2007268793 2007116546 | A A1 B2 A | 15-01-2 03-09-2 03-10-2 20-01-2 18-10-2 |
| EP | 1839873 | Α | 03-10-2007 | CN DE EP JP JP | 101015992 602006000196 1839873 4867427 2007261051 | T2 A1 B2 | 15-08-2 14-08-2 03-10-2 01-02-2 11-10-2 |
| ED. | 1792736 | Α | 06-06-2007 | NON | | | |

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

EP 11 19 0790

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.

22-05-2012

| Patent document cited in search report | | Publication date | Patent family member(s) | Publicatior date |
|--|----|---------------------|----------------------------|---------------------|
| US 2007229615 | A1 | 04-10-2007 | NONE | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| nore details about this annex : s | | | | |
| | | | | |
| | | | | |