

Title (en)  
Ink cartridge and recording apparatus

Title (de)  
Tintenpatrone, Satz von Tintenpatronen und Tintenpatronenbestimmungssystem

Title (fr)  
Cartouche d'encre, ensemble de cartouches d'encre, et système pour déterminer la cartouche d'encre

Publication  
**EP 2397337 A1 20111221 (EN)**

Application  
**EP 11151931 A 20110125**

Priority  
JP 2010137808 A 20100617

Abstract (en)  
An ink supplying apparatus is provided with a cartridge installation portion into which an ink cartridge is detachably loadable in an installation direction. The ink cartridge includes: a cartridge body having a front wall which is a leading side in the installation direction and defining therein an ink chamber in which ink is accommodated, the cartridge body having a height in a first direction perpendicular to the installation direction; an ink outlet port provided on the front wall for supplying the ink in the ink chamber to an outside; and a detection region provided at a position rearward of the ink outlet port in the installation direction and at a position different from the ink outlet port in the first direction, the detection region being defined by a first surface generally extending in the first direction and a second surface generally extending in the first direction and aligned with the first surface in the installation direction. The cartridge installation portion includes: a guide portion slidably movably guiding the cartridge body in the installation direction when the ink cartridge is loaded into the cartridge installation portion; an ink needle insertable into the ink outlet port when the cartridge body is slidably guided along the guide portion; an optical sensor provided to be in coincident with the detection region in the installation direction upon insertion of the ink needle into the ink outlet port, the detection region capable of altering an optical characteristic of light emitted from the optical sensor in the installation direction during loading of the ink cartridge into the cartridge installation portion, the optical sensor outputting optical information based on the optical characteristic of the light altered at the detection region; and a control unit configured to determine information on the ink cartridge in accordance with the optical information outputted from the optical sensor.

IPC 8 full level  
**B41J 2/175** (2006.01)

CPC (source: EP)  
**B41J 2/17513** (2013.01); **B41J 2/1752** (2013.01); **B41J 2/17553** (2013.01)

Citation (search report)  
• [X] US 2008239036 A1 20081002 - HATTORI SHINGO [JP]  
• [X] EP 1772270 A2 20070411 - BROTHER IND LTD [JP]  
• [X] EP 2095961 A1 20090902 - BROTHER IND LTD [JP]  
• [X] EP 2103434 A1 20090923 - BROTHER IND LTD [JP]  
• [X] EP 1839871 A1 20071003 - BROTHER IND LTD [JP]  
• [X] EP 1234675 A2 20020828 - CANON KK [JP]  
• [A] US 6074042 A 20000613 - GASVODA ERIC L [US], et al  
• [A] EP 1826009 A2 20070829 - BROTHER IND LTD [JP]

Cited by  
CN103587247A; US10399345B2; US10226935B2; US10759177B2; US11453221B2; US10239322B2; US10596819B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2397337 A1 20111221**; **EP 2397337 B1 20131211**; CN 102285239 A 20111221; CN 102285239 B 20140723;  
DE 102011003092 A1 20111222; JP 2012000856 A 20120105

DOCDB simple family (application)  
**EP 11151931 A 20110125**; CN 201110047187 A 20110224; DE 102011003092 A 20110125; JP 2010137808 A 20100617