

Title (en)
APPARATUS FOR DETECTING THE MOVEMENT OF ITS EMBEDDED ATTACHING MEANS

Title (de)
VORRICHTUNG ZUR ERFASSUNG DER BEWEGUNG IHRES ENGEBETTETEN BEFESTIGUNGSMITTELS

Title (fr)
APPAREIL POUVANT DETECTER LES MOUVEMENTS DE SES MOYENS DE FIXATION INTEGRES

Publication
EP 1910791 A4 20130529 (EN)

Application
EP 06783441 A 20060728

Priority
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• KR 20050069804 A 20050729
• KR 20060070839 A 20060727

Abstract (en)
[origin: WO2007013773A1] Provided is an apparatus for detecting the tension, moving direction, and length of a connector. The detecting apparatus includes a connector including one end connected inside the movement detecting apparatus and other end disposed at an outer side of the movement detecting apparatus, a tension detector measuring a tension force applied to the connector by detecting a minute change in a parameter of the tension detector when the other end of the connector is pulled away from the movement detecting apparatus, a direction detector measuring a movement of the connector in horizontal and vertical directions in a plane substantially perpendicular to the tension so as to detect a direction of the tension force applied to the connector, and a length detector detecting a length of the connector extended from the movement detecting apparatus by the tension force applied to the connector. When the connector such as a cable is pulled, the detecting apparatus detects information about the pulling conditions of the cable. Therefore, when a user walks with a dog robot by holding the cable of the detecting apparatus attached to the dog robot, the detecting apparatus provides information about the cable-holding conditions to inform the dog robot of user's intention, so that the dog robot can follow the user according to the user's intention. Thus, automatically-movable devices such as the dog robot can be conveniently used by employing the detecting apparatus since the detecting apparatus provides information about user's intention to the devices.

IPC 8 full level
G01L 5/04 (2006.01)

CPC (source: EP)
G01B 21/32 (2013.01)

Citation (search report)
• [X] US 5310134 A 19940510 - HSU HUI-PIN [US], et al
• [X] US 4945650 A 19900807 - HIRD EDWIN A [US]
• [X] US 4083520 A 19780411 - RUPP CHARLES C, et al
• [X] EDUARDO F. FUKUSHIMA ET AL: "Development of tethered autonomous mobile robot systems for field works", ADVANCED ROBOTICS, vol. 15, no. 4, 1 January 2001 (2001-01-01), pages 481 - 496, XP055058042, ISSN: 0169-1864, DOI: 10.1163/156855301750398374
• [X] E.F. FUKUSHIMA ET AL: "A new flexible component for field robotic system", PROCEEDINGS 2000 ICRA. MILLENNIUM CONFERENCE. IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION. SYMPOSIA PROCEEDINGS (CAT. NO.00CH37065), vol. 3, 1 January 2000 (2000-01-01), pages 2583 - 2588, XP055058048, ISBN: 978-0-78-035886-7, DOI: 10.1109/ROBOT.2000.846417
• See references of WO 2007013773A1

Citation (examination)
US 5551545 A 19960903 - GELFMAN STANLEY [US]

Designated contracting state (EPC)
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