

Title (en)

ROBOTIZED SYSTEM FOR THE CONTROL AND MICROMETRIC ACTUATION OF AN ENDOSCOPE

Title (de)

ROBOTERSYSTEM ZUR STEUERUNG UND MIKROMETRISCHEN BETÄTIGUNG EINES ENDOSKOPS

Title (fr)

SYSTEME ROBOTISE DE CONTROLE ET D'ACTIONNEMENT MICROMETRIQUE D'UN ENDOSCOPE

Publication

**EP 1843713 A1 20071017 (EN)**

Application

**EP 05778903 A 20050808**

Priority

- IT 2005000486 W 20050808
- IT CS20040011 A 20040809
- IT CS20050010 A 20050628

Abstract (en)

[origin: WO2006016390A1] The invention is relative to a new robotized system to control and actuate with micrometric precision an endoscope, particularly, but not exclusively for neonatal laparoscopy. The basic structure is made by three to five self balancing arms (which can be moved passively) able on command, to block itself in the actual position, passing in mode active Robot. At least two of the arms sustain the actuation system of the surgical endoscope, each being able to rotate the instrument sheet along two axes mutually perpendicular and to the sheet itself holding fixed the insertion point of the instrument into the patient, being also able to rotate the instrument with respect to the sheet and to control the axial advancement, the instrument's actuation (scissor, forceps or anything else) being controlled in position with micrometric precision. Presence of an haptic interface is also foreseen, to inform the doctor on the resistance opposed to the various actions. The remaining arms are used to hold the other accessories (video camera, insufflator, etc) eventually moving them, on doctor request, that commands and controls everything from a console. The purpose of the present equipment is to allow controlling the movement with a precision not obtainable with free hand, while utilizing the entire manual instrumentation presently available in the hospitals.

IPC 8 full level

**A61B 19/00** (2006.01)

CPC (source: EP)

**A61B 34/70** (2016.02); **A61B 34/76** (2016.02); **A61B 34/30** (2016.02); **A61B 2034/305** (2016.02)

Citation (search report)

See references of WO 2006016390A1

Cited by

US10588712B2; WO2017031600A1; WO2011108018A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2006016390 A1 20060216**; EP 1843713 A1 20071017

DOCDB simple family (application)

**IT 2005000486 W 20050808**; EP 05778903 A 20050808