

Title (en)

Large manipulator with an articulated mast and with a regulation system for controlling said mast

Title (de)

Grossmanipulator mit einem Knickmast und einer Regeleinrichtung zur Aussteuerung des Knickmastes

Title (fr)

Manipulateur de grande taille avec un mât articulé et avec un dispositif de réglage pour commander ledit mât

Publication

EP 1537282 B1 20061220 (DE)

Application

EP 03790779 A 20030630

Priority

- DE 10240180 A 20020827
- EP 0306925 W 20030630

Abstract (en)

[origin: US7729832B2] A large manipulator with an articulated mast (22) is pivotally connected to a mast base (21) that is rotatable about a vertical axis. The mast (22) comprises at least three mast arms (23 to 27) which are pivotable to a limited extent about horizontal articulated axis (28 to 32) that are located parallel to each other, the pivoting movement being relative to the mast base (21) or an adjacent mast arm (23 to 27) and being performed by means of a respective drive unit (34 to 38). A control unit is provided with coordinate transformer (74, 76) which responds to a given guiding parameter (r) and measured angular values ($\epsilon\gamma$) that are determined by means of angle sensors (44 to 48) located on the mast arms (23 to 27). The coordinate transformer (74, 76) does a conversion into movement signals ($\Delta\alpha_v$) for the drive units (34 to 38) in accordance with predefined path/slew characteristics, the movement signals being related to the articulation axis. In order to make the inventive device lighter and easier to build, geodetic angle sensors (44 to 48) which determine earth referenced angular values ($\epsilon\gamma$) that are assigned to the individual mast arms (23 to 27) are disposed in a rigid manner on the mast arms (23 to 27).

IPC 8 full level

E04G 21/04 (2006.01); **B25J 13/08** (2006.01)

CPC (source: EP KR US)

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Cited by

DE102015102368A1; DE102018109098A1; DE102018109088A1; DE102018109057A1; WO2016131977A1; DE102016106406A1; DE102015208577A1; US10407282B2; DE102013014626A1; WO2015032864A1; DE102013014626B4; EP3705664B1

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DOCDB simple family (publication)

WO 2004020765 A1 20040311; AT E348929 T1 20070115; AU 2003246643 A1 20040319; CN 100410478 C 20080813; CN 101328767 A 20081224; CN 101328767 B 20110907; CN 1678806 A 20051005; DE 10240180 A1 20040311; DE 50306060 D1 20070201; EP 1537282 A1 20050608; EP 1537282 B1 20061220; ES 2277141 T3 20070701; JP 2005536369 A 20051202; JP 4630664 B2 20110209; KR 101015010 B1 20110216; KR 20050036978 A 20050420; US 2005278099 A1 20051215; US 7729832 B2 20100601

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