

Title (en)

FILL DEGREE CONTROL FOR A BULK MATERIAL GRIPPER OF A CRANE

Title (de)

FÜLLGRADSTEUERUNG FÜR EINEN SCHÜTTGUT-GREIFER EINES KRANS

Title (fr)

COMMANDE DU DEGRÉ DE REMPLISSAGE D'UNE BENNE PRENEUSE D'UN PRODUIT EN VRAC D'UNE GRUE

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2016009040A1] The invention relates to a method for filling a gripper (2) for bulk material (14), said gripper being suspended on holding cables (12), raised and lowered by a crane (1) via a controller (17), and acting on the bulk material (14) with the gripper weight during the closing and filling process. By reducing the effect of the weight of the gripper (2) on the bulk material (14), a fill degree of the gripper (2) is influenced via the controller (17) in that a tensile force acting on the holding cables (12) is influenced. The aim of the invention is to provide a method for optimally filling the gripper. This is achieved in that a tensile force TARGET value (Fsoll) is determined for the holding cables (12) via the controller (17); the tensile force TARGET value (Fsoll) is output to a tensile force controller (18) as an input variable; an electric motor (19) for lifting and lowering the gripper (2) is controlled by the tensile force controller (18); and an ascertained tensile force ACTUAL value (Fist) of the holding cables (12) is supplied to the tensile force controller (18) as an input variable.

IPC 8 full level

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Citation (opposition)

Opponent : Liebherr-MCCtec

- JP S57151735 A 19820918 - KAWASAKI STEEL CO
- EP 2226287 A1 20100908 - KIROW ARDELT AG [DE]
- DD 288138 A5 19910321 - EBERSWALDE KRANBAU [DE]
- DE 4034006 A1 19920430 - SIEMENS AG [DE]
- EP 0458994 A1 19911204 - SIEMENS AG [DE]
- DE 102008045330 A1 20100422 - PHYSIK INSTR DR BERND BROSA GM [CH]
- US 2011313626 A1 20111222 - BOWEN JAY CHARLES [US], et al
- US 2010044332 A1 20100225 - CAMERON JOHN F [US]
- EP 2613207 A2 20130710 - HONEYWELL INT INC [US]

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