

Title (en)

METHOD OF GUIDING THE SHEAVE ESPECIALLY OF THE OVERHEAD CRANE

Title (de)

VERFAHREN ZUM FÜHREN DER SEILSCHEIBE INSBESONDERE EINES FREIKRANS

Title (fr)

PROCÉDÉ DE GUIDAGE DE POULIE, EN PARTICULIER DE PONT ROULANT

Publication

EP 4159661 A1 20230405 (EN)

Application

EP 22020476 A 20220930

Priority

PL 43910421 A 20210930

Abstract (en)

The invention relates to a method of guiding a sheave (hook suspended/removed in an autonomous manner) to the catching part of a structural member to be lifted and/or moved to another location, and wherein the control of the motors of the overhead crane cart and the control of the motor for raising and lowering the sheave is implemented using a predictive closed-loop position control system that determines (700) a preset trajectory for the movement of the sheave, by determining (709) successive preset positions for the sheave relative to the position of the catching part of the structural member, where said control uses a vision-sensory subsystem containing at least two vision modules. A first vision module mounted on an overhead crane cart is used (702) in a far-zone operating control system for moving the sheave over the catching part of the structural member, before lowering it until the distance to the catching part reaches the first distance. A second vision module mounted in the sheave is used (706) in the near-zone operating control system for moving the sheave over the catching portion of the structural member to determine the displacement vector of the sheave relative to the catching portion of the structural member within a measurement range smaller than the first distance.

IPC 8 full level

B66C 13/46 (2006.01); **B66C 13/06** (2006.01); **B66C 13/48** (2006.01)

CPC (source: EP)

B66C 13/063 (2013.01); **B66C 13/46** (2013.01); **B66C 13/48** (2013.01)

Citation (applicant)

- AU 2012285632 B2 20160421 - KONECRANES GLOBAL CORP [FI]
- CN 206751196 U 20171215 - LIU GUOBIN

Citation (search report)

- [Y] EP 0958228 A1 19991124 - SIME OY [FI]
- [A] EP 2574587 A1 20130403 - SIEMENS AG [DE]
- [Y] WO 2020208263 A1 20201015 - CONSTRUCTION ROBOTICS GMBH [DE]
- [A] CN 106429878 A 20170222 - ANHUI WATER RESOURCES DEV CO LTD

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4159661 A1 20230405; PL 439104 A1 20230403

DOCDB simple family (application)

EP 22020476 A 20220930; PL 43910421 A 20210930