

Title (en)
APPARATUS AND METHOD FOR DETERMINING THE RELATIVE SPATIAL ORIENTATION OF TWO HINGE PARTS OF A HINGE THAT ARE MOVABLY CONNECTED TO ONE ANOTHER

Title (de)
VORRICHTUNG UND VERFAHREN ZUR BESTIMMUNG DER RELATIVEN LAGE VON ZWEI BEWEGLICH MITEINANDER VERBUNDENEN GELENKTEILEN EINES GELENKS

Title (fr)
DISPOSITIF ET PROCÉDÉ PERMETTANT DE DÉTERMINER LA POSITION RELATIVE DE DEUX PARTIES MOBILES ET RELIÉES L'UNE À L'AUTRE D'UNE ARTICULATION

Publication
EP 3469312 A1 20190417 (DE)

Application
EP 17721697 A 20170508

Priority
• DE 102016210406 A 20160613
• EP 2017060852 W 20170508

Abstract (en)
[origin: WO2017215838A1] An apparatus for determining the relative spatial orientation of two hinge parts (2, 4) of a hinge (1) that are movably connected to one another, having a magnet (9) which is connected to a first of the hinge parts (4) and which causes a local magnetic field (19), a plurality of sensor arrangements (11, 12) which are connected to a second of the hinge parts (2) and permeated by a resultant magnetic field, said resultant magnetic field being formed at least by the local magnetic field (19), the sensor arrangements (11, 12) being permeated by the latter in different directions, wherein the resultant magnetic field at the location of the respective sensor arrangement (11, 12) is detectable by means of each of the sensor arrangements (11, 12) and at least a sensor signal (S1, S2) that characterizes the resultant magnetic field at the location of the respective sensor arrangement (11, 12) is producible, and an evaluation device (13) that is connected to the sensor arrangements (11, 12), by means of which at least one spatial orientation information item (25) that characterizes the spatial orientation of the first hinge part (4) relative to the second hinge part (2) is formable when evaluating the sensor signals (S1, S2), wherein the resultant magnetic field is formed by a superposition of the local magnetic field (19) and at least one interference magnetic field (21), the sensor arrangements (11, 12) being permeated by said interference magnetic field in, or approximately in, the same direction, the resultant magnetic field at the location of the respective sensor arrangement (11, 12) being detectable in different spatial directions (x, y, z) by means of each of the sensor arrangements (11, 12) and an influence of the interference magnetic field (21) on the sensor arrangement (11, 12) or on the sensor signals (S1, S2) when forming the spatial orientation information item being eliminable or at least reducible by means of the evaluation unit (13).

IPC 8 full level
G01D 5/14 (2006.01); **B60G 7/00** (2006.01); **B60G 17/019** (2006.01); **F16C 11/06** (2006.01); **G01D 3/036** (2006.01); **G01D 5/244** (2006.01)

CPC (source: EP)
B60G 7/005 (2013.01); **B60G 17/019** (2013.01); **F16C 11/0604** (2013.01); **F16C 11/0628** (2013.01); **F16C 41/00** (2013.01); **G01D 3/036** (2013.01); **G01D 5/145** (2013.01); **G01D 5/24485** (2013.01); **G01D 11/02** (2013.01); **B60G 2400/051** (2013.01); **B60G 2401/17** (2013.01); **B60G 2401/172** (2013.01); **F16C 2233/00** (2013.01)

Citation (examination)
• DE 102004056800 A1 20060601 - ZAHNRADFABRIK FRIEDRICHSHAFEN [DE]
• DE 102005028501 A1 20070104 - ZAHNRADFABRIK FRIEDRICHSHAFEN [DE]
• ANONYMOUS: "Lookup table - Wikipedia, the free encyclopedia", 23 March 2016 (2016-03-23), pages 1 - 7, XP055889099, Retrieved from the Internet <URL:https://web.archive.org/web/20160323200033/https://en.wikipedia.org/wiki/Lookup_table> [retrieved on 20220208]
• See also references of WO 2017215838A1

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

DOCDB simple family (publication)
DE 102016210406 A1 20171214; EP 3469312 A1 20190417; WO 2017215838 A1 20171221

DOCDB simple family (application)
DE 102016210406 A 20160613; EP 17721697 A 20170508; EP 2017060852 W 20170508