

Title (en)
NOISE-OPTIMIZED TOOTHING SYSTEM

Title (de)
GERÄUSCHOPTIMIERTE VERZÄHNUNG

Title (fr)
DENTURE OPTIMISÉE EN TERMES DE BRUIT

Publication
EP 2553258 A2 20130206 (DE)

Application
EP 11709053 A 20110304

Priority
• DE 102010003361 A 20100326
• EP 2011053304 W 20110304

Abstract (en)
[origin: WO2011117055A2] The invention relates to an electric machine, in particular a starter device (10) for an internal combustion engine. It comprises a noise-optimized toothing system (232, 234) of two gearwheels (22, 25) which can be brought into engagement with one another. The noise-optimized toothing system (232, 234) is configured as an extra-deep toothing system on at least one of the gearwheels (22, 25), which extra-deep toothing system has an asymmetrical toothing profile (214).

IPC 8 full level
F02N 15/00 (2006.01); **F16H 55/08** (2006.01)

CPC (source: EP)
F02N 15/00 (2013.01); **F02N 15/062** (2013.01); **F16H 55/0873** (2013.01); **F16H 55/088** (2013.01); **F02N 11/00** (2013.01); **F02N 15/022** (2013.01); **F02N 15/046** (2013.01); **F02N 15/067** (2013.01); **F16H 57/0006** (2013.01)

Citation (search report)
See references of WO 2011117055A2

Citation (examination)
• JP H04334759 A 19921120 - HITACHI LTD
• US 3206997 A 19650921 - ALEXANDER HARDY

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 102010003361 A1 20110929; CN 102918257 A 20130206; CN 102918257 B 20161012; EP 2553258 A2 20130206; JP 2013527892 A 20130704; JP 5787975 B2 20150930; WO 2011117055 A2 20110929; WO 2011117055 A3 20120705

DOCDB simple family (application)
DE 102010003361 A 20100326; CN 201180026174 A 20110304; EP 11709053 A 20110304; EP 2011053304 W 20110304; JP 2013501711 A 20110304