

Title (en)
NOISE-OPTIMIZED STARTING APPARATUS

Title (de)
GERÄUSCHOPTIMIERTE STARTVORRICHTUNG

Title (fr)
DISPOSITIF DE DÉMARRAGE À AMORTISSEMENT DE BRUIT OPTIMISÉ

Publication
EP 2483553 A1 20120808 (DE)

Application
EP 10766000 A 20101001

Priority
• DE 102009045248 A 20091001
• EP 2010064671 W 20101001

Abstract (en)
[origin: WO2011039357A1] The invention relates to a starter apparatus (10) having a starting pinion (22). The starting pinion (22) is received displaceably on an output shaft (115). The starting pinion (22) or a stop ring (214) which is arranged on the output shaft (116) is assigned a noise-reducing damping device (224, 226, 230, 232, 234, 240). The damping device comprises a spring element or elements made from elastic material. The stop ring can be moved on the output shaft in the axial direction.

IPC 8 full level
F02N 15/06 (2006.01)

CPC (source: EP)
F02N 15/063 (2013.01); **F02N 15/067** (2013.01); **F02N 2015/061** (2013.01)

Citation (search report)
See references of WO 2011039357A1

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

DOCDB simple family (publication)
DE 102009045248 A1 20110407; CN 102549256 A 20120704; CN 102549256 B 20151125; EP 2483553 A1 20120808; IN 931DEN2012 A 20150403; WO 2011039357 A1 20110407

DOCDB simple family (application)
DE 102009045248 A 20091001; CN 201080043848 A 20101001; EP 10766000 A 20101001; EP 2010064671 W 20101001; IN 931DEN2012 A 20120201