

Title (en)

MOTOR VEHICLE ELECTRIC STARTER EQUIPPED COMPRISING A STARTING MOTOR WITH IMPROVED SPLINES

Title (de)

ELEKTRISCHER STARTER FÜR EIN KRAFTFAHRZEUG MIT EINEM STARTERMOTOR MIT VERBESSERTEN KEILVERZÄHNUNGEN

Title (fr)

DEMAREUR ELECTRIQUE DE VEHICULE AUTOMOBILE EQUIPE D UN LANCEUR A CANNELURES PERFECTIONNEES

Publication

EP 1461528 B1 20080312 (FR)

Application

EP 02803834 A 20021127

Priority

- FR 0204061 W 20021127
- FR 0115556 A 20011130

Abstract (en)

[origin: WO03046371A1] The invention concerns an electric starter comprising a starting motor (24) equipped with a drive pinion (14) for driving a flywheel ring gear, and a transmission device arranged between the drive pinion (14) and a drive hub (30), which consists of two series of helical splines (40, 42) matching in shape arranged respectively on the output shaft (12) and in an internal cylindrical bushing of the hub (30). In order to facilitate penetration of the drive pinion (14) of the starting motor into the ring gear (16), and to reduce mechanical stresses during operation, the helical splines (40, 42) of the drive hub (30) have a variable angle depending on the axial position of the starting motor (24) between the rest position and the working position, said contact angle being determined by the inclination of the tangent at the point of engagement of a tooth of the hub (42a) with one of the flanks (AB, CD) of two consecutive shaft teeth (40a, 40b). The contact angle is greater on the side of the rest position than on the side of the working position. The invention is applicable to a motor vehicle combustion engine.

IPC 8 full level

F02N 15/06 (2006.01)

CPC (source: EP)

F02N 15/06 (2013.01)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)

WO 03046371 A1 20030605; AT E389108 T1 20080315; BR 0206597 A 20040225; DE 60225594 D1 20080424; DE 60225594 T2 20090326; EP 1461528 A1 20040929; EP 1461528 B1 20080312; FR 2833043 A1 20030606; FR 2833043 B1 20040123; PL 201139 B1 20090331; PL 368822 A1 20050404

DOCDB simple family (application)

FR 0204061 W 20021127; AT 02803834 T 20021127; BR 0206597 A 20021127; DE 60225594 T 20021127; EP 02803834 A 20021127; FR 0115556 A 20011130; PL 36882202 A 20021127