

Title (en)  
STARTER WITH A PLANETARY GEAR REDUCTION GEAR MECHANISM

Title (de)  
ANLASSER MIT PLANETENUNTERSETZUNGSGETRIEBE

Title (fr)  
DEMARREUR DOTE D'UN MECANISME REDUCTEUR D'ENGRENAGE PLANETAIRE

Publication  
**EP 0757176 A1 19970205 (EN)**

Application  
**EP 95937190 A 19951124**

Priority  
• JP 9502408 W 19951124  
• JP 9401986 W 19941124

Abstract (en)  
In a starter with a planetary gear speed reduction mechanism, a first output shaft retaining member (retaining member 10, washer 20) and a second output shaft retaining member (pinion retaining ring 250) are mounted on an output shaft 220 in such a manner as to sandwich from axially front and rear directions a bearing support portion of a housing 400 which supports one end of the output shaft 220, so that a thrust load in the frontward and rearward directions of the output shaft 220 is received at the front and rear end faces of the bearing support portion of the housing 400. Therefore, the axially rearward movement of the output shaft 220 is regulated assuredly without regulating it by the rear end face of the center bracket 360 and the mortar partition wall 800, thereby preventing deformation of the center bracket. <IMAGE>

IPC 1-7  
**F02N 11/00**; **F02N 15/02**; **F02N 15/06**

IPC 8 full level  
**F02N 15/02** (2006.01); **F02N 11/00** (2006.01); **F02N 15/06** (2006.01)

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**WO 9616265 A1 19960530**; AU 1076895 A 19960617; AU 3936895 A 19960617; AU 689977 B2 19980409; BR 9506567 A 19970902; CN 1065316 C 20010502; CN 1066245 C 20010523; CN 1139473 A 19970101; CN 1139474 A 19970101; DE 69525940 D1 20020425; DE 69525940 T2 20021114; EP 0757176 A1 19970205; EP 0757176 A4 19971029; EP 0757176 B1 20020320; ES 2170810 T3 20020816; JP 3147381 B2 20010319; JP H09508191 A 19970819; KR 100288306 B1 20010601; KR 970700820 A 19970212; WO 9616267 A1 19960530

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